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Who is Hurt, Who Acts, Who Contributes to Harm? Role-Specific Pathways from Online Disinhibition to Adolescent Anxiety

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ABSTRACT

Adolescent cyberbullying unfolds through distinct behavioural positions as young people receive digital harm, enact it, or contribute to its continuation from an audience position. Aggregate cyberbullying classifications obscure behavioural direction, role overlap, and unequal associations with online disinhibition and anxiety. This paper develops a role-specific framework linking online disinhibition with adolescent anxiety through cybervictimisation, cyberperpetration, and harm-contributing cyberbystander involvement. A focused comparative conceptual synthesis integrates theoretical and empirical studies across communication-related and strain-related segments, assigning the Online Disinhibition Effect to reduced behavioural and communication restraint and General Strain Theory to the strain-related significance of each role. The synthesis reveals a pronounced asymmetry: online disinhibition is most consistently associated with cyberperpetration, cybervictimisation carries the strongest anxiety-related support, and harm-contributing cyberbystander involvement has the narrowest behaviour-specific research base. The framework clarifies who receives harm, who enacts it, and who permits or amplifies its continuation, establishing a differentiated basis for future testing and role-sensitive intervention.

1. Introduction

Cyberbullying does not place adolescents in a single behavioural position. González-Cabrera *et al.*, [1] operationalised seven cyberbullying roles, illustrating that involvement extends beyond a simple victim-perpetrator split. Estévez *et al.*, [2] synthesised evidence on continuity and overlap between victim and aggressor roles across bullying and cyberbullying. Ranney *et al.*, [3] added adolescents lived accounts, which indicate that online victimisation and cyberbullying are interpreted through concrete incidents and social contexts instead of fixed identities. Escortell-Sánchez *et al.*, [4]

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extended this role-fluidity argument longitudinally by modelling cybervictimisation, cyberperpetration, and cyberbystanding across time. These contributions support a role-specific account in which adolescents move among positions across incidents, and each position carries a distinct behavioural direction: receiving harm, enacting harm, or participating in its continuation.

Digital communication magnifies the relevance of behavioural position by changing how harmful content is produced, circulated, observed, and evaluated. Barlińska *et al.*, [5] demonstrated that communication medium, form of violence, and empathy shape adolescent bystander responses. Leduc *et al.*, [6] documented adolescents' emphasis on the persistence of cyberbullying beyond the original interaction. Moreno and Uhls [7] used an affordances and developmental lens to explain how platform property's structure adolescent social media interaction. Thomas *et al.*, [8] identified definitional and measurement challenges that complicate distinctions between traditional bullying and cyberbullying. These contributions indicate that persistence, visibility, replicability, audience reach, delayed feedback, and reduced interpersonal cues alter the social trajectory of digital harm and heighten the explanatory importance of behavioural position.

The Online Disinhibition Effect (ODE) provides the communication-side explanation for reduced restraint during networked interaction. Suler [9] attributes online disinhibition to dissociative anonymity, invisibility, asynchronicity, solipsistic introjection, dissociative imagination, and minimisation of status and authority. Udris [10] translated this construct into an adolescent measurement context through the Online Disinhibition Scale and linked it with cyberbullying involvement. Wang *et al.*, [11] reported a positive relation between online disinhibition and cyberperpetration and tested empathy and gender as moderators. Wang *et al.*, [12] identified online disinhibition as a recurring correlate of adolescent cyberbullying in a systematic review. Alimu *et al.*, [13] extended the antecedent to bystander complicity. Misas *et al.*, [14] linked toxic online disinhibition with cybervictimisation and broader cyberbullying involvement. The literature forms an asymmetric profile: the clearest connection concerns enacted harm, with narrower support for received harm and harm-contributing audience behaviour.

Anxiety research concentrates most strongly in the receiving position. Landoll *et al.*, [15] prospectively linked peer cybervictimisation with social anxiety and depressive symptoms. Rose and Tynes [16] reported longitudinal associations between cybervictimisation and adolescent mental health. Molero *et al.*, [17] strengthened this conclusion through meta-analysis and identified a moderate pooled association between cybervictimisation and anxiety. Findings for cyberperpetration are less stable. Hu *et al.*, [18] connected cybervictimisation and cyberperpetration with depression, anxiety, and suicidality among adolescents with high-functioning autism spectrum disorder. Martínez-Monteagudo *et al.*, [19] identified heterogeneous cyberbullying profiles in relation to social anxiety. Wang *et al.*, [20] reported a small positive bivariate association between cyberperpetration and anxiety that reversed after adjustment for cybervictimisation, cyberostracism, and related conditions, illustrating the sensitivity of perpetration coefficients to role overlap. Research on the audience position is narrower. Wright *et al.*, [21] linked witnessing cyberbullying with later anxiety after baseline adjustment. Dumas and Midgett [22] associated witnessing with internalising symptoms among middle-school students, and their later study connected witnessing with social anxiety among elementary-school students [23]. These studies establish psychological relevance for audience exposure. They leave the bystander's own anxiety after specifically harm-contributing responses insufficiently differentiated.

This limitation matters: witnessing identifies exposure without establishing what the adolescent does after observing harm. Van Cleemput *et al.*, [24] differentiated helping, joining in, and doing nothing among adolescents who witnessed cyberbullying. DeSmet *et al.*, [25] extended this behavioural differentiation by separating positive and negative bystander responses, including

actions that support or intensify harmful interaction. Sarmiento *et al.*, [26] distinguished defenders, reinforcers, and outsiders across online and offline cyberbullying. These contributions justify isolating harm-contributing cyberbystander involvement through Passive Outsider Online and Reinforcer of the Cyberbully Online responses. The boundary separates passive non-intervention and perpetrator reinforcement from defending, reporting, victim support, comforting, and active interruption, preventing broad witnessing from carrying a single behavioural meaning.

The psychological segment requires a theory centred on strain, distinct from the communication mechanism of reduced restraint. Agnew [27] established General Strain Theory (GST) as an account of how adverse experiences, blocked goals, and negative social relations generate strain and emotional responses. His later specification identified forms of strain most likely to produce adverse outcomes [28]. Jang *et al.*, [29] applied GST to youth cyberbullying by connecting offline bully-victimisation with online behaviour. Li and Peng [30] extended GST across differentiated cyberbullying roles through strain, constraints, and morality. Wang and Jiang [31] linked strain and negative emotions with adolescent cyberbullying perpetration. These contributions support a bounded division of theoretical labour. ODE explains reduced behavioural and communication restraint preceding role-specific cyberbullying involvement. GST explains the strain-related significance of each involvement position in relation to anxiety.

This paper addresses a persistent problem in cyberbullying research: associations among online disinhibition, role-specific cyberbullying involvement, and anxiety are uneven and behaviourally fragmented. Aggregate models blur the direction of received, enacted, and audience-based harm. Online disinhibition has its most consistent association with cyberperpetration, anxiety with cybervictimisation, and bystander studies frequently measure witnessing without distinguishing passive non-intervention from active reinforcement. This paper develops a role-specific ODE–GST framework linking online disinhibition with adolescent anxiety through cybervictimisation, cyberperpetration, and harm-contributing cyberbystander involvement. The framework keeps behavioural direction visible, makes cross-path asymmetry explicit, and assigns ODE and GST distinct explanatory functions across the proposed sequence.

2. Literature Review: Role-Specific Cyberbullying Involvement and Adolescent Anxiety

A role-specific account of cyberbullying distinguishes adolescents according to the behavioural position they occupy in harmful digital interaction: recipient of harm, actor who enacts it, or audience participant whose response permits or reinforces its continuation. Cybervictimisation, cyberperpetration, and harm-contributing cyberbystander involvement capture these related and distinguishable forms of participation in digitally mediated peer harm [1, 4, 32]. Combining them into an aggregate cyberbullying category removes behavioural direction from interpretation and obscures whether online disinhibition and anxiety connect differently with receiving, enacting, or sustaining harm.

Comparative evidence strengthens the case for role differentiation by revealing an uneven pattern across the three positions. Online disinhibition is associated most consistently with cyberperpetration. Cybervictimisation, in contrast, carries the strongest and most consistent association with anxiety. Harm-contributing cyberbystander involvement receives the least developed support across both segments, particularly when broad witnessing measures substitute for specific passive or reinforcing responses [10,13,17,20]. A role-specific synthesis keeps the behavioural meaning of each position visible, compares the strength of its empirical connections, and identifies where fragmented findings prevent assumptions of equivalent pathways.

2.1 Who Is Hurt? Cybervictimisation as Received Digital Harm

Cybervictimisation captures the receiving position through harassment, threats, humiliation, exclusion, impersonation, privacy violations, hostile communication, and harmful content that adolescents experience during digital interaction [33,34]. Persistence, replicability, visibility, and audience reach extend these experiences beyond the original exchange by allowing harmful material to circulate across peer networks and expose recipients to repeated social evaluation [6, 8]. Cybervictimisation represents received digital harm in a communication environment where harmful content persists, travels, and attracts further audience attention.

Across the explanatory sequence, online disinhibition has a less direct association with cybervictimisation than with cyberperpetration. Misas *et al.*, [14] reported a positive association between toxic online disinhibition and cybervictimisation among adolescents, extending the relevance of reduced online restraint beyond enacted harm. Interpreting this association requires a strict conceptual boundary between the communication conditions surrounding digital interaction and responsibility for the harmful conduct. Online disinhibition explains conditions surrounding disclosure, conflict, retaliation, and exposure to harmful peer responses. Responsibility for victimisation remains with the person who enacts the harm.

Longitudinal and meta-analytic studies anchor the psychological segment of the cybervictimisation pathway through consistent associations between received digital harm, anxiety, and broader internalising difficulties [15-17]. Molero *et al.*, [17] reported a moderate pooled association between cybervictimisation and anxiety, and Malaysian secondary-school research reported a comparable positive relationship [35]. Received digital harm has the strongest role-specific association with anxiety across the three positions. This downstream strength, however, leaves the preceding online-disinhibition association empirically less established.

2.2 Who Acts? Cyberperpetration as Enacted Digital Harm

Cyberperpetration places the adolescent in the position of harmful actor through conduct that threatens, humiliates, harasses, excludes, impersonates, violates privacy, or circulates harmful material towards another person [34]. Prior or concurrent victimisation leaves the perpetrator position behaviourally distinct during another interaction. Keeping the direction of enacted harm explicit prevents overlap across incidents from collapsing receiving and producing harm into equivalent forms of involvement.

Among the three positions, cyberperpetration provides the clearest empirical expression of online disinhibition through repeated associations between reduced communication restraint and enacted digital harm. Reduced identifiability, restricted interpersonal feedback, psychological distance, asynchronous communication, and weaker authority salience limit immediate social correction and correspond with lower restraint during online interaction [9-11,36]. L. Wang *et al.*, [12] consolidate this pattern through a systematic review that identifies online disinhibition as a recurring correlate of adolescent cyberbullying across heterogeneous definitions, measures, platform conditions, and model specifications. Studies consistently support the broad direction of association, with magnitude varying across communication conditions and adolescent contexts.

Cyberperpetration produces a less stable downstream psychological pattern when previous victimisation, retaliation, cyberostracism, continuing peer conflict, reputational pressure, anticipated detection, and disciplinary exposure enter the same explanatory context [18,20,30]. These overlapping experiences complicate attribution of anxiety specifically to enacted harm. Wang *et al.*, [20] reported a small positive bivariate association between cyberperpetration and anxiety that reversed after adjustment for cybervictimisation, cyberostracism, and related contextual variables. Coefficient sensitivity distinguishes perpetration from the more stable anxiety pattern associated

with cybervictimisation. The resulting empirical configuration combines a comparatively strong antecedent-to-involvement connection with a less stable involvement-to-anxiety connection.

2.3 Who Contributes to Harm? Harm-Contributing Audience Participation

By introducing an audience into harmful digital interaction, cyberbystander involvement extends cyberbullying beyond the victim-perpetrator dyad and positions peer responses as part of the incident's social continuation. Adolescents who witness cyberbullying occupy markedly different behavioural positions when they defend the target, report the incident, provide support, remain passive, redistribute harmful material, join the aggressor, express approval, or encourage continued harm [24,25]. A broad bystander classification combines actions that oppose harm with responses that leave it unchallenged or strengthen its social force.

Sarmiento *et al.*, [26] differentiate two response patterns that define the harm-contributing audience position in this framework: Passive Outsider Online and Reinforcer of the Cyberbully Online. Passive outsider involvement captures non-intervention after witnessing cyberbullying. Reinforcing involvement encompasses approval, encouragement, redistribution, amusement, endorsement, and related responses that support or amplify harmful conduct. Defending, reporting, victim support, comforting, and active interruption occupy a protective direction and fall outside the construct. Maintaining this boundary keeps a common direction of harm contribution without treating passive non-intervention as behaviourally identical to active reinforcement.

Networked visibility amplifies the significance of audience responses by allowing peer reactions to extend the reach, circulation, and social validation of harmful content beyond the conduct of the original perpetrator. Redistribution, positive reactions, supportive comments, visible amusement, and endorsement add observable social support to harmful interaction. Passive non-intervention leaves the incident without resistance from available peers. The two response patterns differ in behavioural intensity, although both share a harm-contributing direction that contrasts with protective action. DeSmet *et al.*, [25] and Sarmiento *et al.*, [26] support this behavioural differentiation, which carries particular significance when psychological interpretation centres on the audience member instead of the target who experiences the harmful incident.

Equating witnessing with bystander response creates a crucial empirical problem, since presence at an incident reveal little about how the adolescent responds. Wright *et al.*, [21] linked cyberbullying witnessing with later anxiety after accounting for baseline anxiety and direct cyberbullying roles, and Doumas and Midgett [22,23] associated broad cyberbystander status with anxiety or social anxiety. These findings establish psychological relevance for audience exposure. They leave the anxiety implications of Passive Outsider Online and Reinforcer of the Cyberbully Online analytically unresolved. Behavioural differentiation has advanced further than anxiety-outcome testing across specific harm-contributing responses.

Studies on the antecedent side link online disinhibition with selected forms of passive complicity or visible endorsement across differently operationalised cyberbystander behaviours. Alimu *et al.*, [13] associated toxic online disinhibition with passive bystander behaviour. Wen and Miura [37] identified conditional patterns involving visible endorsement. These findings extend the explanatory relevance of reduced online restraint to audience participation. Variation across populations, behavioural definitions, and response forms restricts direct comparison. Existing findings leave the relationship between online disinhibition and the two dimensions of harm-contributing cyberbystander involvement empirically unresolved.

Across both segments, the bystander pathway exposes a problem of behavioural specification that extends beyond simple study volume. Passive non-intervention coincides with helplessness,

intervention uncertainty, fear of retaliation, and concern about peer exclusion. Active reinforcement introduces different concerns involving responsibility for amplification, reputational consequences, escalating conflict, detection, and possible sanctions [21-23,32]. Treating these responses as broad witnessing erases the distinction between exposure and participation. Shifting the analytical question from who witnessed the incident to what the witness did after observing it positions harm-contributing audience behaviour more precisely and prevents protective and harmful responses from carrying the same conceptual meaning.

2.4 Role Fluidity Without Conceptual Collapse

Longitudinal and role-based studies document movement across victim, perpetrator, and bystander positions and support role-specific differentiation without requiring mutually exclusive identities [2-4]. Across separate incidents, adolescents occupy receiving, enacting, and audience positions at different points in their digital interactions. Such movement captures the complexity of adolescent digital experience across events without erasing the behavioural direction attached to each form of involvement.

Framing cyberbullying roles as incident-specific behavioural positions prevents victim, perpetrator, and bystander categories from implying stable or mutually exclusive personal identities. Patterns of involvement span separate interactions, relationships, and periods of digital communication [2,3]. Locating meaning in behavioural direction keeps conceptual precision at the incident level and accommodates adolescents who occupy more than one role across their digital experiences.

When role overlap enters psychological interpretation, isolating one position or collapsing all positions creates different forms of distortion. Models that isolate one role and omit other forms of involvement risk allocating shared variance to that position, particularly when cybervictimisation, cyberperpetration, and bystanding co-occur [4]. Combining all forms into an aggregate cyberbullying score creates the opposite problem by removing the distinction among received harm, enacted harm, and audience participation. Comparable aggregate scores conceal substantially different involvement profiles and weaken interpretation of communication-related and psychological associations [38-40].

Treating cybervictimisation, cyberperpetration, and harm-contributing cyberbystander involvement as correlated and analytically distinct positions resolves this tension at the conceptual level. Correlation accommodates overlap across adolescents' digital experiences. Construct separation, in contrast, protects the direction and meaning of each form of involvement [2,3]. Cybervictimisation represents received digital harm, cyberperpetration represents enacted digital harm, and harm-contributing cyberbystander involvement represents passive or reinforcing audience participation surrounding harm that another person initiates.

Across these differentiated positions, empirical findings establish an asymmetric structure that an aggregate cyberbullying pathway represents poorly. Online disinhibition has the most consistent association with cyberperpetration, cybervictimisation carries the strongest and most consistent association with anxiety, and harm-contributing cyberbystander involvement receives the narrowest behaviour-specific support across both segments [10,13,17,20,21]. Unequal support across the component relationships leaves the complete role-specific pathways empirically unresolved when strong findings concentrate in only one segment. This imbalance establishes the conceptual basis for a framework that links online disinhibition, differentiated cyberbullying involvement, and anxiety without collapsing behavioural direction or presuming equivalent explanatory strength.

The comparative pattern across the three role-specific positions reveals that the strongest support concentrates at different points in the proposed pathways, leaving distinct unresolved connections that require separate explanation. Table 1 consolidates this asymmetry by mapping what the evidence supports most clearly and what remains unresolved for each position.

Table 1

Why the three role-specific cyberbullying pathways require separate explanation

Role-Specific Pathway	Position in Digital Harm	What the Evidence Supports Most Clearly	What Remains Unresolved
Who Is Hurt? Cybervictimisation	Receives digital harm	The association between cybervictimisation and anxiety carries the strongest and most consistent support across the three role positions [15–17, 35].	The association between online disinhibition and cybervictimisation remains less developed, leaving the complete pathway open to further testing.
Who Acts? Cyberperpetration	Enacts digital harm	The association between online disinhibition and cyberperpetration carries the clearest and most consistent support [9-12, 36].	The association between cyberperpetration and anxiety changes when analyses account for overlapping victimisation, cyberostracism, and related peer conditions [18,20,30].
Who Reinforces? Harm-Contributing Cyberbystander Involvement	Permits or amplifies harm from an audience position	Evidence most clearly supports the behavioural distinction between Passive Outsider Online and Reinforcer of the Cyberbully Online, separating both from protective responses [25, 26].	Evidence connecting these behaviourally specified responses with online disinhibition and the bystander's own anxiety remains restricted [13,21–23,32,37].

3. Conceptual Review Approach

A focused conceptual synthesis develops the role-specific framework by integrating research that clarifies conceptual boundaries, theoretical functions, and empirical connections among online disinhibition, cybervictimisation, cyberperpetration, harm-contributing cyberbystander involvement, and adolescent anxiety. The synthesis follows a purposive conceptual logic and prioritises peer-reviewed theoretical and empirical sources that directly define the focal constructs, differentiate behavioural positions, explain relevant mechanisms, or substantiate relationships across the proposed sequence. This selection logic keeps the review aligned with the central explanatory problem and maintains the distinction among received digital harm, enacted digital harm, and harm-contributing audience participation [4,9,10,26].

The synthesis organises studies across two connected segments that mirror the framework's explanatory structure. The communication-related segment traces how online disinhibition relates separately to cybervictimisation, cyberperpetration, and harm-contributing cyberbystander involvement and assigns ODE the task of explaining reduced behavioural and communication restraint during digital interaction [9-12]. The strain-related segment traces how each role-specific position relates to anxiety and assigns GST the task of interpreting the strain-related significance of

received harm, enacted harm, and harm-contributing audience participation [27-30]. Anxiety remains the focal psychological outcome. Studies reporting broader internalising distress inform contextual interpretation only when they clarify the anxiety-related segment and are not treated as measurement-equivalent to anxiety. Organising the synthesis in this sequence maintains a clear conceptual boundary between reduced online restraint and strain-related psychological outcomes.

Comparison across the three pathways centres on the direction and consistency of reported associations, the behavioural meaning assigned to each cyberbullying position, role overlap across incidents, and differences in analytical specification that affect interpretation. Reported associations reveal a pronounced asymmetry: online disinhibition is associated most consistently with cyberperpetration, cybervictimisation carries the strongest and most consistent association with anxiety, and harm-contributing cyberbystander involvement receives narrower support across both segments [10,13,17,20]. Attention falls on cyberbystander measures that combine witnessing, passive non-intervention, reinforcement, and protective responses, since these positions differ in behavioural direction and in their implications for the continuation of digital harm [24-26]. Comparative synthesis keeps unequal levels of empirical support visible instead of imposing equivalent support across the three pathways.

Convergence, asymmetry, and unresolved specification across these comparisons shape the framework. Studies connecting online disinhibition with cyberperpetration establish enacted harm as the clearest antecedent-to-involvement segment. By contrast, the more consistent cybervictimisation-anxiety findings establish received digital harm as the strongest downstream psychological segment [10,12,16,17]. Restricted behavioural specification across cyberbystander studies supports separate attention to Passive Outsider Online and Reinforcer of the Cyberbully Online, and findings on overlapping involvement support treatment of the three positions as related and conceptually distinct [4,26,32]. These synthesis decisions provide the conceptual basis for three differentiated ODE–GST pathways without presuming equal empirical support across cybervictimisation, cyberperpetration, and harm-contributing cyberbystander involvement.

4. Proposed Role-Specific ODE–GST Framework

4.1 Explanatory Architecture and Theoretical Allocation

The proposed role-specific ODE–GST framework links online disinhibition with adolescent anxiety through three behaviourally distinct positions in harmful digital interaction: cybervictimisation as received digital harm, cyberperpetration as enacted digital harm, and harm-contributing cyberbystander involvement as passive or reinforcing audience participation. The framework keeps these positions separate, as each carries a different direction of involvement and a different empirical relationship with the surrounding constructs. Treating them as correlated positions recognises adolescents' overlapping involvement across incidents. Maintaining conceptual separation protects the distinction among receiving, enacting, and sustaining digital harm [1-4].

ODE and GST divide the explanatory work across two connected segments without competing for the same theoretical function. ODE explains how dissociative anonymity, invisibility, asynchronicity, solipsistic introjection, dissociative imagination, and minimisation of status and authority weaken behavioural and communication restraint during digital interaction [9,10]. GST interprets the psychological significance of role-specific involvement through adverse experience, social threat, emotional pressure, perceived controllability, and coping conditions associated with anxiety [27,28, 41]. Bounded allocation keeps anxiety outside ODE's primary explanatory domain and digital communication conditions outside GST's primary domain, creating continuity across the sequence without stretching either theory beyond its conceptual reach.

The framework derives its explanatory value from unequal role-specific pathways instead of assumed equivalence across the three sequences. Online disinhibition carries its strongest documented association with cyberperpetration, cybervictimisation carries the most consistent association with anxiety, and harm-contributing cyberbystander involvement receives the narrowest behaviour-specific support across both segments [10-13,17,20]. This asymmetry prevents a strong component association in one pathway from determining the expected strength of its complete sequence. The direct online-disinhibition-to-anxiety path is included as a residual statistical association after the three role-specific pathways are represented, not as a fourth theoretical mechanism. Figure 1 maps this role-specific architecture, including overlap among the three involvement positions and the residual direct association between online disinhibition and anxiety.

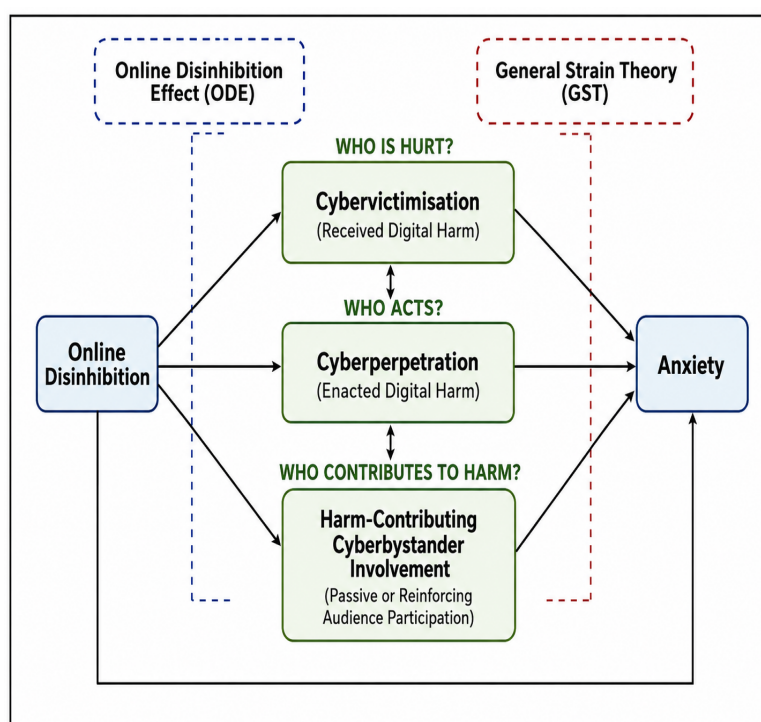


Fig. 1. Proposed role-specific ODE–GST framework linking online disinhibition with adolescent anxiety
Note. ODE = Online Disinhibition Effect. GST = General Strain Theory.

ODE explains the communication-related segment linking online disinhibition with the three role-specific positions. GST explains the strain-related segment linking each position with anxiety. Harm-contributing cyberbystander involvement encompasses Passive Outsider Online and Reinforcer of the Cyberbully Online. Double-headed links indicate role overlap. The direct path from online disinhibition to anxiety represents the residual association beyond the three proposed pathways. Arrows represent proposed associations without causal or temporal interpretation.

4.2 Cybervictimisation Pathway: Received Digital Harm

The cybervictimisation pathway traces online disinhibition to anxiety through the adolescent's position as recipient of digital harm, with ODE explaining the communication-related segment and GST explaining the psychological segment. ODE locates the first segment in communication conditions characterised by reduced identifiability, restricted interpersonal visibility, delayed feedback, and weaker restraint surrounding disclosure, conflict, retaliation, and harmful peer responses. Responsibility for victimisation remains with the person who enacts the harmful conduct

[9,10,14]. Once received harm enters the sequence, threats, humiliation, exclusion, reputational damage, uncertainty, and restricted control acquire strain-related psychological significance that aligns closely with anxiety [17,27,28].

The cybervictimisation pathway carries substantially stronger empirical support in its second segment than in its first. Cybervictimisation is consistently associated with anxiety across longitudinal and meta-analytic studies. Direct support for the association between online disinhibition and cybervictimisation remains comparatively restricted [14,16,17]. Stronger downstream findings place received digital harm in a prominent psychological position in the framework without treating the complete online-disinhibition–cybervictimisation–anxiety sequence as empirically established. Component-path support establishes conceptual plausibility. A complete indirect association requires support across the specified sequence.

Research Proposition 1. Online disinhibition relates positively to cybervictimisation, and cybervictimisation relates positively to anxiety, with the received-harm pathway carrying stronger empirical support in its cybervictimisation–anxiety segment.

4.3 Cyberperpetration Pathway: Enacted Digital Harm

The cyberperpetration pathway carries the opposite empirical configuration by placing its strongest support in the association between online disinhibition and enacted digital harm. ODE directly accommodates this relationship through reduced identifiability, restricted interpersonal feedback, psychological distance, asynchronous communication, and weakened authority salience, all of which reduce communication restraint during digital interaction [9,10]. Repeated positive associations across adolescent samples establish cyberperpetration as the role with the strongest online-disinhibition association among the three role-specific positions [11,12,36].

The connection between enacted harm and the perpetrator's own anxiety requires a more conditional interpretation, as cyberperpetration overlaps with cybervictimisation, retaliation, cyberostracism, continuing peer conflict, reputational instability, anticipated detection, and disciplinary consequences. GST accommodates the strain associated with these conflict-laden conditions. Adjusted coefficients vary after models account for overlapping involvement and related peer experiences [18,20,30]. The coefficient reversal documented by Z. Wang *et al.*, [20] demonstrates how shared variance changes the apparent relationship between cyberperpetration and anxiety, preventing the strong first segment from predetermining the direction of the complete pathway.

Research Proposition 2. Online disinhibition relates positively to cyberperpetration. The association between cyberperpetration and anxiety varies with overlapping involvement and model specification, leaving the direction of the complete enacted-harm pathway empirically open.

4.4 Harm-Contributing Cyberbystander Pathway: Audience Participation

The harm-contributing cyberbystander pathway extends the explanatory structure beyond the victim-perpetrator dyad by positioning audience behaviour in the continuation of harmful digital interaction. Passive Outsider Online captures reported non-intervention. Reinforcer of the Cyberbully Online captures responses that endorse, circulate, encourage, or amplify harmful content [26]. ODE supplies a communication-based explanation for the first segment through reduced identifiability, restricted access to the target's immediate response, asynchronous interaction, and weakened

accountability. Studies linking toxic online disinhibition with passive bystanding and visible endorsement provide component-level support for this extension without establishing an equivalent association across both harm-contributing dimensions [13,37].

GST differentiates the psychological meaning of passive non-intervention from active reinforcement even though both positions contribute to the continuation of harm. Passive non-intervention carries strain associated with helplessness, intervention uncertainty, fear of retaliation, and concern about peer exclusion. Active reinforcement introduces concerns surrounding amplification, detection, reputational consequences, conflict escalation, and anticipated sanctions [21-23,32]. Separating these response forms sharpens the conceptual precision of the bystander pathway relative to broad witnessing classifications and keeps different behavioural intensities visible across a shared harm-contributing direction. Grouping passive non-intervention and active reinforcement in a shared harm-contributing direction does not assign equivalent behavioural agency, moral responsibility, or causal contribution to the two responses.

The pathway's principal empirical weakness defines its main conceptual contribution. Anxiety-oriented studies largely measure witnessing or broad bystander status, leaving Passive Outsider Online and Reinforcer of the Cyberbully Online insufficiently differentiated as predictors of the bystander's own anxiety [21-23]. Separating observation from harm-contributing participation marks a substantive boundary of the framework, extending beyond terminological refinement.

Research Proposition 3. Online disinhibition relates to harm-contributing cyberbystander involvement. The association between behaviourally specified passive or reinforcing responses and anxiety remains directionally open pending direct role-specific evaluation.

4.5 Cross-Path Asymmetry as the Organising Logic

Comparing the three pathways reveals an explanatory structure in which empirical support concentrates at different points across the sequence. Cybervictimisation carries its greatest strength in the association with anxiety, cyberperpetration in the association with online disinhibition, and harm-contributing cyberbystander involvement has the greatest uncertainty across both segments. Asymmetry carries central theoretical significance by demonstrating how aggregate cyberbullying involvement obscures differentiated role positions and how a single strong component coefficient provides insufficient support for a complete indirect pathway [10,14,17,20].

Research on role overlap strengthens the need for this differentiated architecture, as adolescents report victimisation, perpetration, and bystander involvement across related incidents and periods of digital interaction. Treating the three positions as related captures their shared experiential context. Separate pathways protect the behavioural direction attached to each form of involvement [2-4]. Aggregate treatment removes that direction, and isolated role models risk assigning shared involvement to a single position.

Role-specific ODE–GST integration maintains explanatory continuity without imposing pathway equivalence. ODE anchors reduced online restraint before adolescents occupy differentiated positions in harmful digital interaction, GST interprets the strain-related significance of those positions in relation to anxiety, and role separation prevents findings from one behavioural position from standing in for another. The framework includes a residual direct association between online disinhibition and anxiety so that the three role-specific pathways represent proposed intervening routes without presuming that these routes exhaust the antecedent-outcome association [9,27,28].

5. Theoretical Contributions and Practical Implications

5.1 Theoretical Contributions

The role-specific ODE–GST framework advances cyberbullying explanation by replacing aggregate involvement with three behaviourally directed positions that represent different forms of participation in harmful digital interaction. Cybervictimisation captures received digital harm, cyberperpetration captures enacted digital harm, and harm-contributing cyberbystander involvement captures passive or reinforcing audience participation. Role differentiation redirects the explanatory question from whether cyberbullying relates to online disinhibition and anxiety to which behavioural position carries each association and where empirical support concentrates across the sequence. Adolescents move across victim, perpetrator, and bystander positions across separate incidents, and such overlap leaves the behavioural meaning of each position intact [1-4]. Keeping role direction alongside overlap protects distinctions that aggregate cyberbullying classifications obscure and creates a more precise basis for explaining unequal role-specific pathways.

Positioning harm-contributing cyberbystander involvement as a distinct explanatory pathway extends cyberbullying theory beyond direct victimisation and perpetration into the social continuation of digital harm. Broad witnessing classifications identify adolescents who encounter cyberbullying without specifying what they subsequently do, compressing passive non-intervention, perpetrator reinforcement, and protective intervention into one audience category. Distinguishing Passive Outsider Online from Reinforcer of the Cyberbully Online separates withholding intervention from responses that endorse, circulate, encourage, or amplify harmful content. Protective actions such as defending, reporting, supporting the target, and interrupting harmful interaction carry a different behavioural direction [25,26,32]. The framework places audience behaviour inside the explanatory structure of cyberbullying without equating different levels of harm contribution. Sharper behavioural specification exposes an important empirical boundary, since differentiation has progressed further than research associating passive and reinforcing responses with the bystander's own anxiety.

Bounded integration of ODE and GST strengthens explanatory continuity without stretching either theory beyond its primary domain. ODE accounts for reduced behavioural and communication restraint associated with digitally mediated conditions and anchors the segment from online disinhibition to role-specific cyberbullying involvement. GST interprets the strain-related psychological significance of received harm, enacted harm, and harm-contributing audience participation in relation to anxiety [9,10,27,28,30]. Explanatory allocation extends beyond placing two theories in one diagram by assigning each theory a defined task and keeping empirical asymmetry visible across the three pathways. Online disinhibition has its strongest documented association with cyberperpetration, cybervictimisation has the most consistent association with anxiety, and harm-contributing cyberbystander involvement has the narrowest behaviour-specific research base. Treating these differences as theoretically informative replaces assumed pathway equivalence with a role-specific explanation grounded in unequal empirical support.

5.2 Practical Implications

Differentiating received harm, enacted harm, and harm-contributing audience participation directs schools and adolescent-support professionals towards responses that correspond with the behavioural position involved instead of relying on a single cyberbullying label. Cybervictimisation calls attention to threat, humiliation, social loss, reputational damage, uncertainty, and anxiety-related distress experienced by recipients of digital harm. Cyberperpetration requires attention to

reduced online restraint, continuing conflict, retaliation, overlapping victimisation, anticipated consequences, and behavioural accountability. Harm-contributing audience participation shifts attention towards peer reinforcement, content circulation, intervention uncertainty, and the social processes that permit harmful interaction to continue. These distinctions provide a stronger interpretive basis for aligning digital-safety education, counselling attention, reporting mechanisms, and student-support planning with the form of involvement adolescents report [17,20,26]. Role-sensitive interpretation reduces the risk of identical responses to adolescents whose involvement carries substantially different behavioural and psychological meanings.

Bystander-focused intervention acquires greater precision when school responses move from identifying who witnessed cyberbullying towards identifying how adolescents responded after witnessing it. Passive outsiders require support that strengthens confidence in safe intervention, credible reporting routes, access to trusted adults, and strategies for managing fear of retaliation or peer exclusion. Reinforcing participants require clearer attention to how liking, forwarding, redistributing, endorsing, encouraging, and amplifying harmful content extend the reach and social validation of digital harm. Protective responses such as defending, reporting, supporting the target, and interrupting harmful interaction carry a different behavioural direction and require separate recognition [24-26]. Behavioural specificity sharpens digital citizenship education by assigning responsibility to observable audience participation and preventing broad witnessing categories from obscuring whether adolescents resist, tolerate, or strengthen harmful interaction.

Integrating online restraint, role-specific involvement, and anxiety encourages schools to coordinate digital-safety responses with psychological support instead of treating behavioural participation and emotional distress as unrelated concerns. Communication-focused programmes address accountability, audience awareness, content circulation, behavioural restraint, and responsible participation in networked interaction. Counselling and referral processes attend to anxiety-related distress associated with differentiated involvement positions. Adolescents who report overlapping victim, perpetrator, and bystander experiences require interpretation that recognises shared involvement without collapsing the behavioural meaning of each position. Family awareness and accessible help-seeking routes further strengthen this coordinated response by placing digital incidents in the adolescent's wider support environment [42,43]. Practical application must respect the framework's empirical boundaries. Cybervictimisation carries the clearest anxiety-related support, cyberperpetration requires careful interpretation of shared involvement, and harm-contributing cyberbystander pathways require stronger behaviour-specific evidence before schools assign comparable psychological risk across the three positions. Table 2 consolidates these theoretical shifts and their corresponding practical implications.

Table 2

Translating the role-specific ODE–GST framework into theoretical and practical implications

Theoretical shift	What the framework changes	Practical implication
From aggregate cyberbullying involvement to role-specific behavioural positions	Separates cybervictimisation as received digital harm, cyberperpetration as enacted digital harm, and harm-contributing cyberbystander involvement as audience participation, and recognises role overlap across incidents [1,2, 4].	Supports differentiated interpretation of student involvement, counselling attention, reporting responses, and digital-safety education instead of applying one response to all forms of cyberbullying involvement.

Table 2 (continued)

Theoretical shift	What the framework changes	Practical implication
From broad witnessing to behaviourally specified audience participation	Distinguishes Passive Outsider Online and Reinforcer of the Cyberbully Online from defending, reporting, victim support, and active interruption [25,26].	Directs bystander programmes towards different intervention needs safe intervention and reporting support for passive outsiders, and accountability for endorsement, redistribution, encouragement, and amplification among reinforcers.
From separate theoretical explanations to bounded ODE–GST integration	Assigns ODE to reduced behavioural and communication restraint preceding role-specific involvement and GST to the strain-related connection between involvement and anxiety [9,27,28,30].	Integrates digital-communication education with psychological support without treating communication processes and anxiety as products of the same theoretical mechanism.
From assumed pathway equivalence to evidential asymmetry	Recognises that online disinhibition is most consistently associated with cyberperpetration, cybervictimisation has the most consistent anxiety-related association, and harm-contributing cyberbystander evidence remains comparatively restricted [10,17,20].	Encourages schools and future researchers to avoid assigning equivalent psychological risk or intervention priority across behaviourally different roles before role-specific evidence supports such conclusions.

6. Conclusion

Adolescent cyberbullying unfolds through digitally mediated interaction in which reductions in communication and behavioural restraint intersect with sharply different positions in harm. One adolescent receives humiliation, exclusion, threats, or reputational damage, another enacts harmful behaviour, and some audience participants remain passive, endorse the aggression, redistribute harmful content, or amplify its social reach. Across incidents, adolescents move among these positions without erasing their distinct behavioural direction or psychological meaning. Explanations that compress them into one cyberbullying category erase the distinction between receiving harm, enacting harm, and contributing to its continuation. The role-specific ODE–GST framework restores that distinction and reorganises explanation around three differentiated pathways from online disinhibition to anxiety. Unequal empirical support drives its central argument: online disinhibition is associated most consistently with cyberperpetration, cybervictimisation carries the clearest anxiety-related support, and harm-contributing cyberbystander involvement has the greatest uncertainty. Mapping where support concentrates across the sequence clarifies the psychological meaning attached to each behavioural position and prevents stronger findings from one pathway from standing in for another. Assigning ODE to reduced online restraint and GST to the strain-related significance of role-specific involvement further integrates communication conditions with psychological experience without collapsing their explanatory functions. Future research should test the proposed pathways through longitudinal and repeated-wave designs, model cybervictimisation, cyberperpetration, and harm-contributing cyberbystander involvement as distinct constructs, and assess Passive Outsider Online and Reinforcer of the Cyberbully Online separately before drawing broader conclusions about audience participation. Cross-context testing should establish whether the same asymmetry persists across adolescent populations, cultural settings, and digital environments. Progress in this field depends on keeping the behavioural direction of digital harm explicit across time: who receives it, who enacts it, and who permits or amplifies its continuation.

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