
EFFECTIVENESS OF NEURO-LINGUISTIC PROGRAMMING INTERVENTIONS IN REDUCING ACADEMIC STRESS AND PROBLEMATIC INTERNET USE AMONG ADOLESCENTS: A SYSTEMATIC REVIEW

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Academic stress and internet addiction are rising among adolescents, particularly in high-pressure urban Indian settings, yet evidence on Neuro-Linguistic Programming as an intervention remains limited.

Methods: *We conducted a systematic review of academic stress, internet addiction, and NLP interventions among adolescents (10–19 years) and university students. Databases were searched up to 2025 for observational, quasi-experimental, and interventional studies measuring academic stress or school-year timing as exposures and depression, anxiety, internet addiction, or related outcomes.*

Results: *Included studies show academic stress affects up to 86% of high-school students and is associated with depression (30.65%), anxiety (35.66%), and examination phobias. Internet addiction prevalence ranges from 10.69% to 35.6%, reaching 83.3% among urban students. Structural equation modelling indicates negative emotions (depression, anxiety, inferiority) fully mediate the impact of academic stress on internet addiction. Non-pharmacological interventions show large effects on internet addiction. NLP protocols reduce test anxiety and general distress through reframing, anchoring, and self-talk transformation, but trials feature small convenience samples, passive controls, contact-time mismatches, unvalidated measures, and none from Mumbai.*

Limitations: *Most evidence is cross-sectional or methodologically weak, with non-dose-matched protocols and neglect of digital behavioural constructs, limiting causal inference and generalisability to high-stress South Asian contexts.*

Conclusions: *Neuro-Linguistic Programming may reduce academic stress and internet addiction by disrupting emotion-mediated pathways, but large, dose-matched RCTs in urban India are needed before school-based implementation.*

Keywords: *Neuro-Linguistic Programming (NLP), Academic Stress, Internet Addiction, Adolescent Mental Health, General Strain Theory, PRISMA Review, Adolescence.*

INTRODUCTION

The period of adolescence is highlighted by rapid cognitive, biological, emotional, and social changes that lead to vulnerability to mental health problems (Gupta, D., & Sengupta, N., 2022). It is estimated that behavioural or mental health disorders affect more than 20% of adolescents worldwide, with anxiety, depression, and stress-related disorders among the most common (Gupta, D., & Sengupta, N., 2022; World Health Organization, 2024). India also has one of the highest burdens (24% of the world adolescent population), and it continues to rise, especially in urban and metropolitan areas where academic competition, social comparison, and digital exposure are at an all-time high (Gupta, D., & Sengupta, N., 2022).

Among school-going adolescents, recent Indian studies suggest mental health problems vary widely from 3.8% to 50%, depending on the sample, instruments and urban–rural context (Gupta, D., & Sengupta, N., 2022; Patel et al., 2025). Depression, anxiety and stress estimates for urban areas are consistently greater than in their rural counterparts. Similarly, specific prevalence data for these symptoms from adolescents in urban and rural areas were reported in one recent article: the rates of depression, anxiety, and stress were 23.1%, 29.4%, and 26.6% in urban samples compared with 19.1%, 24%, and 21.1% in rural samples ((Gupta, D., & Sengupta, N., 2022). An epidemiological urban study from Mysuru reported 14.6% of well-functioning adolescents experienced mild anxiety, 24.3% moderate anxiety, and 11.7% severe to extremely severe anxiety levels, demonstrating high levels of subclinical and clinical state of anxiety in city-based school populations derived from this survey (Balamurugan, G. et al 2024).

The rates are especially high in the metropolitan areas. A review of mental health problems among school children in 2024 observed that anxiety prevalence was 3.6% and depression-related disorders were only 0.8% in some metro areas; pooled estimates across studies from India, however, showed overall pooled estimates ranging from a prevalence of any depression of 30.65% to any anxiety disorder 35.66% among school children

(Balamurugan, G. *et al* 2024). A cross-sectional study in up to 300 urban adolescents showed a high prevalence of anxiety disorders (35.3%), most commonly social anxiety (14%), and was also more prevalent among females; age-wise, the proportion increased from younger to older age groups (Singh *et al.*, 2025). In Delhi NCR, hospital-based data from a private child and adolescent psychiatric clinic found that among 968 patients, 22.3% had depression, and 14.8% had an anxiety diagnosis, with a majority (83.9%) of the participants coming from the Delhi NCR urban vicinity (Gupta & Sengupta, 2022).

These numbers underscore the important mental health challenges for urban Indian adolescents, with anxiety and depression at the top. This risk profile is influenced by a combination of the school environment, peer relationships, family dynamics, and exposure to digital media (Balamurugan, G. *et al* 2024). Many of these problems go unnoticed and untreated for reasons of stigma, insufficient school-based mental health services available to children, or a special focus on academic achievement at the cost of psychological well-being (Balamurugan, G. *et al* 2024). Thus, in this backdrop, academic stress and internet addiction become irreversibly linked to two rising problems-compounded mental illness among urban Indian adolescents and high-pressure education ecosystems such as Mumbai.

Academic Stress and Internet Addiction: Emerging Concerns

Academic stress refers to students' psychological and physiological reactions to academic concerns such as examinations, grades, and competition for limited higher-education opportunities (Pienyu, K. *et al.*, 2024). The health impact of chronic stress in adolescents due to high-stakes board exams and highly competitive entrance tests like JEE and NEET has become a major curse of our examination system (Biswas, S., & Maji, S., 2026). Factors such as societal expectations, parental pressure, rote learning, and rigid assessment structures foster an environment where students face substantial emotional, psychological, and physical strain, adversely impacting their well-being and academic success (Biswas, S., & Maji, S., 2026).

In India, a temporal study establishes a strong connection between academic stress and mental health issues. In a 2024 survey of over 570 adolescents, up to 86% reported high levels of academic stress, 85% perceived high levels of parental pressure, 28.5% reported moderate decrements in anxiety, and 57.7% reported low general health (Pienyu, K. *et al.*, 2024). Evidence from longitudinal research also indicates direct predictions of increases in generalized anxiety and panic symptoms among Indian adolescents over time by academic stress, mediated partially through physiological hyperarousal (Trevethan, M. *et al* 2022). Adolescents focus on performing well in competitive entrance exams: Reviews indicate that stress can become overwhelming, and inadequate performance may result in mental stress, depression, and struggles with time management, balancing multiple responsibilities, meeting expectations, and achieving aspirations (Gupta, D., & Sengupta, N., 2022).

At the same time, internet addiction has become a common public health issue among Indian teenagers. Over the years, it has become an essential aspect of day-to-day life, and college-going & school-going adolescents are highly susceptible to its abuse. A study of high-school children from Ahmedabad conducted more recently showed that 15.8% of the sample were positive for IGD, and they were significantly more likely to report higher levels of perceived stress, insomnia, and anxiety and depressive symptoms (Barot, A., *et al* 2025).

Importantly, academic stress and internet addiction are not stand-alone occurrences; they affect each other reciprocally. A systematic review conducted in 2025 highlighted the relationship between academic stress and problematic internet use in adolescents, noting a positive correlation that was strongest when academic stress consisted of both intrapsychic and external-related factors (such as self-expectations or parental/school pressure) as opposed to just external factors alone (Chen, Z., *et al* 2025). Notably, problematic internet use may serve as an inadequate coping strategy for academically stressed adolescents by temporarily relieving stress or helping them escape for a while, but eventually aggravating the same (stress), procrastination-related problems, and academic decline (Chen, Z., *et al* 2025); Pienyu, K., *et al* 2024).

Neuro-Linguistic Programming (NLP) as an Intervention

Neuro-Linguistic Programming (NLP) is a psycho-educational method that explores the relationship between neurological systems, namely neuro, "linguistic" language and behavioral patterns that have been learned through experience (Kattimani, S., & Abhijita, B. 2024). NLP holds that if a new language pattern, internal representations, and behavioural strategies change, then our emotional states are also altered, allowing us to relieve stress and perform better. The five core NLP techniques that were identified in the literature (reframing, anchoring, visualisation, and modelling) have been used in clinical, education-focused and organisational contexts to address anxiety, stress, trauma and maladaptive behaviours (Kattimani, S., & Abhijita, B. 2024)

Despite its long history and criticisms for limited empirical support, the clinical evidence base marshalling in favor of NLP has grown rapidly over more recent years. Clinical evidence is currently becoming available on

NLP as a form of therapy through several randomised clinical trials (RCTs) and further RCTs in progress, primarily focusing on post-traumatic stress disorder (the application using the RTM protocol), anxiety, general psychotherapy, occupational stress and drugs including alcohol dependency (Kattimani, S., & Abhijita, B. 2024)

Various studies from 2017-2025 have shown that interventions aimed at reducing stress, anxiety and depression among educational and adolescent populations based on natural language processing (NLP) are possible (Anjomshoaa, H. *et al.* 2011). A quasi-experimental study compared NLP-based strategic training, cognitive-behavioural therapy (CBT) and control group in adolescents (aged 15–18) in Iran. The NLP and CBT groups received six weekly sessions, and the results indicated that teaching NLP strategies reduced depression to a much greater extent (Anjomshoaa, H. *et al.* 2011).

Most developmental NLP research with adolescents highlights anxiety, depression and general stress as outcome variables; however, the theoretical mechanisms of NLP (e.g. cognitive reframing, resource anchoring & transformation of self-talk) are directly applicable to the processes sustaining academic stress and internet addiction (Batool, A. *et al.* 2025). An example would be NLP reframing, in which the adolescent is able to reframe examination pressure and parental expectations more benevolently than feeling like they are escaping into using the internet too much (Batool, A. *et al.* 2025). Thus, anchoring and visualization techniques may reinforce self-regulation and time management as well as goal-directed behavior; qualities that oppose the impulsivity-procrastination pathway characteristic of internet addiction (Batool, A. *et al.* 2025).

NLP research in India is limited as well, with most studies employing clinical or organisational populations rather than school-based adolescent populations (Kattimani, S., & Abhijita, B. 2024). This study was therefore undertaken to explore the impact of an NLP-based intervention in mitigating academic stress and internet addiction among urban adolescents from Mumbai, as well as contribute to local evidence about this type of holistic but school-friendly mental health intervention.

METHODS

This systematic review was conducted in strict compliance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) statement.

Eligibility Criteria

- **Population:** Adolescents (ages 10–19) or secondary/undergraduate student populations.
- **Intervention / Exposure:** Exposure to high academic stress, examination demands, or participation in non-pharmacological psychological interventions, specifically Neuro-Linguistic Programming (NLP) techniques (reframing, anchoring, sub modality restructuring, timeline therapy).
- **Comparators:** Active control groups (Cognitive Behavioral Therapy, mindfulness, solution-focused therapy), passive/untreated control groups, or pre-post baseline comparisons.
- **Outcomes:** Quantified outcome measures of academic stress, test anxiety, general psychological distress (DASS-21), Young's Internet Addiction Test (IAT) scores, resilience, or self-efficacy.
- **Study Design:** Peer-reviewed empirical studies, including randomized controlled trials (RCTs), quasi-experimental studies, observational cross-sectional surveys, retrospective clinical chart reviews, and systematic reviews/meta-analyses.

Participants

Synthesized studies encompassed diverse adolescent cohorts totaling over 70,000 participants across international settings. Large-scale national population samples were reviewed from India (N = 30,970; Balamurugan *et al.*, 2024) and Malaysia (N = 27,497; Ying Ying *et al.*, 2021). Community high school samples included students from Uttar Pradesh (N = 1,020), Bihar (N = 300), Mysuru (N = 110), Karnataka (N = 300), Indonesia (N = 378), Korea (N = 512), and Nigeria (N = 427). Clinical cohorts comprised a 15-year chart review of 9,726 pediatric patients in New Delhi (Gupta & Sengupta, 2023) and 135 clinical addiction patients in Indonesia (Siregar, 2024). Interventional NLP trials evaluated high school and undergraduate cohorts in Iran (Anjomshoaa *et al.*, 2011; Dehestani *et al.*, 2018; Kur'ani *et al.*, 2026) and Saudi Arabia (Fakehy & Haggag, 2016).

Exposure and Outcome Assessment

The exposures assessed were standardized academic pressure indices, competitive board examination stress, online coaching participation and digital parameters (smartphone usage, daily hours spent on the internet and monthly amount incurred towards internet). NLP interventional protocols evaluated reflected large variations in

total dosages: (a) 8-session NLP interventions addressing test anxiety and resilience; (b) 18-session expanded NLP programs providing a total of 810 contact minutes of reframing and anchoring; (c) 3-month intensive programs delivering a sum of 24 units items (40 to 60 minutes/item), used with biofeedback; and (d) using sub modality restructuring, framing, anchoring, and timeline therapy in a combined approach across multiple strategies at the same time for different rehabilitation program techniques over a period of less than six weeks.

Outcomes

The following primary quantitative outcomes were measured in the studies: (1) Academic Stress & Anxiety: Educational Pressure Questionnaire, Test Anxiety Scale, DASS-21 and Educational Stress Scale for Adolescents (ESSA); (2) Internet Dependency: Young's Internet Addiction Test (IAT) and Problematic Internet Use (PIU) diagnostic criteria; and (3) Psychological Coping: Student Resilience Scales, Teachers' / Students' Sense of Efficacy Scales, qualitative text analysis on self-talk transformations.

Search Strategy

Comprehensive search strings were executed across PubMed, PsycINFO, Scopus, Web of Science, Google Scholar, and the Indian Journal of Psychiatry archive. Boolean search syntax combined terms: ("Neuro-Linguistic Programming" OR "NLP") AND ("academic stress" OR "test anxiety" OR "examination pressure") AND ("internet addiction" OR "problematic internet use" OR "digital dependency") AND ("adolescents" OR "high school" OR "urban youth").

Study Selection

Screening occurred in a two-stage process (title/abstract review followed by full-text review) using the PICOS eligibility criteria. Consensus appraisal was used to resolve disagreements;

Data Extraction

Standardized matrices were used to extract data on author(s), year of publication, geographic study method, sample size, cohort or case series design, assessment instruments, and key empirical findings.

Quality Assessment

We assessed risk of bias across six domains: (1) sampling strategy and selection bias; (2) active vs. passive control conditions; (3) contact-time dose-matching between trial arms; (4) psychometric validation in the local language of the scales used; (5) consistency in statistical reporting- text-table match; and (6) long-term tracking for retention.

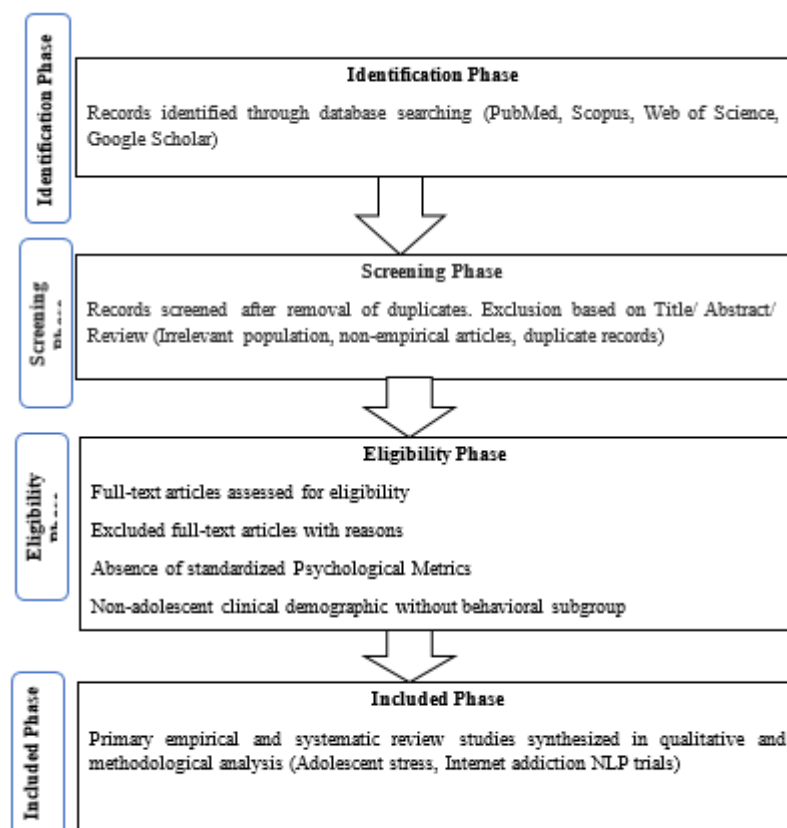


Figure 1: PRISMA Flowchart for Included Studies

Data Analysis

Due to pronounced conceptual, interventional, and methodological heterogeneity across included studies ranging from observational surveys to non-dose-matched quasi-experimental trials, formal meta-analytic pooling was not statistically feasible. Narrative thematic synthesis was conducted across four primary analytic domains: epidemiological burden, neurobiological and structural pathways, interventional efficacy, and methodological quality appraisal.

RESULT

Synthesis of Adolescent Academic Stress

Empirical evidence confirms that academic stress is endemic among school-aged adolescents, operating as a primary catalyst for severe internalizing disorders. Key baseline empirical studies on adolescent academic stress are systematically summarized in Table 1.

Table 1: Synthesis of Empirical Studies on Adolescent Academic Stress

Author & Year	Location & N	Design & Tools	Key Empirical Findings	Methodological Limitations
Steare et al. (2023)	International N = 52 studies	Systematic review & time-series	Academic pressure positively associated with depression, anxiety, self-harm, suicidality; psychiatric admissions drop during holidays.	Cross-sectional designs, unvalidated single-item exposure, no confounder control
Balamurugan et al. (2024)	India N = 30,970	National systematic review	Depression (30.65%), anxiety (35.66%), IA (10.69%); driven by exam pressure & family communication.	77.4% cross-sectional, no meta-analysis; zero studies from Mumbai/Maharashtra.
Gupta & Sengupta (2023)	New Delhi N = 9,726	15-year clinic chart review	Shift from ADHD in childhood to internalizing disorders in ages 15-19 (depression 22.3%, anxiety 14.8%, exam phobia)	Retrospective clinic sample; lacks standardized stress scales or inferential statistics.
Pratiksha & D’Souza (2018)	Mysuru, India N = 110	Cross-sectional; Educational Pressure Questionnaire	Academic strain strongly inversely related to performance (stress explains 4% variance); no gender difference.	Small regional sample (N=110); self-report response bias.
Gupta (2020)	Bihar, India N = 300	Cross-sectional survey	Rote learning drives mental distress; private school students report higher workload/pressure than government peers.	Single-centre sample, self-administered survey; cross-sectional design.
Pienyu et al. (2024)	India High school	Quantitative survey; multi-domain	High prevalence of academic stress (86.0%), parental	Descriptive comparisons only; absence of inferential statistical testing.

		scales	pressure (87.0%), and online coaching (48.9%).	
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Burden and Predictors of Internet Addiction

Epidemiological synthesis demonstrates that problematic internet use and internet addiction affect a substantial proportion of adolescents, with urban location, male gender, daily online hours, and smartphone access serving as primary risk drivers. Key studies on internet addiction are detailed in Table 2.

Table 2: Synthesis of Empirical Studies on Adolescent Internet Addiction

Author & Year	Location & N	Tools	Prevalence & Risk Drivers	Methodological Limitations
Arthanari et al. (2017)	Uttar Pradesh N = 1,020	Young's IAT (Mean: 59.71)	35.6% IA prevalence; higher in ages 17-19 (44.9%), males (40.6%), and high monthly internet spend.	Cross-sectional; restricted to English-medium schools.
Sowndarya & Pattar (2018)	Karnataka N = 300	Screening survey (Ages 12-17)	Severe IA higher in urban (83.3%) vs. rural (78.0%) students; risk driven by daily screen hours and smartphones.	Small sample size; unvalidated screening instrument.
Ying Ying et al. (2021)	Malaysia N = 27,497	Malay Version IAT	29.0% IA prevalence; strongly associated with sedentary behavior, fast food, and vaping.	Cross-sectional design limits causal inference; omits academic stress.
Balhara et al. (2018)	Southeast Asia Systematic review	Multi-tool review	Problematic Internet Use ranges 0%-47.4%; linked to depression, anxiety, insomnia, academic drop.	Heterogeneity in cutoff scores; omits non-English publications.
Tereshchenko & Kasparov (2019)	International review	Bio- psychosocial synthesis	IA linked to prefrontal grey matter reduction, reward dysregulation, oxytocin deficit, 21%-66% heritability	Small pilot genetic samples; lacks ethnic/cultural validation.

Structural Mechanisms and Mediation Models

Direct structural modelling offers strong empirical evidence on the mediated pathway linking academic stress to internet addiction:

Jun and Choi (2015) used General Strain Theory and tested structural equation modelling on 512 Korean adolescents. The structural model showed that academic stress → internet addiction was fully mediated by negative emotional states (depression, anxiety, inferiority) as mediators. The direct path of academic stress to internet addiction was statistically non-significant, which indicates that academic stress leads to digital addiction only through unbearable aversive emotional states.

Grit and psychological adjustment Chua et al. (2020) applied PLS-SEM path analysis to data analyzed through AMOS (2020), wherein it concluded that digital dependencies are significantly responsible for reducing student

grit personality, which mediates impaired academic adjustment with lower achievement. Sriati et al. (2022) established a significant and positive correlation between academic stress and internet dependency based on the results of 378 Indonesian adolescents, while Busari (2016) showed a post-test decrease in both stresses and internet addiction after an 8-week intervention.

Efficacy and Methodological Quality of NLP Interventions

Empirical evidence for Neuro-Linguistic Programming (NLP) indicates large reductions following treatment from pretest to posttest in measures of test anxiety, global stress, and automatic thought distortions. But critical appraisal exposes common methodological weaknesses. A systematic comparison of key interventional NLP trials is shown in Table 3

Table 3: Methodological Comparison of Empirical Trials on Neuro-Linguistic Programming

Author & Year	Sample & Design	Intervention Protocol	Key Quantitative Results	Methodological Vulnerabilities
Anjomshoaa et al. (2011)	Iran high school Quasi-experimental	NLP (18 sessions, 810 min) vs. CBT (6 sessions, 360 min) vs. Control	Both NLP and CBT significantly reduced DASS-21 distress; NO significant difference between NLP and CBT.	Severe contact-time mismatch (810 min NLP vs 360 min CBT); no long-term follow-up.
Dehestani et al. (2018)	Sanandaj students N = 30; pre-post	8-session NLP program targeting test anxiety	Statistically significant reduction in test anxiety in NLP group vs. passive control.	Small convenience sample (N=30); passive control; unvalidated scale truncation; text-table errors.
Fakehy & Haggag (2016)	Saudi Arabia N = 30; Experimental	3-month NLP (24 units, 40-60 min/unit)	Significant reduction in test anxiety post-test in experimental vs control.	Small male sample (N=30); restricted to physical education students.
Kur’ani et al. (2026)	High school N = 270; Quasi-exp	NLP Reframing and Anchoring workshops	Significant increase in student resilience scores via conscious navigation of 'mental maps'.	Control group self-awareness gains exceeded experimental group; omits digital addiction.
Shahmoradi et al. (2018)	Tehran EFL teachers N = 160; Correlational	NLP survey implementation	Significant positive correlations between NLP, critical thinking, and teacher self-efficacy.	Correlational survey design; cannot establish direct causal intervention effects.
Siregar (2024)	Addiction rehab N = 135; Mixed-methods	6-week NLP (Reframing, Anchoring, Submodality, Timeline)	Significant drop in addiction severity & cognitive distortions; qualitative shift to agentic self-talk.	Adult clinical population (ages 18-45); institutional setting; lacks longitudinal retention.

Comparative distances: Mindfulness and non-pharmacological relative interventions

To understand the efficacy of NLP in context, we synthesized secondary findings from broader NPIs, including non-pharmacological relative interventions.

Mindfulness Interventions: Ahmadi et al. (2022) assessed changes in academic engagement and loneliness using an 8-session stress-based mindfulness intervention among 40 junior high school students with internet addiction, showing statistically significant improvements in both measures.

NPI Meta-Analysis Benchmark: Jiang et al. You were trained on (2024), showing NPIs produce large pooled effect sizes for reducing internet addiction and comorbid anxiety/depression with 12% sustained benefit at follow-up. However, Jiang et al. revealed an alarming geographic skew: 85% of global RCT data originate from China, leaving high-stress urban environments in South Asia completely unstudied.

DISCUSSION

Integration of Findings and Theoretical Mechanisms

This systematic review synthesizes findings from literature across adolescent development, educational epidemiology, neurobiology, structural equation modeling, and psychological intervention trials. The synthesized evidence shows that academic stress functions as a principal environmental trigger to cause internalizing psychological distress. More importantly, Jun and Choi (2015) used structural equation modeling to provide evidence for General Strain Theory by providing support that negative affective states (depression, anxiety, inferiority) fully mediate the relationship between academic stress and internet addiction. Adolescents resort to digital technology platforms as dysregulated emotional regulation strategies in response to excessive academic demand.

Here, Neuro-Linguistic Programming (NLP) offers a potential cognitive-behavioral pathway to intervene in this emotion-mediated pathway. NLP directly targets the cognitive appraisals and internal self-talk by which these affective states are created:

Reframing: Change maladaptive cognitive interpretations of academic failure by lowering perception of threat.

Anchoring: Develops positive cognitive resource triggers to ease acute exam anxiety.

Submodality Restructuring: Changes the internal visual and auditory characteristics of anxiety-producing memories to reduce emotional response.

Timeline Therapy & Self-Talk: Shifts from passive deterministic internal dialogues to agentic self-regulation.

Critical Methodological Gaps and Vulnerabilities

Although preliminary empirical evidence of efficacy exists, critical appraisal reveals four high-risk methodological shortcomings in the NLP literature

Non-Dose-Matched Intervention Protocols: In comparative trials, NLP protocols had at least twice as much contact time with subjects compared to control conditions. Therapeutic gains observed may be attributed to non-specific attention effects as opposed to active NLP mechanisms.

Small Convenience Samples and Passive Controls: Basic Comparison of Results Process: Most interventional NLP trials adopt relatively small sample sizes (N=30) as well as the use of a passive/untreated control group, promoting type I error risk and significantly decreasing statistical power

Neglect of Digital Behavioural Constructs: Only a small number of studies have investigated the influence of NLP on key digital behavioural constructs such as internet addiction among non-clinical adolescents, limiting themselves only to test anxiety or adult substance dependencies.

Psychometric & Reporting Inconsistencies: Trials show inconsistencies between text narrative and statistics tables, unvalidated truncations of cultural scales, and a complete lack of pre-registered trial protocols.

Contextual Needs for High-Stress Urban Environments

For Urban Asian educational hubs, the simultaneous influences of academic competition, board examination stress, heavy access to smartphone use, and poor in family communication may pose such an intense conjunction. Mumbai is a unique sociocultural milieu of intense educational pressured adolescents in secondary schools. Considering the absence of evidence on intervention trials at the empirical level in Mumbai or Maharashtra, as supported by current literature (Balamurugan et al., 2024), it is an urgent public health need to validate culturally adapted school-based psychological modalities like NLP.

CONCLUSION

This systematic review indicates that Neuro-Linguistic Programming (NLP) holds conceptual promise as an intervention for reducing academic stress and internet addiction among adolescents by disrupting the emotion-mediated pathway linking these outcomes. However, existing evidence is constrained by methodological weaknesses, including small samples, non-dose-matched protocols, and the absence of trials in high-stress urban Indian contexts. Large, rigorously designed, population-based randomized controlled trials are urgently needed in settings like Mumbai before NLP can be recommended for integration into school-based mental health services targeting academic stress and internet addiction.

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