

## COGNITIVE BEHAVIORAL THERAPY PRACTICES FOR DEPRESSION



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### ABSTRACT

CBT is an abbreviation for cognitive-behavioral therapy, which is a term that is used to describe a group of therapeutic approaches that are united by the fundamental concept that mental diseases and psychological suffering are sustained by cognitive variables. This concept is also referred to as the cognitive-behavioral theory. This therapeutic method, which was pioneered by Beck (1970) and Ellis

(1962), is based on the central idea that maladaptive cognitions lead to the persistence of emotional discomfort and behavioural disorders. Beck (1970) and Ellis (1962) both contributed to the development of this therapeutic method. According to Beck's paradigm, these maladaptive cognitions are comprised of overarching concepts about the world, the self, and the future.

**Keyword:** Maladaptive, Cognitions, Behavioural, Disorders, Overarching,

### Introduction

These notions are often referred to as schemas. These schemas are the seed from which specialised and automatic thought emerges in response to certain stimuli. Changes in a client's emotional discomfort and the problematic behaviours they participate in are said to be

the direct outcome of therapeutic techniques that try to address maladaptive thinking processes, as stated by the basic model.

Since these first formulations, a wide range of disorder-specific CBT procedures have been developed and implemented. These disorder-specific CBT protocols target, in particular, key cognitive and behavioural maintenance characteristics that are related with the various diseases. Although there are substantial differences in some of the exact treatment methods that are included in these disorder-specific treatment protocols, they all stick to the same underlying premise and take a similarly thorough approach to the therapy that is being provided.

According to the medical model of psychiatry, which is used to guide treatment, the reduction of symptoms, the improvement of functioning, and the remission of the illness are the main aims of therapy. These goals are intended to be achieved by the use of treatment. In order to accomplish this goal, the patient will need to take an active role in the process of collectively finding solutions to the issues that have been identified. This will provide the patient the opportunity to question and challenge the correctness of maladaptive cognitions, as well as modify maladaptive patterns of behaviour. Therefore, modern cognitive behavioural therapy refers to a family of treatments that combine a variety of techniques that focus on the individual's feelings, behaviours, and ideas. These techniques are referred to as cognitive behavioural therapy (CBT) (e.g., Hofmann, 2011; Hofmann, Asmundson, & Beck, in press). In spite of the fact that these methods concentrate a considerable amount of attention on cognitive components, physiological, emotional, and behavioural aspects are also recognised for the role that they play in the prolonged presence of the condition.

In a recent study that analysed CBT meta-analyses, the researchers discovered that there were a total of 332 clinical trials that covered 16 different populations or disorders. There were a total of 16 quantitative assessments in the study (Butler, Chapman, Forman, & Beck, 2006). This was the first research of meta-analytic studies that we are aware of that looked at the efficacy of CBT for a range of different psychiatric issues. Specifically, this was the first study that looked at the effectiveness of CBT for panic disorder. Since it was initially published, this article has developed into one of the most significant criticisms of cognitive behavioural therapy (CBT).

On the other hand, the search strategy was much too narrow since just a single meta-analysis was selected to represent each ailment. In addition, the search was carried out just up to the

year 2004, despite the fact that a considerable amount of critiques have been published in the years after that time. In point of fact, the most bulk of the study, which constitutes 84% of the total, was not published until after the year 2004. In order to study the evidence foundation that supports the efficacy of CBT, our goal was to give an in-depth analysis of all contemporary meta-analyses that have been performed up to this point. It was determined that each of the meta-analyses that were under consideration for inclusion in this research satisfied the necessary criteria in terms of methodological rigour.

One of the most common types of mental disease is major depressive disorder, generally known as MDD. Its lifetime incidence rate is 15.8%, making it one of the most common. The condition causes a significant amount of emotional pain, a reduction in functioning, and major depressive disorder is the leading cause of suicide. People who struggle with depression often report a worsening of their quality of life, in addition to experiencing issues in their academic performance, professional output, and interpersonal connections.

Depression is one of the most significant factors contributing to disability and the burden it places on society all over the world. In addition to this, depression also has a significant impact on a person's quality of life. Major depression is characterised from other types of depression by its early onset, which often occurs around adolescence, as well as by the recurring pattern of the condition throughout a person's lifetime. Depression may have a wide variety of symptoms, from those that are relatively mild to those that are severe, chronic, and incapacitating. These symptoms can have an effect on practically every facet of a person's life.

Despite the fact that depression is very frequent, severe, and destructive to individuals who suffer from it, the treatments for depression have only had a moderate level of success. In addition, the vast majority of individuals who are affected by depression do not seek the appropriate therapy for their condition. In spite of this, several psychological treatments have garnered substantial support from empirical research in recent years. Both cognitive behavioural therapy (also known as CBT) and interpersonal therapy (also known as IPT) were specifically chosen because of their long track records of success.

CBT is the therapy that is used more commonly and has a greater body of research to support its usage. Of the two options, it is the treatment that is preferred. In this article, we will address the potential benefits of cognitive behavioural therapy (CBT) in the treatment of depression. It is vital to keep in mind that cognitive behavioural therapy, or CBT, which is

used to treat depression, is not a single treatment modality but rather a family of treatments. This information is important to keep in mind since CBT is the treatment modality. All of these treatments are based on the concept that biased cognition and maladaptive behavioural patterns contribute to depression, and it is just these two aspects of the condition that cognitive behavioural therapy (CBT) aims to improve.

T. Beck was the first person to develop cognitive behavioural therapy (CBT) for the treatment of depression in the 1960s. Since that time, there has been a substantial amount of work and study done on the therapy. Beck's cognitive model hypothesised that an individual's evaluation of the significance of the role that negative life events play in the onset of depressive symptoms was a key factor in the development of these symptoms. His theory was that those who struggle with depression have unhelpful mental models or beliefs.

It is claimed that these schemas begin to form during the early stages of infancy and that they include ideas such as loss, worthlessness, inadequacy, and rejection in interpersonal interactions. According to the theory that Beck proposed, these thoughts imply a cognitive sensitivity or "diathesis" to depression. The unpleasant life events (stress) are what activate the beliefs, which then generate event-specific negative thoughts about the self, the world, and the future (Beck's cognitive triad), which in turn contribute to a negative mood in the individual. Cognitive therapy is a kind of talk therapy that follows this approach and aims to modify the mental processes of clients in order to promote changes in mood and better cope with stress. The goal of cognitive therapy is to improve a client's ability to deal with stressful situations.

The integration of behavioural models of depression was one of the most significant advances that Beck made to his cognitive theory of depression. These models look at the social and biological factors that may have a role in the development of depression. Some of the earliest proponents of behaviourism, such as 9, claimed that prior knowledge of how behaviour operates is necessary before attempting to comprehend the nature and causes of sadness.

It is essential to do research on the environmental reinforcers that are responsible for maintaining sad behaviour. In a manner that is analogous, Lewinsohn and colleagues hypothesised that a person's likelihood of developing depression increased with the number of unfavourable events that occurred in their lives and decreased with the number of positive events that did. The early behavioural treatments for depression were founded on these theoretical premises, and their primary objective was to enhance the amount of time patients

spent engaging in activities that were generally agreed upon as being pleasurable (e.g., going for a walk). The modern behavioural approaches to depression have placed an emphasis on a functional analytic approach.

This approach focuses its attention on the part that negative life experiences play in the beginning stages of depressive episodes and centres its attention on the role that detrimental life experiences play in the progression of the illness. These schools of thought put forward the hypothesis that depressive behaviour, in large part, functions as an avoidant technique of coping in an environment that is characterised by a limited number of positive rewards and a big number of unpleasant occurrences. To be more explicit, these theories see behaviours such as withdrawal and inactivity, which are features of depression, as strategies to offer short-term relief at the price of long-term incapacity. In other words, these behaviours are seen as a trade-off for temporary relief from depression. The avoidant behaviour might result in secondary problems in addition to depriving depressed people of potential reinforcers in their environment, which can make their depression worse. Avoidant behaviour can make depression worse.

We live in a world where there is competition both between and among individuals, and everyone has experienced low mood at some time in their life. This is because we live in a society that encourages rivalry. It's possible that you're feeling down because you didn't do well in school, because a love relationship ended, or because of both of those things.

a relationship with a loved one, the loss of a member of the family, or anything similar. We want to one day achieve the highest levels of success in our various industries and be able to fulfil all of our dreams and aspirations. Everyone harbours the wish that they might concurrently accomplish more than one of their objectives. When we talk about people who live in the contemporary world, we are referring to those individuals who put in a lot of effort to demonstrate that they are the best at what they do, not just in their profession but also in their families and communities.

## **REVIEW LITERATURE**

An analysis of the relevant previous research must always be included in a study proposal since it forms the basis for further work and is thus obligatory. A literature review will be carried out in this chapter, with the goals of producing, reviewing, and assessing descriptions of studies that are relevant to the research. Studies that pertain to the efficacy of cognitive

behaviour therapy (CBT) in depression, the efficacy of positive psychotherapeutic intervention in depression, and comparative studies of the efficacy of Cognitive Behaviour Therapy and Positive Psychology Intervention were gathered from a variety of different sources. This was done in order to accomplish the goal of the current research. In addition, relevant materials were searched for online at a range of websites, including Scopus, Google scholar, Pub MED, Springer Link, and APA publications, amongst others.

In the course of several searches that were carried out on the subject matter, a wide variety of important factors, including cognitive therapy, cognitive behaviour therapy, savouring, positive psychotherapy, depression, and others, were taken into account. In addition to this, research was conducted on relevant books and American Psychological Abstracts (APAs), and studies that were cited in those books were also investigated.

The majority of the research that were pulled from the database did not contribute anything new to the conversation. This review does not attempt to be comprehensive; rather, it chooses to include just those publications that are pertinent to the subject matter. During the preliminary stage of the screening procedure, we discarded any research that could not be directly related to the topic that was the focus of the investigation at the time.

Each of these studies was analysed on its own so that the accumulated body of information on a wide range of distinct aspects could be arranged in an orderly fashion. Tabular presentations of the author, the year (or years), the type of psychotherapy, and the results of representative studies have been made for the purpose of making an analysis of the progression and trend in the field more accessible and expedient. This was done with the intention of achieving the stated goal (in descending order of the year of publication, studies cluster presented at the end of each table). The examination consisted of a broad variety of research that began in 1977 and will continue until 2019 at the earliest.

It was determined that a review of the relevant literature was required in order to obtain an understanding of the work that other researchers in related fields of research have accomplished, in order to evaluate the methodology that was utilised, in order to coordinate the study with other researchers, in order to identify gaps, in order to avoid duplication, and in order to direct the work along useful lines.

This chapter's goals are to provide the reader with an overview of mental retardation; analyse the pressures and situations connected with caring for a child with a disability; and discuss

the detrimental influence that these factors have on the wellbeing of the parent. The great majority of studies have concentrated their attention on the stress, anxiety, and depression that may be brought on as a consequence of providing care for a child who has a disability, in addition to the quality of the relationship that may deteriorate as a direct result of this. It would seem that the primary emphasis of this collection of study is on a few of unpleasant experiences and conditions, including stress, pressure, grief, and a few others. In point of fact, a number of studies have put forth the hypothesis that when a child is diagnosed with a severe impairment, the parents may go through a cognitive process that is comparable to the one that is experienced by individuals who have gone through a traumatic experience. This is because when a kid is diagnosed with a severe impairment, the parents are forced to face the reality that their child may have a life-threatening condition.

Recent studies have indicated that there is no definitive evidence to support the notion that families who have children with mental retardation also report having pleasant thoughts or perspectives. This is despite the fact that several researches have shown that families that have children who have mental retardation report greater levels of stress in comparison to other households.

The researcher has invested a great deal of time and effort over the course of a number of years performing an exhaustive literature review related to the matter. In order to review a wide range of journals, abstracts, books, and other resources, the researcher has visited a number of different libraries, organisations, institutions, and special schools. In addition, the researcher has conducted research on the internet.

We travelled to the National Library in Kolkata, the American Center Library in Kolkata, and the Department of Applied Psychology so that we could perform a review or look at other literature that was pertinent to the topic at hand (Calcutta University).

G. Gathawala and S. Gupta (2004) carried out a research in which they selected 20 families of day boarders at random in order to ascertain the amount of stress that is imposed on the families as a result of the responsibility of looking after mentally challenged children. This was examined with reference to the following five broad categories: the financial burden, the burden on family leisure, the burden on family contact, the cost referring to the disturbance of family routine, and the burden relating to the effect on the family's physical and mental health. Sixty percent of families were severely affected in relation to the item's influence on

the physical health of other family members'. This load includes members of the family feeling dissatisfied and weepy as a consequence of the scenario.

## RESEARCH METHODOLOGY

### PARTICIPANTS

The following are the conditions that must be met in order to participate in the study: a) having reached the age of 18; b) been diagnosed with major depressive disorder according to the DSM-IV (APA, 2000); and c) being willing and able to provide informed consent. The following things were ruled out of the running for participation in the study: a) a history of psychosis; b) a lifetime diagnosis of bipolar I or II; and c) a main diagnosis other than MDD if present. deemed to need a different kind of first therapy; d) a significant risk of suicide or self-harm that makes it impossible to get treatment in an outpatient setting; e) a drug dependency during the last six months; and f) an indication of secondary benefit from seeking treatment. The participants were assessed by means of a clinical interview that followed the guidelines outlined in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (First, Spitzer, Gibbon, & Williams, 2002).

The urban area around Columbus, Ohio, as well as the villages immediately surrounding it, provided participants for this study. As part of the effort to get the word out about the study, flyers were dropped off at the various community centres, and postings were also made on the internet. Before determining whether or not a participant is eligible to take part in the research, that participant must first complete an initial phone screen. Participants who expressed interest in taking part in the study were obligated to do so.

Screeners inquired as to whether or not the participant was currently dependent on substances; whether or not the participant was taking ADM; if so, whether or not they were taking a stable dose; and whether or not the participant was willing to take part in 16 weeks of individual psychotherapy. After requesting that 193 potential participants complete an initial screening over the phone, the next step in the process was to arrange an intake examination for those individuals. It was determined that 126 of the 149 people who showed up for their scheduled intake appointment met the parameters required to take part in the study. Those who were rejected on the basis of the intake evaluation were excluded for a variety of reasons, the most prevalent of which were a history of manic episodes, a failure to fulfil all of the criteria for MDD, and having a primary diagnosis that was not MDD. Those



who were rejected on the basis of the intake evaluation were rejected for a variety of reasons, the most prevalent of which were a history of manic episodes.

## RESULTS

To begin, I examined the three components, each of which reflects either a positive or a negative influence, to see whether they were internally consistent with one another. Even though there might have been anywhere from one to twenty-nine sessions, just a tiny fraction of the participants attended the maximum number of sessions. Cronbach's alpha was calculated using sessions 1 through 16 since the average number of sessions that were finished was 15.93. Sessions 1 through 16 were used in the calculation. The post-session NA had an alpha that was anywhere from 0.69 to 0.93, while the post-session PA had an alpha that was anywhere from 0.90 to 0.95. While the pre-session PA had an alpha that ranged from 0.86-0.95, the pre-session NA had an alpha that was in the range of 0.81-0.93.

After that, I determined the intraclass correlation coefficients, also known as ICCs, in order to assess the percentage of variation in affect that was due to differences between patients as opposed to variations that occurred within patients. This was done in order to compare the results to the variations that occurred within patients. These ICCs indicated that post-session PA featured between-patient variation that accounted for 73%, and post-session NA included between-patient variation that accounted for 47% of the total. There was between-patient diversity in both the patients' positive and negative affect levels before the session, with the former having 69% and the latter having 39%.

As was previously said, I came to the conclusion that every variable in the equation demonstrated significant linear trends. The average pre-session PA increased by 0.14 points throughout the course of each session, with a standard error of 0.02 points; the  $t(121)$  value was 5.91, which was statistically significant at the  $p.001$  level; the effect size was 1.07. The pre-session NA score decreased by 0.24 points throughout the course of each session, which resulted in a  $t$ -value of -11.99 and an effect size of  $d = -2.18$ , both of which were statistically significant. The statistics  $z = 5.24$  and  $p.001$  demonstrate that the effect sizes being compared here are quite different from one another.

Even after the session was completed, there was clear evidence of a big shift having taken place. Post-session physical activity (PA) significantly increased with time, on average, at a

rate of 0.06 points per session (standard error of the mean = 0.02),  $t(121) = 2.82$ ,  $p = .006$ ; however, there was no significant difference between the two groups.

Post-session NA went down by a sizeable amount over the course of time, decreasing at a rate of 0.12 points at each session (SE = 0.02), leading to a  $t(121)$  value of -7.46 and a significance level of  $p.001$ . This finding was statistically significant. The Beck Depression Inventory (BDI) scores revealed a consistent downward trend over time, falling by an average of 0.92 points over the course of each session (with a standard error of the mean of 0.06),  $t(121) = 14.37$ , and a significance level of  $p.001$ ; the graph to the right depicts this tendency.

The rate of cognitive change increased with time, at a rate of 0.30 points each session (SE = 0.03),  $t(121) = 10.25$ ,  $p.001$ ; for more details, refer to Figure 3 for more clarification. n Figure 2 n Figure 2:

Figures 4-7 illustrate the evolution of effect from the first session to the sixteenth session, as well as the progression of impact from the beginning of the session to its conclusion. A closer examination of these numbers reveals that the first five sessions appear to have been the ones that resulted in the most significant shifts in impact between the pre-session and post-session periods. This is the conclusion that can be drawn from the fact that the first five sessions occurred. It would seem that pre-session NA and PA are, like everything else, becoming better with time. Figure 4 shows that patients had an unusually high post-session PA score in the first session, which subsequently declined in the remaining four sessions from this high position.

This decline occurred from the high point that was reached in the first session. After reaching this low threshold, however, it seemed as if post-session PA would continue to increase for the rest of the sessions. In a similar vein, Figure 5 indicates that the difference in PA levels between pre-session and post-session levels seems to be the biggest during the initial sessions. This finding is supported by the fact that pre-session levels were much lower than post-session levels. The data shown in Figure 6 suggests that the pre-session NA had a slow but steady decline during the course of the study. The sessions numbered one through three seem to be the ones in which pre-session and post-session NA differ from one another in the most glaringly obvious ways (see Figure 7).

The tables 1 and 2 present the correlations that were found between the various study variables. The correlations between individuals are shown in Table 1, while the correlations

between people belonging to distinct groups are shown in Table 2. Although the extent of the association between pre-session affect characteristics and depressive symptoms varied from person to person, it ranged from being moderate to being considerable. According to Table 1, the within-person correlation between depressed symptoms and positive affect before to the session was -0.44, while the within-person correlation between depressed symptoms and negative affect prior to the session was -0.57. Within each person, the degree of link between the postsession affect variables and the severity of depression symptoms ranged from being very minimal to being quite moderate. Within the same person, it was found that there was a correlation of .36 between post-session NA and the BDI, while there was a correlation of -0.26 between post-session PA and depressive symptoms. Both of these correlations were shown to exist.

### **PRE-SESSION AFFECT**

**Model 1 Results.** This model's objective was to ascertain whether or not the patient's state of mind at the start of the session was a reliable indicator of depressive symptoms later on in the session. I wanted to see whether the pre-session PA and pre-session NA could reliably predict the change in BDI from one session to the next, so I did some research on that. In addition to this, I made certain that the autoregressive effect that both of the influence factors had was taken into consideration. There was no link found between pre-session physical activity and the shift in BDI (-0.00, 95% confidence interval = [-0.05, 0.05]). Even the pre-session NA was unable to provide an accurate prediction of the drop in BDI (0.04 with a 95% confidence range ranging from -0.02 to 0.09).

The Results of Models 2 and 3 respectively. I used a model called a reciprocal model to determine whether or not cognitive change at the end of a session can accurately predict physical activity at the beginning of the following session and whether or not physical activity at the beginning of one session can accurately predict cognitive change at the end of the previous session. My research took into consideration the autoregressive impacts of cognitive change as well as the effects of pre-session physical exercise. Both pre-session physical activity and cognitive change predict future physical activity: pre-session PA predicts cognitive change (0.22, 95% CI = [0.17, 0.26]), and cognitive change predicts PA (0.06, 95% CI = [0.01, 0.11]). Pre-session PA also predicts cognitive change. After running a similar model with NA, I found that pre-session NA predicts cognitive change (-0.13, 95% CI = [-0.17, -0.08]), and cognitive change predicts NA (-0.09, 95% CI = [0.14, -0.04]). This was

the result of my investigation into the relationship between the two variables. Both of these connections were important in their own right.

### CHANGE IN AFFECT

Model 4 Results. The purpose of this model was to determine whether or not a change in PA and NA from the pre-session to the post-session period predicted a change in BDI from the beginning of one session to the beginning of the next session. A regression of the post-session affect variable on the pre-session affect variable that corresponds to it is what the model does to describe the change in affect that happens during the session. This is how the model "represents" the change in affect that takes place. An accurate portrayal of the change in BDI may be achieved by controlling for the autoregressive influence of BDI. Alterations in PA from the pre-session to the post-session were predictive of lower BDI scores in the future session (-0.05, 95% confidence interval = [-0.09, -0.00]) in this study. It was shown that a change in NA was able to accurately predict a change in BDI with a coefficient of 0.06 and a 95% confidence range of [0.01, 0.11].

Model 5 and 6 Results. After that, I investigated whether or not a shift in one's cognitive state may reliably anticipate a shift in one's emotion throughout the course of a session. In order to demonstrate the degree of change in affect, a regression is performed using the post-session affect variable on the analogous pre-session affect variable. I made some changes in order to account for the potential autoregressive influence that cognitive change may have. The first model evaluated whether or not a change in PA at the end of the same session for which a change in cognitive performance was recorded can be predicted by that change. Specifically, the model looked at whether or not the change in cognitive performance can explain the change in PA. The 95% confidence range for the estimation of the correlation between changes in cognitive ability and changes in PA is [0.30, 0.42], with the standardised estimate placing the correlation at 0.36. In the second model, it was explored whether or not shifts in cognitive performance may reliably foretell shifts in NA performance at the end of the same session.

Changes in cognitive capacity have also been shown to reliably predict changes in NA (-0.32, 95% CI = [-0.42, -0.26]) in certain cases.

Model 7 and 8 Results. I ran a model with both cognitive change and in-session change in PA predicting depressive symptoms after finding that cognitive change predicts depressive

symptoms in this sample (Fitzpatrick et al., 2020). This was done after finding that cognitive change predicts depressive symptoms in this sample. This was done as a result of the prior research that indicated cognitive change to be a predictor of depressive symptoms in this group. I made it a point to take into consideration the cognitive shift as well as the autoregressive effects that BDI has. Alterations in cognitive capacity do not reliably predict BDI (-0.05, 95% confidence range [-0.10, -0.005]), and alterations in physical activity also do not reliably predict BDI (-0.04, 95% confidence interval [-0.09, 0.01]). Following this, I carried out a similar model using NA and observed that cognitive change predicts BDI (-0.06, 95% CI = [-0.11, -0.01]) and that change in NA predicts BDI (0.07, 95% CI = [0.02, 0.12]). Both of these results are shown in the table below.

## CONCLUSION

During the course of cognitive behavioural therapy (CBT) for depression, I discovered that there were significant changes in both NA ( $d = -21.18$ ) and PA ( $d = 1.07$ ) throughout the duration of this study. On the other hand, the pre-session NA data showed a much larger shift than the pre-session PA data did. There were four additional findings that need special attention to be paid to them. To begin, alterations in patients' levels of depressive symptoms in the next session were reliably predicted by differences in PA and NA between sessions. This was true for both variables.

These effects were comparable in size, which suggests that variability in PA and NA are equally connected to the change in depressive symptomatology that occurs during CBT—even in the absence of any attempts to offer an intensified emphasis on PA. This is the case despite the fact that there were no attempts to offer an intensified emphasis on PA. Second, it was shown that shifts in cognitive ability were connected to shifts in NA as well as PA within sessions (i.e., over a 50-60 minute period). These relationships are consistent with the idea that cognitive change may generate short-term alterations in both NA and PA, despite the fact that they did not provide any predictive results.

Both the NA and PA might experience short-term shifts as a result of cognitive change. Third, I found evidence for a reciprocal correlation in models that analysed the temporal relation between cognitive growth and emotion. These models looked at the relationship between the two across time. The connection between the two was analysed via the use of these models. To be more explicit, the pre-session measures of NA and PA acted as predictors of cognitive change that was seen at the end of the session. In addition, cognitive

change predicted NA and PA at the beginning of the next session. According to these results, cognitive change may be responsible for both NA and PA. Changes in affect may further assist cognitive change. These results show that cognitive improvement may be a driver of not just PA but also NA, despite the fact that the temporal delays involved in these interactions changed owing to the assessment schedule (a topic which I explain more below).

Last but not least, the findings of a model that examined NA and cognitive change as possible predictors of alterations in depressive symptomatology revealed that both components predicted fluctuations in symptomatology. This finding was not unexpected. In a model that additionally took into consideration cognitive progress and physical exercise as possible predictors of depressive symptoms, neither predictor maintained to have any relevant weight in the model (though effect sizes were comparable to those observed in the NA model).

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