

# The Role of Adaptive Coping Strategies in Speech Rehabilitation for Patients with Progressive Neurological Disorders

Amna Bibi <sup>1</sup>  
Sidra Najeeb <sup>2</sup>  
Syed Muhammad Abdullah <sup>3</sup>  
Farwa Shafique <sup>4</sup>  
Hassan Imran <sup>5</sup>

## ABSTRACT:

This study aimed to examine the role of adaptive coping strategies in enhancing speech rehabilitation outcomes for patients with progressive neurological disorders (PNDs) such as ALS, Parkinson's disease, and MS, which often resulted in progressive speech impairment and reduced quality of life. Previous research highlighted the emotional and social challenges associated with PNDs, emphasizing the need for psychological support in rehabilitation programs. This study employed a quantitative, cross-sectional design with a sample of 120 adult PND patients undergoing speech therapy. Data were collected through self-reported surveys, including the Brief COPE Inventory, Connor-Davidson Resilience Scale (CD-RISC), WHOQOL-BREF for quality of life, and therapist-rated Speech Intelligibility Rating Scale. Findings revealed that problem-focused coping significantly predicted improved speech intelligibility, resilience, and quality of life, while emotion-focused coping showed moderate positive effects, particularly on quality of life. The interaction between coping strategies indicated that combining problem- and emotion-focused approaches produced the best outcomes. These results underscored the value of integrating adaptive coping techniques in speech therapy to support both functional and psychological rehabilitation. Future research should consider longitudinal studies and explore qualitative insights into patient experiences to further understand adaptive coping in PND rehabilitation.

## KEY WORDS:

Adaptive Coping, Speech Rehabilitation, Progressive Neurological Disorders, Resilience, Quality of Life

## Introduction

Speech rehabilitation plays a critical role in helping patients with progressive neurological disorders (PNDs) maintain communication abilities despite the gradual deterioration of motor functions that these conditions cause (Cherney & Van Vuuren, 2012). PNDs, for example amyotrophic lateral sclerosis (ALS), Parkinson's sickness, and multiple sclerosis (MS), ordinarily impede impairments, restricting patients' capacity to participate in significant social cooperation and diminishing their personal satisfaction. Language training means improving impairments comprehensibility and making up for engine

<sup>1</sup> MS Clinical Psychology, Department of Psychology, The University of Lahore, Main Campus, Lahore, Punjab, Pakistan. Email: [amnabibi1197@gmail.com](mailto:amnabibi1197@gmail.com)

<sup>2</sup> MS Speech and Language Pathology, Department of Speech and Language Pathology, Riphah International University, Lahore Campus, Punjab, Pakistan. Email: [sidranajeeb9@gmail.com](mailto:sidranajeeb9@gmail.com)

<sup>3</sup> MS Clinical Psychology, Department of Psychology, Riphah International University, Islamabad, Pakistan. Email: [abdullahsyed513@gmail.com](mailto:abdullahsyed513@gmail.com)

<sup>4</sup> MS Special Education Psychology, Department of Psychology, International Islamic University, Islamabad, Pakistan. Email: [farwashafique7@gmail.com](mailto:farwashafique7@gmail.com)

<sup>5</sup> PhD Scholar, Department of Psychology, Riphah International University, Faisalabad Campus, Punjab, Pakistan. Email: [hassanimran332@gmail.com](mailto:hassanimran332@gmail.com)

**Corresponding Author:** Hassan Imran  
✉ [hassanimran332@gmail.com](mailto:hassanimran332@gmail.com)

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decline, despite the fact that making long-haul progress in moderate circumstances stays testing (Corallo et al., [2019](#)). Adaptive coping strategies, which include changes in conduct, discernment, and feeling, have shown guarantee in assisting patients with taking care of the physical and close to home parts of their condition, possibly adding to more fruitful recovery results (Earll, [1994](#)). This study centers on investigating the impacts of these methodologies in impairments recovery for people with PNDs, expecting to uncover their capability to improve remedial results (Connor, [2023](#)).

Speech impairments brought about by moderate neurological disorder (PNDs) decrease people's capacity to impart actually as well as lead to huge mental results, like disappointment, uneasiness, and social segregation (Mitchell et al., [2020](#)). Correspondence is a basic part of social collaboration and individual character, and the deficiency of this capacity frequently prompts a decreased identity and personal satisfaction (Cardoso et al., [2019](#)). Conventional impairment recovery strategies centre essentially on easing back the disintegration of impairments creation through actual activities and procedures. In any case, the requirement for coordinating mental help inside these projects is progressively perceived, given the close-to-home effect of moderate impairments misfortune on patients with PNDs (Earll, [1994](#)).

## Background of Study

Progressive neurological disorders influence the nervous system and engine capabilities, prompting moderate hindrances that frequently disturb correspondence. For people with PNDs, the slight decrease in impairments abilities makes huge profound and social weights, which convolute everyday associations and can prompt seclusion and diminished personal satisfaction (Cardoso et al., [2019](#)). Restoration methodologies customarily centre around keeping up with actual abilities; in any case, coordinating mental help is fundamental for tending to the comprehensive necessities of these patients (Kleim & Jones, [2018](#)). Studies propose that integrating versatile coping techniques into language training supports impairments understandability as well as assists patients with dealing with the mental pressure related to moderate impairments misfortune (Mitchell et al., [2020](#)). These systems, which incorporate critical thinking and close-to-home guidelines, engage patients to defy the impediments of their condition proactively, advancing versatility and mental prosperity (Earll, [1994](#)).

## Problem Statement

In spite of the fact that progressions in speech rehabilitation techniques have been made, patients with PNDs actually face critical obstacles in keeping up with effective communication. The progressive nature of these problems frequently prompts speech deterioration that is trying to make due, in spite of remedial mediations, bringing about disappointment, social withdrawal, and diminished personal satisfaction (Johnson et al., [2017](#)). While versatile coping methods are every now and again suggested as a feature of all-encompassing consideration, restricted experimental exploration has been led to assess their particular effect on discourse recovery results in patients with PNDs (Theodoratou & Argyrides, [2024](#)).

## Research Questions

1. Examine the relationship between adaptive coping strategies and speech rehabilitation outcomes in patients with progressive neurological disorders.
2. Identify coping strategies that most significantly improve speech intelligibility and emotional well-being in these patients.
3. Assess the impact of adaptive coping strategies on quality of life and emotional resilience during speech rehabilitation.
4. Determine which adaptive coping strategies are most effective for reducing psychological stress related to progressive speech loss.

5. Provide recommendations for integrating effective coping strategies into personalized rehabilitation plans to enhance the holistic rehabilitation experience.

## Research Objectives

1. To examine the relationship between adaptive coping strategies and speech rehabilitation outcomes in patients with progressive neurological disorders.
2. To identify which specific adaptive coping strategies contribute most significantly to improved speech intelligibility and emotional well-being in these patients.
3. To assess the impact of adaptive coping strategies on quality of life and emotional resilience in patients undergoing speech rehabilitation.
4. To evaluate the extent to which adaptive coping can mitigate the psychological impact of progressive speech loss in PND patients.
5. To provide evidence-based recommendations for integrating adaptive coping strategies into speech therapy practices for individuals with progressive neurological disorders.

## Significance of Study

The discoveries from this examination can possibly essentially affect remedial practices for PND patients by featuring the significance of versatile coping techniques in speech rehabilitation. By distinguishing coping methods that further develop discourse clarity and profound strength, this study can help language instructors and recovery groups plan more all-encompassing projects that address both the physical and mental elements of moderate problems (Johnson et al., [2017](#)).

## Scope of Study

This study I focused on adult patients diagnosed to have moderate neurological issues like ALS, Parkinson's sickness, and MS who are effectively taking part in discourse restoration programs. By focusing on these particular issues, the review can address the novel difficulties that emerge from the ever-evolving nature of these circumstances and give fitted bits of knowledge applicable to this populace (Mitchell et al., [2020](#)). Pediatric populaces and people with non-moderate neurological circumstances included, as need might arise and coping responses (Earll, [1994](#)).

## Literature Review

Progressive neurological disorders (PNDs) like amyotrophic sidelong sclerosis (ALS), Parkinson's sickness, and various sclerosis (MS) cause a continuous decrease in engine capability, fundamentally influencing correspondence capacities and personal satisfaction for those impacted. As speech becomes impeded, patients face both physical and mental difficulties, frequently encountering social disengagement, discouragement, and decreased life fulfilment because of correspondence hindrances. Speech rehabilitation has arisen as a vital remedial mediation to help keep up with or further develop speech understandability and practical correspondence in PND patients (Mitchell et al., [2020](#)). In any case, the dynamic idea of PNDs presents one-of-a-kind difficulties, making customary restorative methodologies less viable after some time. This has driven specialists and clinicians to investigate versatile coping methods as a supplement to speech rehabilitation, intending to assist patients with better overseeing both the physiological and mental stressors related to their condition (Cardoso et al., [2019](#)). The examination question directing this study is "How do versatile coping methods affect speech rehabilitation results, including speech coherence, profound flexibility, and personal satisfaction, for patients with moderate neurological problems?"

To resolve this inquiry, a careful survey of existing writing was directed across different data sets, including PubMed, PsycINFO, and Google Researcher. The pursuit zeroed in on watchwords, for example, "versatile adapting strategies," "speech rehabilitation," "progressive neurological disorders," "speech intelligibility," "quality of life," and "mental strength." Studies from the past five to a decade were focused on to guarantee that the survey reflects current understandings and approaches in the field. Starting Ventures delivered a huge volume of articles, which were then screened in light of consideration models like the importance of PNDs, the centre around speech recovery, and the accentuation of versatile coping strategies. Through this cycle, concentrates that explicitly tended to language training results in PND patients were held, while those zeroing in exclusively on non-moderate neurological circumstances or general emotional well-being methodologies without pertinence to speech hindrance were prohibited from keeping an engaged survey.

The last determination of sources was coordinated into topical classes to consider an organized examination of the writing. The principal class, covering the effect of PNDs on correspondence and personal satisfaction, incorporates and concentrates on depicting the social and mental results of speech hindrance because of neurological degeneration. For example, it was found that the dynamic loss of speech capability in PND patients frequently prompts decreased social collaboration and an uplifted feeling of confinement. Such discoveries highlight the significance of language instruction for saving correspondence capacity, which is basic for down-to-earth correspondence needs as well as for keeping a feeling of character and organization. These investigations feature how speech disability can prompt a pattern of social withdrawal, close-to-home pain, and decreased personal satisfaction, recommending a requirement for helpful methodologies that address both useful and profound parts of recovery.

## Theoretical Framework

### Coping Theory

Coping Theory posits that individuals use various methodologies to oversee pressure and keep up with mental prosperity, notwithstanding testing circumstances (Lazarus & Folkman, [1984](#)). With regards to PNDs, coping methods might give patients ways of dealing with the pressure related to moderate discourse impedance. Adapting Hypothesis gives a premise for figuring out how different versatile coping techniques (e.g., issue-centered adapting, profound guideline) could uphold PND patients during discourse recovery by advancing flexibility and flexibility.

### Hypotheses

1. Adaptive coping strategies will positively correlate with speech intelligibility outcomes in patients undergoing speech rehabilitation for progressive neurological disorders.
2. Emotional regulation, as an adaptive coping strategy, will be associated with improved emotional resilience in patients with progressive neurological disorders during speech rehabilitation.
3. Problem-focused coping strategies will significantly enhance the quality of life for patients with progressive neurological disorders participating in speech rehabilitation.
4. The use of adaptive coping strategies in speech rehabilitation will lead to greater patient motivation and adherence to therapy protocols.

## Research Methodology

### Research Design

This correlation, cross-sectional study examines associations between coping strategies and rehabilitation outcomes without manipulating variables, using data collected at a single point in time (Babbie, [2020](#)).

## Population and Sample

The study targets adult patients with PNDs (e.g., ALS, Parkinson's, MS) undergoing speech therapy. Purposive sampling selects 100–150 participants, meeting the criteria of confirmed diagnosis and active rehabilitation (Field, 2018).

## Data Collection Methods

Data is gathered via self-report tools (Brief COPE, CD-RISC, WHOQOL-BREF) and therapist evaluations (SIRS), providing subjective and objective outcome measures (Carver, 1997).

## Data Analysis Procedures

SPSS analyzes data using descriptive statistics, Pearson correlations, and regression analysis, with significance set at  $p < .05$  to ensure reliability (Field, 2018).

## Ethical Considerations

Ethical approval was obtained, and informed consent ensured confidentiality and voluntary participation. Therapists provided support for the discomfort caused by assessments (Babbie, 2020).

## Results

### Table 1

*Descriptive statistics of coping strategies by demographic factors*

Demographic Variable	n	Problem-Focused Coping (M ± SD)	Emotion-Focused Coping (M ± SD)
<b>Age</b>			
18–40	40	4.25 ± 0.55	3.89 ± 0.60
41–60	50	4.05 ± 0.65	3.72 ± 0.63
61+	30	4.10 ± 0.50	3.68 ± 0.67
<b>Gender</b>			
Male	60	4.18 ± 0.62	3.84 ± 0.65
Female	60	4.06 ± 0.58	3.75 ± 0.62
<b>Diagnosis</b>			
ALS	35	4.20 ± 0.60	3.70 ± 0.64
Parkinson's Disease	45	4.08 ± 0.57	3.81 ± 0.62
Multiple Sclerosis	40	4.11 ± 0.63	3.79 ± 0.61

Table 1 indicated that participants across all demographics demonstrated moderate to high levels of problem-focused coping, with minor variations by age and gender. Younger participants (18–40) reported slightly higher problem-focused coping scores, while males had marginally higher means than females. Variations by diagnosis were minimal.

### Table 2

*Hierarchical regression predicting speech intelligibility*

Model	Predictor	B	SE B	β	t	p	ΔR <sup>2</sup>
1	Age	-0.10	0.08	-.12	-1.25	.215	
	Gender	0.15	0.10	.16	1.50	.136	
	Diagnosis	0.18	0.09	.19	1.94	.056	.07
2	Problem-Focused Coping	0.35	0.10	.40	3.50	.001**	
	Emotion-Focused Coping	0.20	0.09	.22	2.22	.028*	.23**

Note:  $p < .05$ ,  $p < .01$ .

Table 2 has demographic factors explaining 7% of the variance in speech intelligibility, though none were significant predictors. When coping strategies were added in Step 2, problem-focused coping emerged as a significant predictor ( $\beta = .40, p < .01$ ), and emotion-focused coping showed a moderate effect ( $\beta = .22, p < .05$ ). The model accounted for 23% of the variance, indicating coping strategies as influential factors in speech intelligibility.

**Table 3**

*hierarchical regression predicting emotional resilience*

Model	Predictor	B	SE B	$\beta$	t	p	$\Delta R^2$
1	Age	0.05	0.07	.08	0.71	.478	
	Gender	-0.12	0.09	-.15	-1.33	.186	
	Diagnosis	0.22	0.08	.25	2.75	.007**	.10*
2	Problem-Focused Coping	0.42	0.08	.50	5.25	.000**	
	Emotion-Focused Coping	0.25	0.07	.29	3.57	.001**	.30**

Note:  $p < .01$ .

Table 3 indicated the addition of coping strategies in Step 2 significantly increased the explained variance to 30%, with both problem-focused ( $\beta = .50, p < .01$ ) and emotion-focused coping ( $\beta = .29, p < .01$ ) as significant predictors of emotional resilience. The diagnosis was also a significant predictor in Step 1 ( $\beta = .25, p < .01$ ), suggesting that PND type influences resilience.

**Table 4**

*Regression analysis predicting quality of life with interaction effect*

Predictor	B	SE B	$\beta$	t	p
Problem-Focused Coping	0.30	0.08	.38	3.75	.000**
Emotion-Focused Coping	0.22	0.07	.29	3.14	.002**
Problem x Emotion Interaction	0.15	0.05	.17	2.75	.007**

Note:  $p < .01$

Table 4 indicated the interaction between problem-focused and emotion-focused coping was significant ( $\beta = .17, p < .01$ ), suggesting that the combined use of both coping strategies is associated with a greater increase in quality of life than either strategy alone. This finding highlights the synergistic effect of adaptive coping strategies in improving overall life satisfaction for PND patients.

## Discussions

The results of this study show that versatile coping techniques, especially issue-centered adapting, are essentially connected with further developed results in speech rehabilitation for patients with moderate neurological problems (PNDs). Issue-centered adapting was demonstrated to be a serious area of strength for speech coherence, close-to-home flexibility, and personal satisfaction, with moderate positive connections across all results. Feeling centred on adapting additionally contributed decidedly, particularly to profound strength and personal satisfaction; however, its impact on speech clarity was more vulnerable. The cooperation impact among issues and feeling zeroed in adapting on personal satisfaction proposes that using the two techniques couple might yield upgraded results, featuring the significance of a balanced adapting approach. These discoveries highlight the worth of versatile adapting in supporting both the utilitarian and mental parts of rehabilitation, building up the possibility that tending to close-to-home prosperity is essential in extensive, helpful practices for PND patients.

These outcomes are predictable with existing writing on the advantages of versatile adapting to persistent sickness the executives. Past examinations play recorded the part of the issue centred on adapting in improving



mental strength and keeping up with inspiration in remedial settings (Corallo et al., [2019](#); Johnson et al., [2017](#)). The positive relationship between issue-centered adapting and speech understandability lines up with discoveries by Audulv et al. ([2021](#)), who saw those dynamic adapting ways of behaving, like laying out objectives and taking care of issues, advance commitment and adherence in treatment, prompting better rehabilitation results. The moderate commitment to feeling-centred adapting in this concentrate likewise reflects research by Earll ([1994](#)), who revealed that close-to-home guideline works on personal satisfaction by assisting patients with overseeing pressure and acknowledging their condition. Notwithstanding, the collaboration impact between coping methods, which showed that joining issue and feeling-centred methodologies yields more grounded personal satisfaction results, adds another aspect to the writing. This finding proposes that a multi-layered way to deal with adapting is especially useful for PND patients, a subtlety that past examinations have not expressly investigated.

The review's discoveries have a few significant ramifications for clinical practice. To begin with, areas of strength between issue-centred adapting and speech clarity demonstrate that language instructors ought to consider integrating objective setting and critical thinking methods into rehabilitation programs. By enabling patients to play a functioning job in dealing with their speech difficulties, advisors might possibly work on both inspiration and recovery results. Furthermore, the huge job of feeling-centred adapting to upgrade personal satisfaction and strength proposes that mental help administrations, such as directing or care preparation, could be useful as a feature of a comprehensive rehabilitation program. The cooperation impact between coping methods further infers that specialists ought to support a blend of adapting approaches, permitting patients to draw upon both issue and feeling-centred abilities to deal with their condition. Carrying out such a double methodology might upgrade the general viability of speech rehabilitation for PND patients, prompting better close-to-home and practical results.

### Practical Applications

The findings from this study suggest several practical applications for enhancing speech rehabilitation programs for PND patients. First, integrating structured coping training into speech therapy sessions could empower patients to actively engage in managing their condition, potentially improving both their motivation and speech outcomes. Speech therapists can introduce problem-solving exercises, goal-setting strategies, and relaxation techniques to help patients build effective coping skills. Additionally, collaboration between speech therapists and mental health professionals could enable a more comprehensive approach where patients receive both functional and psychological support.

### Recommendations

Future studies should adopt longitudinal designs to assess coping strategies' long-term impact on speech rehabilitation outcomes.. Consolidating subjective and quantitative techniques, like meetings and studies, can give further bits of knowledge into patients' adapting encounters. Examination ought to assess mediation programs like CBT or care to upgrade versatile adapting. Extending tests to incorporate assorted social and financial gatherings would further develop generalizability.

### Conclusion

This study provides evidence that adaptive coping strategies, particularly problem-focused and emotion-focused coping, play a critical role in supporting speech rehabilitation outcomes for PND patients. By promoting active engagement in therapy and helping manage the emotional toll of progressive speech impairment, adaptive coping strategies contribute to better speech intelligibility, resilience, and quality of life. The study's findings underscore the importance of a holistic approach to rehabilitation, one that integrates both functional and psychological support to address the complex needs of PND patients. While the study has limitations, it offers valuable insights into the benefits of coping strategies in speech rehabilitation and sets a foundation for future research to further explore these relationships.

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