

# The Impact of Neuro-Linguistic Programming on Critical Thinking, Emotional Intelligence, and Purposeful Decision-Making in Young Adults with Borderline Personality and Anxiety Disorders: A Case Study

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## ABSTRACT

The present case study examines the impact of Neuro-Linguistic Programming (NLP) on critical thinking, emotional intelligence, and purposeful decision-making in two female undergraduate students diagnosed with borderline personality disorder (BPD) and anxiety disorder. Participant A.D. (19 years old), diagnosed with BPD and currently engaged in cognitive-behavioral therapy (CBT) as a primary intervention, and Participant M.P. (20 years old), diagnosed with an anxiety disorder with prior CBT experience, required and participated in a structured NLP intervention implemented as a complementary approach.

The NLP intervention was conducted for a period of 10 weeks, consisting of one weekly session lasting one hour. The NLP techniques used, included Anchoring, Reframing, Future Pacing and the Meta Model for linguistic and cognitive restructuring. The results were assessed using qualitative methods, semi-structured interviews with the purpose to explore changes in reflective thinking, emotional regulation, and purposeful decision-making.

A thematic analysis of participant responses was performed and that revealed significant improvements in cognitive flexibility, including increased ability to challenge using on target questions automatic thoughts, developing metacognition ability and reduce cognitive distortions. Participants also demonstrated enhanced emotional awareness and self-regulation, and a higher capacity for intentional, purposeful decision-making in both academic and social contexts. Clinically, relevant changes were observed in the specific areas, including reduced avoidance and procrastinated behaviors, improved tolerance of anxiety-provoking situations or events, and decreased reactivity to maladaptive thought patterns leading self-harm and withdrawal.

These findings suggest that NLP, particularly through the application of the Meta Model, Reframing, Anchoring and Future Pacing, may serve as a valuable adjunctive intervention for enhancing cognitive-emotional functioning and purposeful decision-making in young adults with BPD and anxiety disorders. Further research with larger samples as well as quantitative methods for assessing the outcomes is recommended to establish the efficacy and generalizability of these results.

**Keywords:** Neuro-Linguistic Programming, Borderline Personality Disorder, Anxiety Disorder, Critical Thinking, Emotional Intelligence, Decision-Making

## Introduction

Borderline personality disorder (BPD) and anxiety disorders are considered complex psychological conditions, both having in common emotional dysregulation, cognitive distortions, intrusive

thoughts, interpersonal difficulties and impaired decision-making processes [1]. Frequently, individuals diagnosed with BPD exhibit heightened emotional sensitivity, impulsivity, promiscuity, unstable self-image comparing with others or idealized self-reflection, and difficulties in maintaining consistency when it comes about goals or targets [2,3]. Anxiety disorders are associated with excessive worry, cognitive rigidity, procrastination from fear of not succeeding and avoidance behaviors.

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The disruption of higher cognitive processes, that including critical thinking, emotional intelligence, and purposeful decision-making is a common feature across both mental conditions [4]. In most cases, these deficits manifest as overgeneralized beliefs (e.g., “I always fail”, “I worth nothing”, “People always hate me”), distorted interpretations of social interactions (e.g. “She didn’t call me back, then she must hate me”, “People look at me because I am ugly and fat”), and emotionally driven, impulsive decisions. The issue is that such patterns not only reinforce maladaptive behaviors but also maintain the cycle of psychological distress and destructive decisions in recent years, worldwide, increasing attention has been given to new integrative and cognitive-behavioral approaches that can target both language and thought processes as mechanisms of change [5-7]. Within this context, Neuro-Linguistic Programming (NLP) is an approach that explores the dynamic relationship between neurological processes, language, and behavioral patterns [8]. According to NLP every single person’s subjective experience is structured through internal representations and linguistic patterns, which can be altered by purpose, so as to produce changes in cognition, emotion, and finally, behavior.

One of the most important components of NLP is the Meta Model, which a linguistic framework designed to identify and challenge, using sharp and on target questions, distortions, deletions, and generalizations in an individual’s communication. By systematically questioning using on target questions, imprecise or limiting statements, limited beliefs or patterns, the Meta Model leads to clarity of thought, cognitive flexibility, versatility, and self-awareness.

Besides the Meta Model, NLP incorporates other significant techniques such as Anchoring, Reframing, and Future Pacing, with the same purpose to regulate emotional states, shift perspectives, and reinforce purposeful behavior bringing awareness and acknowledgment in people lives. These specific tools proved to be particularly relevant for individuals with BPD and anxiety disorders, as they all, directly address emotional dysregulation, rigid thinking, limited beliefs, cognitive distortions, and impulsive decision-making, facilitating metacognition as the ability to think own thoughts.

Despite its widespread use in personal development contexts, particularly, the application of NLP in clinical populations remains limited so far. Only a few studies have explored its impact on cognitive-emotional competencies, such as critical thinking, emotional intelligence, and purposeful decision-making, particularly in young adults who struggle with academic and developmental challenges, according to chronological and emotional-mental age.

Therefore, this present case study has the main purpose to explore the effects of a structured NLP intervention on two female undergraduate students diagnosed with BPD and anxiety disorders. Specifically, this study investigates changes in critical thinking, the ability to reflect, to understand, to analyze, conclude and evaluate cognitive processes, emotional Intelligence, the awareness, self- regulation and purposeful decision-making as the capacity to make intentional, goal-directed choices.

In addition to that, the qualitative analysis with NLP-based interventions, used in this case study, has the main scope to contribute to the growing body of research on alternative and complementary approaches in clinical psychology as the world’s population is dealing with a rapid increasing rate of mental disorders in young population, specifically.

## Methods

### Participants

Two female undergraduate students participated in this study are A.D., 19 years old, diagnosed with BPD, benefitting from CBT therapy as primary intervention and M.P., 20 years old, diagnosed with anxiety disorder, after CBT therapy intervention. Both participants required Neuro Linguistic Programming intervention, the main purpose being that of enhancing critical thinking ability, purposeful decision-making process and emotional intelligence Both participants provided informed consent acknowledging what Neuro Linguistic Programming is used for as a complementary intervention and the techniques applied.

### Intervention

Participants underwent a structured NLP program over 10 with 1 weekly sessions of 1 hour. The intervention included Meta Model that was used as a primary technique. The Meta Model served as the central intervention tool, its main purpose being that of focusing on identifying, analyzing and restructuring maladaptive linguistic and cognitive patterns. Meta Model operates through three main processes: Generalizations that are defined as broad conclusions drawn from limited experiences (e.g., “I always fail,” “Nobody understands me” “My friend always sees me as a burden not as a friend”). Participants were guided to identify exceptions to all these generalizations and challenge absolute beliefs, metaphorically speaking is like when you’re having a big wall in front of your eyes, impossible to surmount and you are guided to find one brick that is an exception, going against the rules of all the other bricks in the wall. Once you pull out that brick, the confidence in that wall, drops, and the belief that the wall is always the same, impenetrable, fades away. The effect was the reduced cognitive rigidity and promoted critical thinking, most of the times the real evidence proved to be against those limited and generalized believes.

Deletions are the processes that occur when individuals omit important details from their experiences (e.g., “They don’t support me” “They stare at me all the time and I bet they don’t like me”). Clarifying questions were used to recover specifically the missing information (“Who specifically?” “In what way?” “How do you know that staring equals they don’t like me?”) and the effect was the increased awareness and more accurate perception of reality.

Increased Awareness state is an extremely important asset of the mind itself and in my Ph.D. thesis entitled “The impact of self-emotional and rational regulation upon the connection and communication processes between the adults and children in an era of anxiety, defiance and depression”, I have concluded that people need to learn, prior to any kind of technical intervention in the field of mental health, how to awake their consciousness, keeping themselves connected to their inner environment, while being constantly aware of their thoughts, feelings and actions.

Awareness state is the must have requirement for moving forward to constructing self-regulation and self-control abilities. This is the challenge of our modern days. Neuro-Linguistic Programming is among the answers to this continuous present challenge.

Years spent with my patients, while considering this challenge “how to build and maintain awareness state” as top priority, in order to change maladaptive patterns and behaviors and improve communication processes, have taught me that the best approach starts with accepting the emotional reaction and responses as being authentic, the on-field reality, no matter if it makes sense or not. Accepting is not agreeing and people, usually, misunderstanding the terminology, run away from accepting reality saying that “As long as I don’t agree, I will not talk about this”. Accepting is admitting that things are the way they are, no matter if, rationally speaking, we agree this or not. Therefore, accepting emotions, responses and reactions open people to listen for neurological explanation of what’s happening inside their brain.

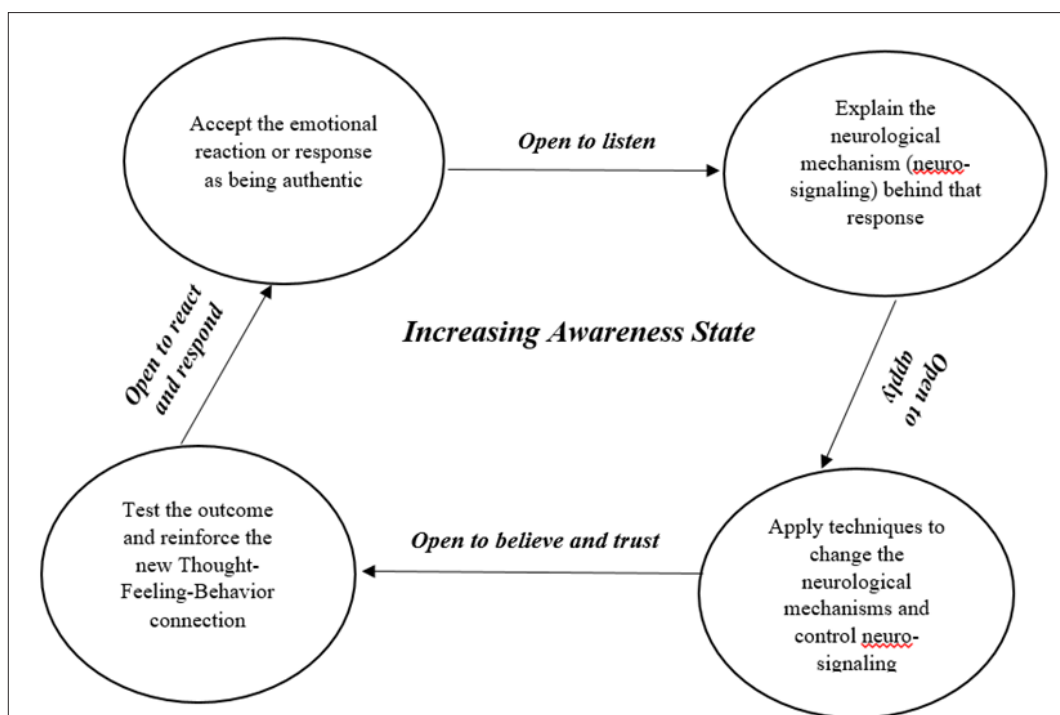
Explaining the neurological mechanism (neuro-signaling) behind the emotions, reactions and responses, help people understand that there is no such a thing as “I don’t know how!” for the brain. Everything, inside the brain, happens for a reason and under strict rules of neuronal communication, neurons firing together in different parts of the brain with the purpose to create a response, an emotion or a reaction.

When people see for themselves, for example the neurochemical process behind their phobias or anxieties, depression or oppositional defiant disorders, they become open to apply the

techniques such as Neuro-Linguistic Programming techniques, to produce change inside the brain by challenging irrational thinking, disruptive patterns, limited beliefs, blockages, distorted cognition, mainly because they understand that there is an entire process in the brain for the most simple and apparently insignificant behavior, and this process is one that can be changed.

As soon as “I don’t know how” turns into “I see and understand how”, people are open to believe and trust the techniques, strategies and methods designed purposely to change those processes and impact the neurochemistry of the brain for best results. After testing the outcome and reinforcing the new Thought-Feeling-Behavior connection, and applying the Neuro-Linguistic Programming techniques, for example, individuals become open to respond and react, display their true feelings and emotions because they understand that they are safe to do it, that there is a process happening in the brain, an entire mechanism working and that this mechanism is changeable not immutable as they falsely believe. Security offers them the possibility to be who they are in the momentum, so as to turn into who they are designed to be at their highest potential. The more open and safer the people are to act, react and respond, exposing their real emotions, just because they know that they can adjust everything inside their brain, that all the mechanisms are changeable only be paying attention to neurology, language and programs of the brain, the state of awareness increases keeping people awake and conscious of their inner powers.

Schematically speaking The Awareness State Building Model looks as in figure 1.



**Figure 1:** Awareness State Building Model

The last process through which Meta Model operates is Distortion. Distortions involve misinterpretations of reality, such as mind-reading or cause-effect assumptions (e.g., “She ignored me, so she must dislike me” “We had a fight, then she must be thinking

about breaking up with me” “There are more than 20 students in the classroom, then, the risk to contaminate myself with viruses and bacteria is very high”). Participants were encouraged to test assumptions and explore alternative explanations, as long as their assumptions were extremely rigid. The result was that they could sense improved emotional regulation and reduced reactivity and they gained, again the ability to be aware and acknowledge the fact that there is no evidence, even a scientific one for the thoughts they were perpetuating leading to stress, anxiety and avoidance, social withdraw.

As Meta Model directly addresses cognitive distortions commonly found in BPD and anxiety disorders, it facilitated cognitive restructuring, emotional clarity, and behavioral control.

Another technique used was Anchoring. In NLP, anchoring technique is used to associate a specific internal emotional state with an external trigger (e.g., a gesture, word, or breathing pattern). Participants were guided to recall calm or resourceful states and link them to a physical anchor (e.g., a slight pitching of the thumb if they felt overwhelmed or stressed) with the purpose to enable rapid emotional regulation during stressful situations, such as taking written and oral exams, going to seminars and workshops, being in the same room with other students and teachers as well, these being very stressful situations. Both participants reported reduced anxiety and increased ability to regain emotional control.

Next to Meta Model, Reframing proved to be a very useful NLP technique enhancing the metacognition ability, highly important both in BDT and anxiety disorder. Reframing involves changing the interpretation or meaning of an experience to alter its emotional impact. The moment you change the significance you give to an event, you alter the way you feel and the way you behave.

Participants were encouraged to reinterpret negative situations from alternative perspectives (e.g., viewing failure as feedback rather than inadequacy, viewing going to the college as an opportunity to test NLP techniques, expose and control their responses applying what they learnt rather than a place where people will stare at them or transmit viruses and bacteria). Along with Reframing, chunking down big tasks into small tasks proved to be an effective technique. Both participants were overwhelmed with the thought of going to college in the morning, seeing the whole process as difficult, a lot of pressure, eyes on them, criticized or labeled. By Chunking down the whole process of going to college, both participants did one step at a time splitting the big overwhelming task into small doable actions like getting off the bed, going to the bathroom, having breakfast, dressing up, getting out the door, heading to the bus stop, getting into the bus, getting out of the bus and entering the college courtyard, heading to the classroom and taking the seat, all of them being tickled as Task Completed while practicing Present and Grounded state: the mind is solely preoccupied with running the present task in the present moment and every time the mind goes in the past or future rewiring anxious thoughts, acknowledge this and in a loud inner voice, bring it back into the momentum. This intervention reduced negative emotional responses and increase cognitive flexibility, while practicing the state of being present and grounded, aware and capable of

taking purposeful action these leading to decreased emotional reactivity and improved interpersonal understanding.

Future Pacing an NLP technique that involves mentally rehearsing desired behaviors or decisions in future scenarios proved its efficiency. Participants visualized themselves making goal-directed decisions in academic and personal contexts, saturated their brains with the feelings of success and accomplishments this leading to reinforcement of intentional behavior and reducing impulsivity. The observed effect was increased planning ability and alignment of actions with long-term goals.

From a psychological perspective, future pacing shares conceptual similarities with mental imagery, cognitive rehearsal, and prospective cognition, all of which have been associated with improved self-regulation and goal-directed behavior, as long as it is a fact that the brain itself doesn't know the difference between real and imaginary events, therefore, what you play in your mind is what your mind takes for real and engages all emotional and behavioral processes. In clinical populations, particularly individuals with borderline personality disorder (BPD) and anxiety disorders, future pacing may serve as a valuable tool for addressing impulsivity, avoidance, and anticipatory anxiety, creating strategies and mechanisms to manage all possible situations that challenge them.

## Results

The impact of the Neuro-Linguistic Programming (NLP) intervention was examined through qualitative analysis of semi-structured interviews conducted pre- and post-intervention. A thematic analysis approach was used, allowing for the identification of recurring patterns across three primary domains, that both participants complained of and required NLP intervention: critical thinking, emotional intelligence, and purposeful decision-making, these domains considered by both participants unsolved after CBT intervention.

### Critical Thinking

Following the intervention, both participants demonstrated notable improvements in reflective thinking, cognitive flexibility, and the ability to evaluate automatic thoughts. These improvements align with established frameworks of critical thinking, including analysis, evaluation, and inference [4].

Prior to the intervention, participants frequently relied on rigid, global, and negatively biased interpretations of their experiences. These patterns were characterized by overgeneralizations (e.g., “I always fail” “I did nothing notable so far in my life so worth nothing”, “If I make a late appointment to my doctor he must think about me, I lack common sense and I am stupid”) and unchallenged assumptions regarding self-worth and external evaluation.

The application of the Meta Model facilitated the identification and restructuring of these cognitive patterns by encouraging participants to question the accuracy, logic and reason, scope, and real evidence underlying their beliefs. Through repeated exposure to Meta Model questioning, participants developed the ability to independently engage in reflective analysis of their own thoughts, feelings and behaviors Participant A.D. described

this shift as follows: “I notice myself pausing before I respond, and I can think through the options instead of just reacting. Now I am able to think my own thoughts and not perceive them as irrefutable facts. Then I expose myself and chose the way I want to respond selecting, like at an interview, the thoughts that can work for me not against me. I notice myself selecting my thoughts after I challenge them: If she is your friend and you trust her and she says she cares for you genuinely, can you give herself credit for what she’s saying rather than giving credit to your deceiving thoughts?”

Similarly, Participant M.P. reported increased awareness of her cognitive processes: “I catch myself thinking, ‘Is this the best way to respond? What are the other options I have? How do you know this? What are the real evidences talking about? How do you know to choose “he thinks I am stupid and I lack common sense” instead of “I don’t know his thoughts. I don’t do mindreading” If I have concerns, I ask! I don’t presuppose!’” before I react emotionally.”

These findings indicate a transition from automatic, emotionally driven cognition, never challenged before, to more deliberate and analytical processing, suggesting an enhancement in critical thinking abilities, metacognition as the ability to think own thoughts proving a notable shift. Importantly, this shift was associated with a reduction in cognitive distortions.

### Emotional Intelligence

Significant improvements were also observed in participants’ emotional awareness, self-regulation, and constructive responsiveness to internal states and external events. These findings are consistent mainly with prior research linking emotional intelligence deficits to borderline personality pathology [5,6].

At baseline, both participants reported difficulty identifying and managing emotional experiences, often leading to heightened anxiety, impulsive reactions, or withdrawal.

The integration of Meta Model questioning, alongside anchoring techniques, supported participants in developing a more differentiated understanding of their emotional experiences. By clarifying vague or generalized emotional statements (e.g., “I feel bad”, “Nobody likes me”, “They think I am fat and ugly” etc), participants learned how to identify specific emotions, triggers, and contextual factors, establishing what is under their control to do it and what requires external support and from who specifically Participant A.D. reported increased capacity for emotional regulation: “I can now recognize when I’m spiraling, and I use the breathing anchor to regain control. In the past, I used to wake up with “I have a bad morning so I will skip college”.

Now I challenge this: How do you know it’s a bad morning? What makes it bad? Is it under your control? What are your thoughts about this morning? How do you feel after reframing them? Any worries? Fears? What can you do to manage them? Do you need support? If yes, from whom, specifically? What stops you from asking for support?” Participant M.P. described enhanced interpersonal awareness and empathy: “I try to see things from another person’s perspective, dissociating myself,

like being in a cinema, first seat and watching the stage where my thoughts play their magic and it helps me stay calmer, feeling safe and secure, able to access my logic and reasoning. I realized that as soon as my mind gets busy with purposeful topics or challenges first impulses, assumptions, I can manage, for example, crossing a noisy and crowded area like markets or parks without feeling anxious. Searching for scientific proof regarding bacteria and viruses’ transmission, as I trust science, helps me to calm down my anxious thoughts about getting sick out from crowded places plus I am more focused on what is it under my control to do so as to diminish the risk than being focused on exacerbating worrying thoughts” These facts suggest the development of key components of emotional intelligence, including emotional awareness, self-regulation, and perspective-taking. The reduction in emotional reactivity was particularly evident in situations that previously triggered anxiety or interpersonal conflict.

### Purposeful Decision-Making

Post-intervention results indicated substantial improvements in goal-directed, purposeful behavior, intentionality, and decision-making processes. Prior to the intervention, participants reported difficulties initiating actions, sticking to the process, particularly in the context of academic responsibilities, as well as a tendency toward avoidance, procrastination and impulsivity.

The combined use of Meta Model clarification, future pacing, and task segmentation strategies enabled participants to approach decision-making process in a more structured, organized and deliberate manner. By breaking down complex tasks into small manageable tasks while focusing in the momentum and visualizing successful outcomes, participants were able to reduce feelings of overwhelm and increase behavioral engagement.

Participant A.D. reported: “I set small goals for myself and think about the all-possible outcomes before deciding what to do. Moving from “I don’t know if going to college is worth it.” to “What specifically would make it worth it for you?”, “What do you want to achieve by going to college?”, “Compared to what alternative?” Does the alternative serve you? In what way?”, “What happens if you don’t go to college? Can you manage these consequences?” made me gain clarity and think on purpose, select my actions, weigh the consequences and decide accordingly”

Participant M.P. similarly noted: “I think about what I really want to achieve before acting, which is new for me. The greatest shift was from “If I think more, I’ll make the right choice” reframed as “Thinking too much keeps me stuck and increases my anxiety.” Then, becoming aware of the purposes behind my actions, I started challenging those puposes as I was persistent overanalyzes of potential outcomes, difficulty prioritizing tasks, fear of making incorrect decisions, escalation of anxiety during the decision-making process and avoidance or postponement of action. Reframing and Meta Model techniques got me grounded, present and able to see the illogic, destructive patterns of thinking. For example, I postponed making an appointment thinking about not being liked, being rejected or labeled by the doctor I was to visit. Then, I had the question that enlightened me “Is your purpose to be liked or to solve your issue? The answer made me text and set an appointment.”

These findings reflect a shift toward intentional, goal-oriented decision-making, with reduced reliance on avoidance or emotionally driven responses.

### Thematic Summary

In addition to above, in detail, described improvements, the analysis revealed significant changes in clinical symptomatology, particularly in relation to self-harm distorted cognitions, avoidance and procrastinated behaviors, emotional overwhelm, and intrusive thoughts.

Self-harm cognitions and negative self-evaluation (A.D.) A.D. initially reported recurrent self-harm-related thoughts associated with perceived failure and negative self-evaluation both in personal and professional life. These cognitions were characterized by absolutist, limited reinforced beliefs and emotional intensity along with poor self-regulation.

Following the intervention, A.D. demonstrated increased ability to question and distance herself from these thoughts: "I still have those thoughts sometimes, but now I question them. I don't believe them automatically, I say out loud that these thoughts are just crazy, unassessed thoughts, not facts or evidence-based cognitions. Each time they occur, I practice disassociation like being in a cinema room and the moment I do this, I am able to access my reason and logic, challenging all of my distorted thoughts that play on the stage of my mind. In addition, I keep my mind busy with purposeful actions that require my energy and focus and respond positively to logic and reason". This change suggests the development of metacognitive awareness and reduced cognitive fusion, which are critical in mitigating the behavioral impact of self-harm cognition.

Regarding academic avoidance, procrastination and perceived social judgment A.D.'s avoidance of university attendance was strongly linked to assumptions about negative evaluation by others along with fear of not knowing how to manage oral presentations and written exams. Through Meta Model questioning, these assumptions were deconstructed and examined for accuracy plus she learnt new strategies to manage oral and written exams. Post-intervention, A.D. reported increased engagement with academic activities: "I realized I was assuming what others think. Now I just go, even if I feel uncomfortable. I feel uncomfortable in the morning, after 10 am, things go better and better, therefore, in my mind, I project myself at 10.00 am, making my whole body to feel good as it really feels at 10.00 am."

Emotional overwhelm and task initiation difficulties (A.D.) were important areas to assess and manage. A.D. described significant difficulty managing morning routines due to feelings of overwhelm. Intervention strategies focusing on task segmentation and future pacing enabled her to approach tasks incrementally. Post-intervention, A.D. reported: "Instead of thinking about everything at once, I focus on one step at a time and it feels manageable now. In addition to that, as I have in my mind Present and Grounded State of Mind, I look at my feet, sense the ground and bring myself in the momentum. I notice that every time I am in the present moment, I get no anxious thoughts." This indicates improved emotional self-regulation and executive functioning, reducing avoidance linked to anticipatory

stress, and connecting the mind, the body and the spirit with the present moment.

Intrusive thoughts related to contamination (M.P.) proved to be a real impediment when going out or heading to college. M.P. reported persistent intrusive thoughts related to bacteria and contamination, often accompanied by heightened anxiety. Through Meta Model questioning and reframing, these thoughts were reinterpreted as cognitive events rather than objective threats. Post-intervention M.P. underlined: "I still notice the thoughts, but I don't react the same way. I think about them as thoughts that have no logic and scientific base, I challenge them and the moment I notice I cannot sustain them through logic and reason, I drop them, while moving my focus to other intentional activities or tasks" M.P. also experienced significant anxiety in crowded environments. The use of anchoring and future pacing facilitated improved emotional regulation and coping. Post-intervention M.P. reported: "Crowded places still make me uncomfortable, but I can stay there now without panicking. I concluded that it is ok not to like them but they are way too meaningless to interfere with my purposes and daily routine, influencing immensely my decision" This suggests increased distress tolerance and functional engagement, representing a meaningful improvement in daily functioning.

### Summary Statement

The thematic findings indicate that the integration of Neuro-Linguistic Programming (NLP) techniques, as a complementary approach and solely as well, within a structured intervention framework contributed to both clinically meaningful symptom reduction and observable functional improvement across participants. By systematically targeting both the linguistic and cognitive structures underlying maladaptive experiences and limited cognitions, the intervention facilitated shifts in how participants processed internal thoughts, interpreted and label external events, and responded behaviorally to all emotionally challenging situations.

Specifically, the use of NLP techniques enabled participants to move from automatic, emotionally, unchallenged driven responses toward more reflective, challenged, analyzed, intentional, and adaptive patterns of functioning in order to adapt and restructure continuously the cognitions, practicing metacognition as the ability to think own thoughts. Improvements were observed in the capacity to become aware, identify, analyze and challenge cognitive distortions, regulate emotional responses, and engage in purposeful, goal-directed decision-making. These changes were particularly relevant in addressing main difficulties associated with borderline personality disorder and anxiety disorders, including impulsivity, avoidance, procrastination, overgeneralization, overthinking, and heightened emotional reactivity.

The Meta Model was the central mechanism of change within the intervention. Through its structured approach to questioning language patterns and deeply challenge all limited and maladaptive cognitions it facilitated the identification of distortions, deletions, and generalizations embedded in participants' life's stories. This process promoted increased cognitive clarity, enabling participants to critically evaluate their assumptions, using precise, sharp, on target questions,

generate alternative interpretations, and reduce the influence of maladaptive, limited and unchallenged beliefs on emotional and behavioral responses.

The integration of other notable NLP techniques such as Anchoring, Reframing, and Future Pacing supported the process of translation of cognitive insights into practical emotional self-regulation and behavioral change. Together, these techniques contributed to the development of more adaptive coping mechanisms, strategies, and enhanced engagement in both academic and social environments.

### Discussion

The findings of this study summarized in the thematic summary, indicate that Neuro-Linguistic Programming (NLP) interventions, particularly the Meta Model, Reframing, Anchoring and Future Pacing may play a meaningful role in enhancing cognitive and emotional functioning among young adults diagnosed with borderline personality disorder (BPD) and anxiety disorders. Improvements in cognitive flexibility align with research indicating impairments in executive functioning and theory of mind in BPD [2]. The results indicate improvements across three core domains: critical thinking, emotional intelligence, and decision-making processes.

In terms of critical thinking, participants demonstrated an increased ability to question underlying assumptions, identify cognitive distortions, limited beliefs and consider alternative interpretations of events, understanding by challenging the significance you give to an event, you change what you feel about that event and your further actions. This shift reflects improved cognitive flexibility, which is often impaired in individuals with BPD and anxiety disorders. By systematically challenging ambiguous or distorted language patterns through the Meta Model, participants appeared to develop more structured and rational thought processes, enhancing metacognition abilities leading to a better adaptation to internal and external events.

Regarding emotional intelligence, notable improvements were observed in both emotional awareness and self-regulation. Participants became more capable of identifying their emotional states, naming them and understanding the triggers behind them, leading to a shift in the awareness state and self-regulation ability. Enhanced emotional regulation is consistent with findings on emotional intelligence deficits in BPD populations [5,7].

Additionally, the application of NLP techniques such as Meta Model, Reframing and Anchoring facilitated more adaptive emotional responses, challenged and assessed possible responses, contributing to reduced anxiety levels and fewer interpersonal conflicts. These changes suggest that language-based interventions such as NLP that plays a huge role thanks to its techniques, may support emotional processing by connecting, real time, in a feedback loop, cognition and affect regulation.

Finally, referring to decision-making, participants exhibited a transition from impulsive reactions to more deliberate, goal-oriented, purposeful behaviors. Techniques such as Future Pacing enabled individuals to mentally simulate outcomes and evaluate the consequences of their actions before making decisions. By learning how to ask smart, precise, sharp and

on target questions, the core of NLP, both participants gained awareness, acknowledgment and the ability to question their own thoughts before taking any decisions.

Collectively, these findings underline the notable potential value of NLP as a complementary approach in both clinical and educational contexts. Its emphasis on language, cognitive and emotional restructuring and practical techniques, offers a flexible and versatile framework that can be integrated with other established and well-known therapeutic modalities.

### Limitations

Despite the promising findings, and valuable results, several limitations must be acknowledged. First, the extremely small sample size ( $n = 2$ ) significantly limits the generalizability of the results.

Second, the absence of a control group restricts the ability to draw causal inferences. Without a comparative baseline, it is not possible to determine whether the observed improvements can be attributed solely to the NLP intervention or to other factors, such as participant motivation, therapeutic rapport, or external influences.

With respect to CBT intervention, both participants required NLP specifically for these areas, mainly because the therapeutic interventions prior to NLP proved not to be efficient enough so as to maintain balance in daily routine life and activities, on those specific areas: critical thinking, emotional intelligence and purposeful decision-making process.

Third, the study relies entirely on qualitative data resulted from self-reports and subjective interpretation. While these measures provide valuable insights into participants' internal changes and external experiences, they are inherently susceptible to bias, including social desirability. The lack of standardized quantitative type of measurements limits the robustness of these notable findings.

### Conclusion

This case study provides preliminary strong evidence that structured NLP interventions, particularly the Meta Model, Reframing, Anchoring and Future Pacing may contribute to significant improvements in cognitive, emotional, and behavioral functioning among young adults with borderline personality disorder and anxiety disorders, enhancing critical thinking emotional intelligence, and decision-making processes in young adults with BPD and anxiety disorders [4,9].

The observed notable enhancements in critical thinking, emotional intelligence, and decision-making suggest that language, cognitive and emotional-focused techniques, all together, can facilitate meaningful psychological change on short and long term.

Future research is strongly needed, in order to validate and extend these results through larger sample sizes, controlled experimental designs, and the inclusion of standardized assessment tools, quantitative measurements along with qualitative measurements. With the respect for small size groups and case study, longitudinal studies would also be valuable

in determining the sustainability and generalizability of the observed effects over time, on larger group of people suffering from anxiety and borderline personality disorder [10].

In conclusion, NLP holds a strong promise not only as an adjunctive intervention that may enrich existing and consecrated therapeutic frameworks but as a valuable modality of therapy itself [11].

Its focus on cognitive restructuring through language and experiential learning techniques, offers a valuable avenue for supporting psychological resilience and adaptive functioning in both clinical and non-clinical populations, in the context of reactive and proactive psychological education, with the aim to enhance one immense ability, the key to our own psychological balance and species survival, metacognition as the ability to think, challenge, consider and reconsider own thoughts.

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