

# An Exploration into New Approaches in the Treatment of Mental Health: Understanding and Possible Optimization in the Implementation of Accelerated Experiential Dynamic Psychotherapy (AEDP)

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## Abstract

This paper aims to discuss the need for novel forms of therapy beyond traditional treatment programs. Accelerated Experiential Dynamic Psychotherapy, or AEDP, has increased acceptance and maintains a promising long-term outcome for patients compared to standard treatment protocols. This paper will review traditional mental health assessments and treatment types and their limitations. Then, traditional pre-and-post therapy success measures will be described along with their inherent limitations to assess treatment outcomes adequately. This will be the basis for considering AEDP as a promising, neuroscience-backed clinical field. The author will make a case for the pairing of AEDP with new psychotropic treatments recently and soon to be approved for use in the treatment of mental health. Finally, we will consider the use of applied neuroscientific tools for new forms of mental health assessments.

## Keywords

New Approaches, Mental Health

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## 1. Introduction: Background Importance of Current Mental Health Crisis

Since the outbreak of COVID-19 that began in 2020, people's emotional and mental health issue has been severely affected. According to the data from the National Institute of Mental Health, 52.9 million American adults were diag-

nosed with some form of mental illness, and about 14.2 million were classified as having severe mental issues (*Major Depression, n.d.*). Comparing rates of mental illness in 2019 to 2021, a significant increase in mental illness was found, with rates of diagnoses increasing from 19.86% to 21.0% of the total population in the states within that time frame (*Adult Data 2022/Mental Health America, n.d.*). It is important to understand that nearly 50% of patients seek mental health treatment. This is evidenced by the fact that about half of United States citizens understand the positive efficacy of mental health treatments. Over 24.3 million adults with mental illness and 9.1 million with serious mental illness were reported to have received mental health services. This rate increased in 2019 when only 44.8% of citizens were reported to have received mental health services. Among these patients who suffered mental illness in the U.S., 8.4% of adults, which is an estimated 21.0 million adults, were reported to have experienced at least one major depressive episode in 2020, and 6.0% were reported to have had major depressive episodes with severe impairments. Of adults living in the United States having experienced major depressive episodes, an estimated 66.0% were reported to have received treatment.

Given the increase in reported mental health issues, it is surprising to note that the divorce rate decreased from 6.1% to 5.1% of the overall U.S. population (*FastStats - Marriage and Divorce, n.d.*). However, this 1% downturn may be due to basic logistics in the difficulty of carrying out legal proceedings during the pandemic. It appears that this explanation may be accurate, because domestic abuse statistics during the pandemic increased significantly. Over 10 million adults experience domestic abuse annually within the United States. Of reported abuse, one in every five victims identified as female and one in every twenty identified as male have been reported to require some form of medical intervention. While this is an already disturbing statistic, evidence continues to emerge of the increase in domestic violence during the lockdown.

The Harvard Gazette recently published an article titled “The Shadow Pandemic of Domestic Violence” (*Mineo, 2022*). In 2021, the United Nations published statistics related to reported and confirmed instances of domestic violence toward women at the global level. Following the pandemic, it stated that violence against women surged to shockingly high levels. The American Journal of Emergency Medicine reported agreement stating that there has been a reported increase of quantifiable cases of domestic violence by 25 to 33 percent globally since the pandemic (*Jain, 2021*).

While rates of divorce declined, it is clear that domestic abuse and the toll on mental health, most notably women’s mental health, was significant due to the lockdown. Divorce, in some cases, can be considered a healthy coping and closure strategy for moving on with one’s life following a failed relationship. Not having that outlet during an unprecedented challenging time proved to shift behaviors towards abuse and violence, further damaging the already fragile mental health of so many.

Along with domestic violence, the suicide rate dropped from 13.93 to 13.48 per 100,000 individuals but remained the 12<sup>th</sup> leading cause of death in the U.S. Middle-aged Caucasian men show the highest suicide rate compared with women (*Suicide Statistics/AFSP, 2021*). As suicide is highly preventable with proper treatment, additional awareness and engagement with mental health services would likely reduce incidences of suicide across the United States population (*Rodriguez, 2021*).

Of those most negatively impacted by the pandemic's change in schedules and increased social isolation, adolescents reported some of the most severe mental health issues. While most under the age of 18 exhibit signs of positive mental health performance, which include high scores on reported curiosity, persistence, and self-control (*CDC, 2022*). Still, 49.5% of people under 18 are currently suffering from mental disorders, and 22.2% have been diagnosed with moderate to severe impairment (*Mental Illness, 2021*). Attention Deficit Hyperactive Disorder (ADHD), depression, anxiety, and behavioral problems are routinely diagnosed mental disorders in adolescents. Depression, substance use, and suicide are the most important concerns for these adolescents (*CDC, 2022*). In 2020, 4.1 million teens experienced at least one major depressive episode. This cohort represents approximately 17.0% of the population. Also, about 41.6% of adolescents diagnosed with major depressive disorder received some form of treatment in 2020. Even more promising is that an estimated 46.9% of U.S. adolescents with major depressive episodes paired with severe impairment received some form of mental health treatment (*Major Depression, n.d.*). The dark side of non-diagnosis or therapy is that once an adolescent is symptomatic if left untreated, depression and anxiety will likely increase over time and continue to manifest into their adult lives.

Overall, the COVID-19 pandemic has significantly affected the community's mental health from various aspects, which has resulted in a significant increase in the need for mental health support. Thus, this review paper will review all current primary traditional mental health treatments and discuss their limitations. Further, a novel psychological treatment, Accelerated Experiential Dynamic Psychotherapy (AEDP), will be introduced. This therapy uses the talk therapy modality, which involves the therapist working with the clients to solve their negative emotions due to previous experiences and further solving it to a pleasant life experience. The AEDP also can provide a remote teletherapeutic way which significantly increases the convenience of people who may need counseling promptly during a pandemic.

## **2. Classic Approaches to Therapy**

Historically, mental health issues have existed in society for hundreds of years. Individuals considered morally unfit or shown in states of rage were frequently taken to a "custodial asylum" to become healthy again or to keep them away from other people. The asylum had therapeutic effects on those incarcerated,

which bore the field of psychiatry as a discipline. Over time, societies increasingly embraced the notion of mental health treatment over traditional means of punishment and physical restraint of those deemed mentally unstable (Freedheim et al., 1992). Different forms of therapy emerged and continue to proliferate in the present day. In the next section of this paper, the author will consider some of the more prominent types of therapeutic styles, describing them, their purported benefits, and their limitations. This section will provide a historical context to lay the groundwork for discussing current mental health treatment advances.

### ***Psychoanalysis and Psychodynamic Therapies***

Psychoanalysis aims to treat mental disorders by investigating the interaction of conscious and unconscious elements in the mind and bringing hidden or unconscious fears and conflicts into the conscious mind through techniques such as dream interpretation (Kolb, 1979) and free association (Bordin, 1966).

While many practitioners consider psychoanalysis limiting due to the subjective nature of dream interpretation, it is interesting to make a connection between this type of therapy and neuroscience. In psychoanalysis, human mental processing was broken down into three levels: The Id, which is the human primary emotional motivations; the Ego, which can be considered the regulatory mechanism to control the Id; and the Superego, which can be thought of as our moral compass to ameliorate social norms (Freud, 1961). In neuroscience, the Id can be interpreted as the brainstem and midbrain processing areas. The Ego is similar to the amygdala, which can be considered an impulse regulator and a detector of potential threats (Sletvold, 2013). The Superego can find its corollary in the frontal and prefrontal cortices, which house our regulatory higher-order decision-making processes (Damasio, 1995).

Daniel Kahneman's book *Thinking Fast and Slow* also discusses what can be considered a corollary of The Id, Ego, and Superego. The ID is similar to what he defines as "System one", and the Ego/Superego can be thought of as being similar to his "System two". System one "is the brain's fast, automatic, intuitive approach". System one activity includes the innate mental activities that we are born with, such as a preparedness to perceive the world around us, recognize objects, orient attention, and avoid losses. In contrast, System two is "the mind's slower, analytical mode, where reason dominates. Usually, system two activity is activated when we do something that does not come naturally and requires some conscious mental exertion" (Kahneman, 2011).

This connection between unconscious and conscious processing in the brain can validate the initial rationale of psychotherapy in that automatic brain processes can be shifted and changed with proper therapy techniques. Neural associations in the brain with specific thoughts, emotions, and behaviors can be turned, and the effort a patient consciously makes to change their response to certain stimuli can become automatic if therapeutic interventions are effective.

### ***Behavior Therapy***

Behavior therapy is based on the concept that all behaviors can be learned and behaviors can be changed. This therapy focuses on the current questions that more deeply identify and change the unhealthy motivations, which result in a behavioral change and the patient achieving a better-qualified life. Behavioral therapy involves treatments for depression, anxiety, panic, or other disorders, such as those that may include excessive anger (Wilson, 2005).

Behavior therapy is linked to a concept called habituation. Habituation is a neuroscience term that explains how individuals decrease their response to a stimulus after a repeated presentation (Houghton et al., 2017). Behavior therapy is according to the habituation of an individual to a stimulus. Habituation is a type of non-associative learning in which the inherent (non-reinforced) reaction to a stimulus decreases in response to repeated or protracted exposure to that stimulus. Behavior therapy creates the effect of habituation by repeated exposure to an offensive stimulus that causes mental health issues such as anxiety, phobia, or substance abuse.

“Systematic desensitization” is a specific type of behavioral technique that exposes a person to a particular trigger, making them less sensitive to it over time (Rachman, 1967). This treatment involves three main steps and relies on the Pavlovian concept of “classical conditioning” which refers to the unconscious and automatic ability to learn (Zhang et al., 2020). For example, a therapist may attempt to cure a client’s phobia of dogs by using systematic desensitization. First, the client can try to pass the dog at a far distance until they feel comfortable with this level. Gradually, the client’s thoughts and body can associate a non-threatening experience in their continually closer physical space to the dog. This type of therapy can succeed if a patient can successfully pass through a dog park unafraid or able to manage their emotions toward dogs.

“Aversion therapy” is another behavior-focused treatment that associates a specific pleasant but unhealthy stimulus with a highly unpleasant one. The unpleasant stimulation will cause uncomfortable feelings and change the client’s behavior. For example, a clinician can guide a client to associate alcohol with negative emotional memories to alter their overall response toward alcohol and thereby decreasing the desire to engage in the behavior of drinking (Cannon et al., 1986).

### ***Cognitive Behavioral Therapy***

Cognitive behavioral therapy (CBT) is a short-term, practical mental health treatment. It was developed to help individuals grow strategies for maintaining health (Craske, 2010). Advocates of CBT believe psychological problems are partly based on unhelpful thinking and behavior learning patterns. Another of its tenets is that those individuals with psychological problems should learn a better coping strategy to relieve the symptoms and lead a productive life. CBT focuses on guiding clients to identify, question, and change their negative thoughts, attitudes, or motivations related to difficult emotional and behavioral responses (*Cognitive-Behavioural Therapy (CBT)/CAMH, 2021*).

The standard CBT techniques include thought recording and journaling,

which ask clients to journal their thoughts throughout the day and record their feelings and thoughts. This will help the clients explicitly consider their thought patterns and move away from negative thoughts. The CBT strategy also has a component of role-playing, which allows clients to improve their communication skills and practice their social skills. CBT involves behavioral therapy as well, using the same strategies that expose patients to societal fears and face them rather than to avoid them. The system would help clients change their negative thoughts or behavior and result in a significant improvement in functioning and quality of life.

#### ***Humanistic Therapy***

Humanistic treatment, often known as “Humanism,” is an affectively positive method to psychotherapy that focuses on each individual’s unique mental health features rather than grouping patients with similar mental health traits (Angus et al., 2015). This style of treatment addresses the patient holistically, from the patient’s perspective as well as the clinician’s. Humanistic treatment focuses on a patient’s healthy positive features and behaviors, as well as their ability to use their instincts to achieve development, healing, fulfillment, and autonomy. Humanistic treatment is particularly advantageous since it recognizes the present individuality requirements of each patient, who maintains small cultural distinctions that influence societal expectations. Compared to other psychotherapies, there is a distinct advantage of this sort of individualized treatment.

### **3. Limitations of Current Classic Treatments**

#### ***Psychoanalysis and Psychodynamic Therapies***

Dream analysis is an efficient technique for psychoanalytic treatment, with the drawback of gender bias since the interpretation did not distinguish between genders. As a personal interpretation, it is subjective and imprecise, resulting in its questionable veracity. This made it much more difficult to implement to a large population (Grünbaum, 2018).

In addition to lacking empirical evidence and being separated from the scientific community, this sort of therapy has little validity and dependability. In addition, psychoanalysis therapy has stressed psychological issues excessively. Consequently, biological and social elements, which also affect and contribute to the mental health issue, are overlooked. Additionally, Freud’s psychoanalytic therapy overemphasized childhood, which tends to infantilize potential patients (Rottenberg, 2012). This again demonstrates the treatment’s weakness of neglecting contextual influences on people’s ideas and cognition.

#### ***Behavior Therapy***

Some clinicians feel that Behavior therapy is a mechanistic approach to treating an individual while others find it a sterile human interaction. For others, it can be upsetting to have social and emotional exchanges between the patient and clinician reduced to a mathematical equation of antecedents, behaviors, and consequences (Cherkin et al., 2016).

### ***Cognitive therapy***

Cognitive behavior therapy was a time-limited, focused treatment that required the client's complete participation. Thus, participation in the treatment involves a substantial amount of time from the client and may be ineffective for those with learning difficulties. People with complex mental health needs have a substantial barrier with CBT. According to research conducted at the University of Hertfordshire, CBT is unsuccessful for treating and preventing a variety of mental diseases, including schizophrenia, bipolar disorder, and depression (Beidel & Turner, 1986; Jauhar et al., 2014).

### ***Humanistic therapy***

Humanistic treatment has a problem with its premise being unrealistic and too idealistic. The humanistic paradigm is based on the subjective experiences of individuals, which makes objective measurement, recording, and analysis problematic (Kensit, 2000; McMullen, 1982). This therapy has thus been criticized for lacking empirical data and being difficult to assess. Therefore, it has been deemed unscientific. It only offers a limited number of answers, therefore persons with complicated difficulties may not receive enough guidance (*Advantages and Disadvantages of Humanistic Learning Theory - Education Summary*, 2020). Humanistic treatment also lacks the inclusion of important concepts of behavior and psychoanalytic psychology, since it concentrates primarily on free will and the conscious mind, despite the fact that the unconscious mind plays a vital role in mental health (*Humanistic Psychology*, n.d.).

David N. Elkins also emphasizes that humanistic psychology has serious limits since its underlying assumptions and principles are incompatible with modern mainstream psychology. Humanistic psychology's authority and impact have been weakened by the steady ascent of conservative ideologies in the United States (Elkins, 2009c, 2009a, 2009b).

## **4. Introduction to AEDP—Historic Origins**

AEDP navigates the intricate relationships between positive and negative emotions toward psychological growth and adaptation by drawing on studies in attachment, affective neuroscience, emotion theory, and positive psychology (Fosha, Thoma, & Yeung, 2019).

AEDP is specifically developed to promote a therapy setting that allows for a softening of defenses, a decrease in anxiety, and a heightened access to emotional experience. Meta-therapeutic processing (or meta-processing, for short) is one of AEDP's most essential instruments for enhancing a client's transformation. In meta-processing, "emotion and cognition converge and meaning is generated" (Russell & Fosha, 2008). Accelerated Experiential Dynamic Psychotherapy has four pillars: Belief in the client's potential to heal, the power of being seen and understood, overcoming defenses, and developing a new capacity for trust.

From a neuroscientific perspective, AEDP has a profound embedded success mechanism that relies on neural plasticity and Hebbian Learning. Hebbian

Learning is a form of activity-dependent synaptic plasticity where correlated activation of pre-and postsynaptic neurons leads to the strengthening of the connection between the two (Munakata & Pfaffly, 2004).

Dr. Diana Fosha pushed Accelerated Experiential Dynamic Psychotherapy (AEDP) as a revolutionary talk treatment. Using attachment, affective neuroscience, emotion theory, and positive psychology research, the AEDP navigates the complex links between positive and negative emotions in the context of psychological growth and adaptation. The purpose of AEDP is to establish a therapy environment in which clients may relax their defense mechanism, therefore lowering anxiety and gaining a more profound understanding of emotional experience. AEDP assisted clients in establishing the safety of a supportive, non-judgmental connection with the therapist, which in turn led clients to reduce the loneliness that accompanied the digestion of painful emotions and the induction of change (*AEDP/Types of Therapy/Zencare, n.d.*).

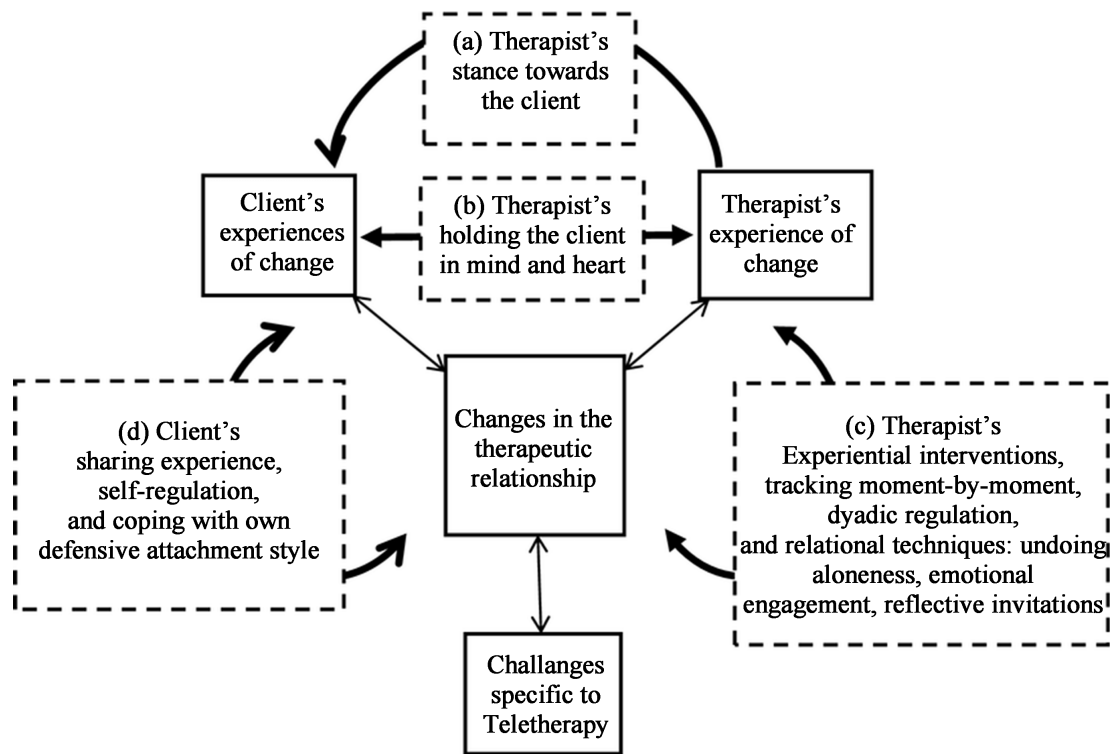
Meta-therapeutic processing (meta-processing) is a more profound degree of personal reflection. It blends emotion and intellect to construct meanings, which is also a vital technique employed in AEDP to facilitate the change of clients. Clients begin with their emotional mastery so that the development of good feelings might dispel anxiety or guilt (e.g., joy, confidence, and pride). Second, it is experiencing emotional sorrow through discovering one's own sadness. This stage will lead clients to feel tremulous consequences after receptive emotional experiences, which is the transition crisis. After that, clients would have confirmed acknowledgment of self-transformation and a new self-perception. Such as feeling love and thankfulness for others or being startled by the emergence of the change's realization. As a result of meta-processing, patients will develop a consolidated and enhanced self-changing guidance<sup>1</sup>.

Four major pillars underpin the AEDP paradigm. Everyone has the self-innate healing potential embedded in their mind and body, albeit it may be obscured or obstructed by trauma. The customers' ability to mend themselves should be seen favorably. The power of being seen and comprehended is the power that AEDP therapists develop in order to provide clients respect and care. This ability can aid clients in the healing of their deepest traumas and facilitate discovery and transformation. Therapists further assist clients in overcoming their defenses, which may be painful to the most deeply wounded areas but are also the most conducive to transformation. They will process unpleasant emotions with clients in a gentle manner in order to give them with safety and aid them in transferring their buried suffering. Last but not least, acquiring a new capacity for trust and emotional experience entails the ability to share with others. Through the counseling process and the corrective emotional experience, clients will feel safe emotions throughout the entirety of the therapy. This encounter will assist clients to perceive their unfavorable characteristics in a more favorable light (Clarke, 2021).

<sup>1</sup><https://Aedpinstitute.Org/Wp-Content/Uploads/2013/04/Diana-Fosha-Presentation-P56.Pdf>



**Figure 1** below represents the AEDP patient: clinician process and approach to an iterative cycle of healing and well-being (Ronen-Setter & Cohen, 2020). To show the therapists a feeling of care and adjusting their attitude toward the client is the first step to eliminating their anxiety or negative feelings toward the therapy. Further, the therapist will perform how they hold the client in mind and heart by exploring their close relationship. This positive relationship chain will affect their therapeutic relationship, and the therapist also has the role of maintaining the important attachment characteristics that impact correcting the emergence of emotions and relationship experiences. All these factors will directly impact the client, allowing them to relax their defenses and further follow the therapist’s invitation to explore emotional experiences and connect their core feelings. The therapist’s experimental intervention will help clients self-regulate and encourage them to focus on their internal mental experiences. These interventional techniques will provide a safe and healthy feeling to bring the clients leader themselves to explore and cope with their previous negative feelings. The therapists work as their leaders who protect them in the back, full of curiosity, engagement, and emotional self-exposure. The clients’ task in the therapy is to ensure their safety and cultivate a sense of self under the positive therapeutic relationship, which strives for change and wellness motivation. All of the interventions and clients’ self-change on the therapy’s attitude work to



Boxes marked by solid lines denote new challenges due to the pandemic;  
Boxes marked by dashed lines include suggested tools to promote teletherapy

**Figure 1.** This schematic represents the iterative and interactive patient and clinician relationship dynamic within the context of Accelerated Experiential Dynamic Psychotherapy.

achieve the result of positively changing the therapeutic and therapy processing, which benefits the clients (Ronen-Setter & Cohen, 2020).

#### 4.1. AEDP Case Study Examples

There is a well-discussed success story in AEDP known as “Rosa’s Case” (Ye-Perman, 2018). This case study is both classic and unusual due to her bilingual and bicultural character. Rosa has difficulty maintaining healthy relationships with people and processing her attachment trauma-related feelings. Initially, Rosa’s treatment with Intensive Short-Term Dynamic Psychotherapy, a technique that can rapidly treat a wide variety of emotional disorders, was unsuccessful. In contrast to the anticipated effect, Rosa’s defense system increased, indicating that she was unable to continue working. Rosa’s initial traumatic experience was in Spanish, thus she employed Spanish to cope with it. Fortunately, her therapist, Dr. Gonzales, communicated with her in the same language. The bilingual dialogue astonished Rosa and made her feel less alone. Rosa’s therapist has aided and accompanied her in overcoming her traumatic incident and negative feelings.

Dr. Gonzales formulates Rosa’s treatment plan by focusing on two key areas that are fundamentally important to this case. The first is the advantages of experiential and attachment-based models for the treatment of relational trauma sequelae. The second one refers to the potential benefits of incorporating the patient’s cultural identity, specifically her bilingualism and ethnic identity, into the treatment. Also, it’s important to notice that the use of a language other than the patient’s native tongue during this treatment may obstruct emotional processing, which is essential to AEDP. Thus, Dr. Gonzales spoke Spanish in the therapy with Rosa. Within the successful result in Rosa’s case, Dr. Gonzales suggested that Rosa was better able to feel the intense emotions connected to her familial trauma because of their shared bilingualism and ethnic similarity, which reinforced their therapeutic partnership.

In her paper, Dr. Perman also mentioned her own bilingual identity in Chinese and English. She has strongly clarified the importance of bilingualism and further indicated that AEDP is highly adaptable across cultures. According to her case study, her client, an international graduate student from China, chose to speak English during the treatment. The client reflected that English could make it easier and make him feel less awkward when they tried to process the romantic affair with another married student. He would get overwhelmed by the cultural stigma and guilt associated with extramarital relationships due to being Chinese. Dr. Perman concludes three relevant variables to the forefront and discusses their implications for the benefits of ethnic matching: one’s racial/minority status, level of acculturation, and ethnic identity. Based on these cases, Dr. Perman concludes three relevant variables to the forefront of ethnic matching: one’s racial/minority status, level of acculturation, and ethnic identity. The matching ethics of clients and therapists can help with a more secure

treatment process and will be more helpful in the treatment's success and effectiveness.

Regarding Rosa's case study, she obtained a score of 30 at the beginning of treatment, indicating that her depression is "very severe". Her score has significantly decreased to 8, which indicates a "moderate" sense of despair. According to this significant improvement in score, Rosa's depressive symptoms have diminished clinically significantly. Rosa observed that the intense despair, perplexity, fear, and anxiety she had at the beginning of treatment had lessened. She was instead able to experience and accept negative emotions without becoming frozen or avoiding them. Rosa was also able to distinguish between her relationship to her child and her connection to her siblings, which made her less fearful when she encountered her child.

After completing therapy, Rosa's overall and social functioning had improved, and her anxiety and depression had lessened. The success of the therapy rested on her participation in what proved to be an emotionally demanding exercise had lessened. The success of the therapy rested on her participation in what proved to be an emotionally demanding exercise on to her child and her connection to her siblings, which made her feel less afraid when she ran into her son. When Rosa finished her therapy, her general and social functioning had improved, and her feelings of anxiety and despair had diminished. The effectiveness of the therapy depended on her willingness to engage in what turned out to be an emotionally draining activity.

The AEDP's theory of change, which predicts that changes come along with the relief of symptoms in effect and insecure attachment and that these changes occur within a strong secured therapeutic relationship, was further researched by Dr. Markin based on his clients in addition to this traditional case study (Markin et al., 2018). Maria, the client, stated that as she attempted to focus on her experience of abuse in the first session, she felt angry "I had to vent my anger today and think about the source of my rage. I learned that I have grievances against many individuals, and I understood that forgiving my father too quickly". Maria knew her forgiving her father so easily had caused her anger, and she wished to hold onto that feeling.

Maria was able to discern between unpleasant defense and fundamental feelings, which helped her develop a better awareness of herself and a sincere desire to forgive. Maria's therapist had "unconditionally welcomed her rage and anguish, which is in stark contrast to all her male attachment models", Maria said. Maria's thoughts about connection to other guys change as a result of this. Maria claimed that because of her contact with the male therapist, she has grown to feel "confident, joyful, and hopeful". Maria's symptoms significantly decreased as a result of this, and quite fast. Both attachment avoidance and anxiety considerably decreased between the first and third sessions, with anxiety finally settling into a healthy range. Maria said that she was living a wholly good lifestyle and that she was changing herself at the last session.

## 4.2. A Consideration of the Standard Measurement of Therapeutic Intervention's Success

The overall goal of psychology research is to improve treatments to be more efficient and successful for patients. Thus, measuring a therapeutic intervention's success is a significant benefit to study and the health outcomes that such research findings support. The first step in assessing the success of psychotherapy is to develop a method for measuring results. It entails deciding which factors to evaluate and developing assessment tools that can be applied in therapy settings. To ensure the efficiency of analysis is applicable, the psychological measurement result should be reliable and valid. Validity refers to the accuracy of the measurements (Borsboom et al., 2004). How each item in the survey is tested on the same items and whether they have the same purpose as the research topic are all examples of validity. Reliability refers to the consistency of a measure that how the result can be trusted and further applied to a large population (Clark et al., 1994; Roberts & Priest, 2006). Both of these factors are important to develop a successful measurement for participants. Psychotherapy outcomes can be measured in various ways, which is necessary to receive numerous ways to obtain information from patients, family members, therapists, and others.

### *Pre-Treatment Measurement*

*Readiness for Psychotherapy Index* is a psychological inventory is an important measure of a potential patient's willingness to begin the process of therapy (Ogrodniczuk et al., 2009). Evaluation of the probability of success is an important task when selecting patients for psychotherapy. The term "readiness" refers to the patient's positive attitude and preparedness to enter into a therapeutic relationship for the purpose of resolving problems. The term is often considered a highly important construct for clinicians. The Readiness for Psychotherapy Index (RPI) is a psychological inventory that includes a twenty-item scale that assessed four aspects of a patient's readiness.

This scale includes items of the client's age, sex, previous psychiatric treatment, social desirability, general psychiatric distress, and locus of control. The scale is always used before the intervention treatment for patients and the therapists to have an optimal match. It further provides help for patients in making the selection of psychotherapy. The RPI also could be used to assess the efficacy of pretreatment preparatory initiatives. Disinterest refers client's indifferent attitude toward the therapy, such as "my problems will eventually go away on their own." Perseverance is measuring whether clients will give up during therapy. It includes questions like, "Even if it's hard for me to do some things in therapy, I will stick with it to the end." Openness refers to how open clients have their minds to the therapist, that "I will have no trouble being completely honest and open in therapy." Finally, distress includes "My problems make me very unhappy," indicating how much the client needs to start therapy. The RPI is considered a valuable means to assess and select patients for psychotherapy.

### ***Within-Treatment Measurement***

#### ***The Session Evaluation Questionnaire***

(Stiles et al., 1994) *Questionnaire* was constructed as a within-treatment measurement includes 21 items in a 7-point bipolar adjective divided into “session evaluation” and “post-session mood” sections. The session evaluation measures how clients feel about the therapy, including items about bad-good, difficulty-easy, valuable-worthless, shallow-deep, etc. The post-session mood refers to the client’s mood state of the moment and includes items about happy-sad, angry-pleased, moving-still, etc. Each item is scored on a Likert scale from 1 and 7, which are then reverse-worded as necessary. Higher scores signify greater depth, smoothness, positivity, and arousal. The SEQ scale is reliable based on its high internal consistency among various session scenarios. It also maintains a strong convergent validity with other measures of therapy success.

#### ***Psychometric Properties of the Outcome Questionnaire-30.2***

The Psychometric Properties of the Outcome Questionnaire-30.2 refers to a brief assessment of a patient’s current functionality in managing various mental health issues (García-López et al., 2001). It is designed to measure patient progress through out mental health treatment. Intake scores can aid in the identification of areas of specific concern for the proper treatment plan. This scale is especially sensitive to short-term change within approximately one week’s time to assess client progress throughout therapy. This scale includes items like, “I have trouble falling asleep or staying asleep” and “I feel worthless”. These items measure how patients feel about their mental state following therapy. It is administered to patients 18 years and older. The total scale is calculated when 28 or more items are completed. High scores indicate increased distress due to a large number of symptoms including reported levels of enjoyment, interpersonal issues, and quality of life

(<https://www.ochealthinfo.com/sites/hca/files/import/data/files/80258.pdf>).

### ***Pre-Post-Treatment Measurement***

#### ***The Outcome Expectancies Scale***

The Outcome Expectancies Scale was created to assess the expected outcomes (positive or negative) of a client’s behavior, which significantly affect the process and outcome of psychotherapy (Price & Anderson, 2012). The Outcome Expectancies Scale can be used as both a pre- and post-treatment measurement. The pre-treatment scale refers to how the client’s expectation matches the behavioral outcome. It can assist patients in building their confidence in their ability to manage their mental health. As a pro-treatment scale, it measures the extent to which a therapeutic intervention successfully affected a patient’s behavior and has been led to a more positive way processing their emotions and thoughts. This scale involved thirty-four items, including the “benefits” and the “costs” scales. The benefits scale, which comprises twenty-one components, serves as a gauge of the anticipated benefits of positive behavioral change. For example, “Expect your future to look good”. The thirteen-item costs scale serves as a gauge of the disadvantages that the patient anticipates should a behavior change

take place. “Expect to feel depressed” is an example of the cost scale.

#### *The Interpretive and Supportive Technique Scale (ISTS)*

The Interpretive and Supportive Technique Scale (ISTS) was designed as a potentially effective method for assessing therapies in various types of dynamically-oriented psychotherapies (Piper et al., 2002). The scale is intended to evaluate technique and adherence to a variety of interpretative and supportive styles of psychodynamic psychotherapy. As a result, it has the potential to facilitate comparisons between therapeutic interventions. The first function is to assess therapist adherence to interpretive and supportive dynamic psychotherapy. The ISTS can also investigate the link between therapist technique and other key variables. The ISTS is designed to measure interpretive and supportive features of technique for a broad range of dynamically oriented psychotherapies.

### **4.3. Limitations to Current Therapy Assessment Instruments**

Across the majority of psychological assessment inventories, there exists a lack of strong external validity in their accurate measurement cross-culturally or intergenerationally. A mental health construct in one culture may be fundamentally different in another culture. This would make the construct validity in terms of how they are operationalized in a question set.

Based on limited self-report “explicit response” of patient, which may be biased by a poor interpretation of a survey question, by the bias of responding to or recognizing past behaviors or the need to report an anticipated emotion or behavior.

Self-reported responses can also be impacted by “Interviewer Bias” which is a means which to gain favor or acceptance of therapist or interviewer (Salazar, 1990). A third issue that is an unintentional bias is the temporal reference points of bounded self-reported inventories (Kyung et al., 2014). The distance in time from an event and how a question is asked about the time scale has been shown to change individual’s responses. This is a psychological phenomenon known as “temporal construal” and is one embedded in questions related to memories of past or future events.

### **4.4. Remote Mental Health Assessment**

Given the known limitations and biases inherent in traditional psychological inventories, other measures of the patient should be accounted, in addition to self-reported measures (Razavi, T. (2001). *Self-Report Measures: An Overview of Concerns and Limitations of Questionnaire Use in Occupational Stress Research*, 2001). Real-time measures of the patient’s body and behaviors can be captured remotely and sent to a clinician to alert them to significant variations that may signal a patient in crisis.

#### ***Remote Assessment***

Due to the fast development of remote, wearable measuring equipment, patients may be monitored more carefully than ever before. Products such as

Shimmer Sensing Research have been validated for remote assessment. More than 300 peer-reviewed articles confirm the wrist-based activity and sleep algorithms developed by Verisense. Patients wear these devices which collect data that is immediately transferred to the cloud storage. The sensor may be put anywhere on the body to unlock a number of metrics requiring accelerometer or gyroscope data. Such devices enable the remote recording of raw accelerometer and gyroscope data, as well as the capture of trial participants' activity and sleep parameters<sup>2</sup>.

Example metrics that this device captures that could be integrated into patient monitoring include activity metrics, such as the proportion of time spent in idle, light, moderate, or vigorous activity, sleep metrics, including total time in bed and sleep efficiency, and non-wear detection, meaning the total time the sensor is not worn.

#### *Possible Novel Self-Report Measurements to Consider*

In addition to remote psychophysical and self-report measurement via mobile devices, new ways to assess explicit self-report should be considered. For example, one drawback of self-reported mental health assessments is length. One possible update to “wordy” questions could be the use of emojis to measure self-report. Responding in emojis to express a patient's attitudes or emotions could help to ensure increase response rates by gamifying psychological inventories that assess mental health.

Combining emojis to query patients, along with behavioral path tracking, sleep data, social network sentiment scraping, among other data capture techniques could work to increase the predictive efficacy of monitoring and diagnosing changes in mental health. One caveat to consider in implementing emojis into mental health inventories is that they have strong internal validity in their ability to measure the construct they aim to measure. Some emojis are clearly understood to represent sadness or joy, while others can be interpreted in a multitude of ways.

### **4.5. Traditional Medical Interventions for Mental Health Treatment**

The U.S. Food and Drug Administration (FDA) has permitted pharmaceutical therapies throughout the last few decades due to long-term potentiation in the brain circuits of individuals with chronic mental illness. Among the five major kinds of antidepressants, selective serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs) are the most commonly prescribed, especially for initial therapy.

Typically, these medications function at the brain level, decreasing the neurotransmitter serotonin's metabolism (Marken & Munro, 2000). Serotonin is a chemical messenger, often known as a neurotransmitter, that regulates several biological activities. Serotonin is associated with emotions and also influences digestion and metabolism. This neurotransmitter resides between presynaptic and post synaptic neurons in the “synaptic cleft”. SSRIs function by blocking the

<sup>2</sup><https://shimmersensing.com/product/verisense-imu-activity-sleep-kit/>.

ion channel receptors in the post synaptic neuron, enabling serotonin to stay in the synaptic cleft junction of two neurons. This slows serotonin's metabolism and increases its effectiveness in altering the connection between neurons. This significantly modifies the global neural control of transmitter regulation and, in turn, the global brain activities preceding emotion processing and action.

Those practicing psychiatric treatment have adopted this method of altering brain chemistry for decades to alleviate depressive symptoms. Recovery rates with antidepressants are inconsistent and increases in negative sentiments have remained in a substantial number of patients taking these antidepressants, bringing into doubt their effectiveness in combating depressed symptoms. According to statistics from the National Center for Health Statistics (NCHS), between 2015 and 2018, 13.2% of U.S. adults reported using antidepressants over the preceding 30 days. The prevalence of antidepressant use has grown dramatically from 10.6% in 2009-2010 to 13.8% in 2017-2018. Women's rise rate is also greater (from 13.8% to 19.6%) than men's (7.1% to 8.6%)<sup>3</sup>. After two years of pharmacological intervention, patients who use antidepressants report a decline in their physical, mental, and overall quality of life compared to those who do not<sup>4</sup>.

With longitudinal research on the older population (aged 75 and higher) with antidepressants taken, then the antidepressant user has increased from 8.1% (2007-2008) to 11.7% (2013-2014), but the overall suicide rate also increased from 12 (2007-2008) increased to 19 (2013-2014) per 100,000 people (Curtin, 2020; Kitenge et al., 2019).

Pharmaceuticals have been evidenced to show varying success rates.

#### *Serotonin Reuptake Inhibitor Treatment (SSRIs)*

While widely prescribed, there has been recent evidence that serotonin and depression levels are not significantly linked, which calls into question the use of traditional SSRI treatments. In a large meta-analysis that investigated correlations between serotonin levels and reported depression, researchers found that "The main areas of serotonin research provide no consistent evidence of there being an association between serotonin and depression, and no support for the hypothesis that depression is caused by lowered serotonin activity or concentrations. Some evidence was consistent with the possibility that long-term antidepressant use reduces serotonin concentration" (Moncrieff et al., 2022).

Given the apparent lack of connection between serotonin levels and depression, current treatment using SSRIs or traditional antidepressants is in question. Neuroscientists, clinicians, and government organizations now consider novel forms of drug treatment, which may show an increase in the efficacy of mental health treatment. Psychedelic compounds, once taboo and associated with specific social dynamics of "drug culture," are now becoming accepted across the medical community. Psychedelics such as psilocybin, MDMA, ketamine, and

<sup>3</sup><https://www.cdc.gov/nchs/products/databriefs/db377>

<sup>4</sup><https://www.usnews.com/news/health-news/articles/2022-04-20/in-long-run-antidepressants-dont-improve-quality-of-life-study>



ayahuasca mimic naturally occurring neurotransmitters and can establish neural conditions for positive changes in thought patterns, effectively disrupting long-term potentiation patterns in neural architecture that may be detrimental to mental health.

#### **4.6. Non-Traditional Medical Interventions for Mental Illness**

##### ***Psilocybin***

Psilocybin is a hallucinogenic substance present in native European, South American, Mexican, and American mushrooms. Psilocybin functions by activating serotonin receptors, predominantly in the prefrontal cortex. The prefrontal cortex is involved in emotion, cognition, and perceptual processing. Additionally, hallucinogens alter areas of the brain that regulate arousal and panic responses. It will also affect the user's perception of individuals and items already present in the surroundings. The hallucinatory effects of psilocybin often begin 30 minutes after administration and persist for 4 to 6 hours (Tylš et al., 2014). In some individuals, changes in sensory perception and thinking processes might linger for days. Psilocybin's effects can be affected by the amount of substance ingested, past experiences, and expectations of how the experience would unfold. The effects of psilocybin include changed perceptions of time and space, as well as dramatic variations in mood and emotion. Its effects depend on the mental condition, mood, and circumstances of the individual. A hallucinogen may also produce significant anxiety and short-term psychosis in individuals with a mental health problem or anxiety<sup>5</sup>. Recent research indicates that psilocybin and comparable hallucinogens are effective antidepressants. Following an 8-month study, researchers determined that psilocybin can help people with alcohol dependence disorders better control their drinking. Forty-eight percent of psilocybin-using study participants had entirely given up alcohol usage. This is double the amount of placebo group members who were able to abstain.

##### ***MDMA***

MDMA stands for 3,4-methylenedioxymethamphetamine, which is a synthetic substance that affects mood and perception. It has a chemical structure with stimulants and hallucinogens. In the brain, MDMA will stimulate dopamine, serotonin, and norepinephrine. The activation of dopamine will raise the energy of the reward system, resulting in enhanced behavior. The rise in norepinephrine will cause an increase in heart rate and blood pressure, which may pose a concern to those with heart and blood vessel conditions. Last but not least, serotonin influences mood, hunger, sleep, and other activities. Additionally, it boosts hormones that impact sexual desire and trust. MDMA users are likely to experience emotional connection, enhanced mood, and empathy due to the release of huge levels of serotonin. The duration of the impact is between 3 and 6 hours<sup>6</sup>. Acute MDMA effects include enhanced extroversion, emotional warmth, empathy for others, and a readiness to communicate emotionally charged events.

<sup>5</sup><https://www.medicalnewstoday.com/articles/308850#effects>

<sup>6</sup><https://nida.nih.gov/publications/drugfacts/mdma-ecstasy.html>

Additionally, it may have immediate negative consequences. In life-threatening conditions, hypertension, fainting, panic attacks, and even loss of consciousness and seizures might occur. The subacute consequences of recreational MDMA usage are characterized by drug-free intervals lasting a few days following recurrent drug use (Parrott & Lasky, 1998). This drug usage pattern will result in an abnormal heartbeat and cardiac damage. A week of MDMA use may also result in symptoms of sadness, attention, and memory, as well as anxiety, attractiveness, and rage. Regular MDMA usage causes sleep disruptions, appetite loss, concentration difficulties, depression, cardiovascular illness, and impulsivity. Even with prolonged usage, cognitive impairment is a possibility<sup>7</sup>. Additionally, it is essential to know that MDMA may create drug dependence problem. However, there is no specific treatment for MDMA drug dependence problem<sup>8</sup>.

### ***Ketamine***

Ketamine is a short-acting anesthetic and pain reliever. It is utilized largely as a sedative in veterinary surgery (Corrigan & Pickering, 2019). The glutamate system, which is involved in the transmission of neuronal networks in the brain, is affected by ketamine.

When administered at large dosages, ketamine inhibits glutamate, rendering it an effective anesthetic. On the other hand, at low levels, glutamate production is boosted<sup>9</sup>. This can cause a variety of medication responses. Some people may hallucinate or lose touch with reality. It may also facilitate the formation of new synapses or connections between neurons. <sup>10</sup>Ketamine is now used as a possible therapy for depression and suicide ideation.

The FDA has authorized one kind of ketamine as a depression therapy. Spravato is a ketamine nasal spray for individuals who have not responded to antidepressant medication, who continue to exhibit signs of serious depression, or who are suicidal. With a doctor's approval, they receive ketamine as an adjunct therapy while continuing to take their existing antidepressant<sup>11</sup>.

### ***Ayahuasca***

The plant ayahuasca induces hallucinations. It looks brownish-reddish and has a strong flavor and aroma. It was produced by prolonged heating or boiling of Banisteriopsis caapi vine with Psychotria iridic bush leaves. All of a person's senses are affected, which might change their thoughts, perception of time, and emotions. They have the ability to produce hallucinations, as well as distorted or nonexistent visions and sounds<sup>12</sup>.

By lowering mood, the pharmacological components of ayahuasca can aid in reducing the symptoms of the depressive disease. Because of this, ayahuasca can be used to stop suicide, sadness, bereavement, and many other things, although

<sup>7</sup><https://nida.nih.gov/publications/research-reports/mdma-ecstasy-abuse/what-are-effects-mdma>

<sup>8</sup><https://nida.nih.gov/publications/drugfacts/mdma-ecstasy-molly>

<sup>9</sup><https://www.webmd.com/depression/features/what-does-ketamine-do-your-brain>

<sup>10</sup><https://www.newfrontierspsychiatry.com/what-ketamine-actually-does-to-the-brain/>

<sup>11</sup><https://www.webmd.com/depression/features/what-does-ketamine-do-your-brain>

<sup>12</sup><https://adf.org.au/drug-facts/ayahuasca/#:~:text=What%20is%20ayahuasca%3F,not%20exist%20or%20are%20distorted>

there isn't any scientific proof for these applications<sup>13</sup>. In addition to hallucinations, tremors, dilated pupils, elevated blood pressure, nausea, and vomiting are side effects of ayahuasca usage. Use it carefully and with caution since it may also be a dangerous hallucinogen that can cause life-threatening symptoms<sup>14</sup>.

#### **4.7. Proposed Considerations of Use of MDMA and Clinical Therapy**

In conjunction with marital therapy, MDMA can be used. Couple therapy focuses on improving the relationship, addressing current issues, and addressing mental health issues in one or both spouses. The four mental impact components of emotion, cognition, behavior, and physical experience are the emphasis of how MDMA supports marital therapy. Prosocial sentiments and empathy are two skills that can be improved by MDMA. Additionally, it was shown that MDMA enhanced awareness of upbeat emotional cues. In a particular therapeutic setting, MDMA can assist patients in feeling less apprehensive and dealing with difficult emotions more compassionately and with less self-defense. In terms of behavior, it has been shown that MDMA can affect speech and encourage more interpersonal interaction and teamwork. The assist-therapy properties of MDMA may promote more participation and risk-taking with regard to interpersonal vulnerability. Due to increased reflection and outstanding communication reporting, the couple's relationship management and engagement experienced behaviorally rewarding opportunities. One of the putative psycho-cognitive benefits of MDMA is the ability to process difficult memories, which may be brought about by a decreased sensation of fear and an increase in interpersonal trust. Another is the capacity to think clearly without letting the feelings that such thoughts might typically arouse get in the way. Strong physical recollections of previous experiences that make it simpler to revisit those memories in the safe haven of a therapeutic environment may be among the somatic effects of MDMA, especially those that relate to psychological processes. The two could also have physically soothing or relaxing sensations, which can be reassuring (Mitchell et al., 2021; Parrott, 2007; Parrott & Lasky, 1998; Sessa, 2018).

In a recent research study, the use of MDMA as an additional treatment for people with severe PTSD was investigated. It appeared in the journal *Nature Medicine*. The study's conclusions suggest that those using safe, well-tolerated medicine may benefit greatly from MDMA. The researcher's findings suggest that MDMA-assisted therapy has the potential to be a revolutionary treatment and just needs a rapid clinical examination.<sup>15</sup>

#### **4.8. Novel Integrations into AEDP Approach - Psychotropics & Remote Measurement**

This time in the history of clinical practice has never been more promising. With the advance practice of AEDP therapy, boundaries between patient and clinician

<sup>13</sup><https://www.webmd.com/vitamins/ai/ingredientmono-1550/ayahuasca>

<sup>14</sup><https://www.webmd.com/vitamins/ai/ingredientmono-1550/ayahuasca>

<sup>15</sup><https://www.nature.com/articles/s41591-021-01336-3>

are now able to be carefully deconstructed, allowing for stronger relationship bonds and built trust. This therapeutic style lends itself well to use of non-traditional medical interventions, such as ketamine, MDMA, and ayahuasca. AEDP clinicians could come together and develop a doctrine that helps to set a standard care practice to guide patients through these medical interventions in a safe and consistent fashion.

Along with the AEDP guided medical sessions, clinicians can take advantage of new real time monitoring of patients using remote data capture devices mentioned earlier in the paper. This would allow an individualized monitoring to become a standard practice, with each patient having a unique series of baseline data to measure against. If a patient's physiological or behavioral measurements begin to vary significantly from that baseline, an AEDP clinician can be alerted and at the ready for near-term treatment.

## 5. Conclusion

Given the rapid advances in telehealth, remote "real-time" patient measurement from novel medical-grade monitoring devices, and significant advances in mental health therapy, such as the partnership model of Accelerated Experiential Dynamic Psychotherapy, treatment will undoubtedly see incredible advances. There has never been a more critical time to consider interdisciplinary measurement and monitoring of new drug therapies that the FDA will soon approve.

Without guided dosage of psychedelics such as Ketamine, ayahuasca, and MDMA patient monitoring paired with therapeutic treatment, patients alone will likely not be equipped to process psychedelic medications. AEDP combined with wearable measurement devices that consistently monitor the psychophysiological and behavioral patterns of a patient.

If a mandated or legislated pairing of therapy and guided use sessions for psychedelic treatments are not approved in the near term, FDA approval could be removed from what are proving to be fundamental advances in mental health. With proper mandated clinical treatment paired with remote monitoring, the FDA would be in a much better position to feel that patient outcomes will be safe and effective.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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