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Psychological Treatment of Addictive Behaviors: A Contextual, Process-Based Approach

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ABSTRACT

Addictive behaviors, both substance and non-substance-related, share many clinical characteristics, including etiology, course, and relapse determinants. This co-occurrence suggests that they are, in fact, different expressions of the same underlying disorder. This paper presents a transdiagnostic proposal for classifying the maintenance variables and the possible specific change mechanisms or processes that operate in psychological treatments for addictive behaviors, which have shown some evidence of effectiveness. The model includes ten maintenance variables, as well as the change processes of these variables that are modifiable, through which psychological interventions work. This proposal aligns with the cognitive-behavioral contextual approach, which aims for much broader goals than symptom elimination, typical of the medical model. It includes procedures that comprehensively address not only drug use or other addictive behaviors but also a wide range of psychological problems that often co-occur with addictive disorders.

El Tratamiento Psicológico de las Conductas Adictivas: un Enfoque Contextual Basado en Procesos


RESUMEN

Las conductas adictivas, con y sin sustancia, comparten muchas características clínicas, incluyendo la etiología, el curso y los determinantes de las recaídas. Esta concurrencia señala que, en realidad, se trata de expresiones diferentes de un mismo trastorno subyacente común. En este trabajo se presenta una propuesta transdiagnóstica de clasificación de las variables de mantenimiento y de los posibles mecanismos o procesos de cambio específicos que operan en los tratamientos psicológicos de las conductas adictivas, que han mostrado cierta evidencia de efectividad. El modelo incluye diez variables de mantenimiento, así como los procesos de cambio de dichas variables que son moldeables y a través de los cuales las intervenciones psicológicas funcionan. Esta propuesta encaja con el enfoque contextual cognitivo-conductual, el cual persigue objetivos mucho más amplios que la eliminación de los síntomas, propios del modelo médico, y contiene procedimientos que abordan conjuntamente y de forma integral no solo las conductas de uso de drogas u otras conductas adictivas, sino también un amplio rango de problemas psicológicos que a menudo concurren con los trastornos adictivos.

Palabras clave

Conductas adictivas
Procesos de cambio
Transdiagnóstico
Tratamiento psicológico

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The contextual model of cognitive-behavioral therapy (CBT) encompasses a series of process-focused interventions that examine psychological events in terms of the interaction of the person with the context. The contextual perspective adopted here is a departure from the traditional view of CBT that has uncritically followed the medical model (and diagnostic classification systems) and that involves ignoring the importance of situational and contextual factors in understanding addictive behaviors and psychological problems. In the opposite camp, authors of the contextual model claim the primacy of common factors (in particular, the therapeutic alliance) as responsible for therapeutic change, as opposed to active ingredients. However, this perspective falls into the same type of bias by disregarding psychological techniques and their influence on changes in mental disorders (Hofmann & Hayes, 2018). Analyzing this important issue from a dichotomous perspective is a mistake. The pathways by which psychological treatments exert their influence are various and complementary, and are both nonspecific, such as the therapeutic alliance or patient expectations, and specific (the psychological techniques), and induce people to engage in behavioral changes. The impact of common factors, including the therapeutic relationship, is not sufficient to produce the maximum potential effect on treatment outcomes (Hofmann & Hayes, 2018).

In the field of psychological treatments, a mechanism of behavior change refers to the processes through which a treatment (or an independent variable) produces a change (Kazdin, 2007). The term "mechanism" implies greater specificity than the term "mediator" in that it explains how the intervention translates into events leading to the outcome (the reasons why the change occurred or how it occurred), whereas the mediator does not specifically explain how the change occurred. The question of how to identify a mechanism of behavior change is very complex and requires the consideration of many interacting variables in order to establish causal inference from observational data. From a causal inference approach, the key requirements for establishing a behavioral change mechanism are the existence of a robust association, specificity, gradient, experimentation, temporal relationship, consistency, and coherence (Kazdin, 2007; Witkiewitz et al., 2022). In contrast to this, the molar behavioral approach (see the first article of this monograph) (Secades-Villa, 2025) adopts a broader temporal perspective and seeks to identify associations between environment and behavior over time, for the purpose of a final cause analysis. Discrete behavioral acts are part of a broader pattern of behavior that occurs over time in the environmental context. Moreover, contexts also change, so it is not required that a given environmental stimulus precede a discrete behavioral act in a temporally contiguous relationship, as is intended in the causal inference approach. Instead, the molar analysis focuses on establishing correlations over time between environmental conditions and behavioral patterns (Witkiewitz et al., 2022).

This paper presents a proposed classification of the possible mechanisms or specific processes of change that operate in psychological treatments of addictive behaviors, which have shown some evidence of effectiveness (see Table 1). This is a transdiagnostic proposal in the sense that it covers the treatment of both substance use disorders (SUD) and behavioral addictions. It is based on the

essential idea that addictive disorders share the same maintenance variables and mechanisms of change, even though there may be different expressions in their presentation (Kim & Hodgins, 2018). Moreover, the maintenance factors that explain addictive behaviors and, therefore, the processes of change, are highly interrelated with each other, so many of these processes are common to several empirically supported therapies. Obviously, taking into account the ideographic approach of the contextual model, this is not an intervention proposal that should be applied uniformly to all people with addiction problems, but rather one that must be adapted to the characteristics of each particular case.

The contextual cognitive-behavioral perspective, including traditional CBT, for the treatment of addictive behaviors pursues much broader goals than the elimination of symptoms, typical of the medical model, and contains procedures that jointly and comprehensively address not only drug use behaviors or other addictive behaviors, but also a wide range of psychological problems that often co-occur with addictive disorders and have a high clinical and social relevance (Tiffany et al., 2012). The goals of the contextual model of CBT include changes in the domains of health, psychological functioning, quality of life, social relationships, criminal behavior, job placement, and core values. These outcome variables, distinct from addictive behavior itself, can provide crucial information about the mechanisms responsible for the efficacy and effectiveness of psychological treatments.

The following pages describe these maintenance factors (see also the second article of this monograph) (González-Roz, Iza-Fernández & Alemán-Moussa, 2025) as well as the mechanisms of change and the psychological interventions that, in one way or another, act upon on these mechanisms.

Lack of Motivation for Change or Ambivalence

Lack of motivation to change is one of the most recognizable particularities of addictive behaviors and although it is a very common phenomenon at the beginning of an intervention (Miller & Moyers, 2015), lack of motivation can occur at any stage of the treatment process. Prochaska & DiClemente (1982, 1983) established five stages depending on the level of motivation (precontemplation, contemplation, preparation, action, and maintenance). Ambivalence (i.e., simultaneously expressing motives for and against changing) is a normal process on the path to change and, in fact, is a step up from the precontemplation stage, where the intention to change is not even considered (Miller & Rollnick, 2015; Shaffer & Simoneau, 2001).

Several processes are involved, as well as interventions aimed at fostering a person's motivation and commitment to change, with motivational interviewing (MI) standing out among them (Miller & Rollnick, 2015). MI is a type of brief intervention (Carballo & Coloma-Carmona, 2025) that entails of having a conversation about change, such that it is the client, and not the therapist, who expresses the arguments in favor of change, using techniques such as evocation of changes in language through open questions, decisional balance (pros/cons of stopping using), the creation of the discrepancy (e.g. between current behavior and core values), or personalized feedback (presenting objective clinical information about the

Table 1*Processes of Change and Psychological Interventions in Addictive Behaviors*

Variable	Process	Intervention
Lack of motivation for change or ambivalence	<ul style="list-style-type: none"> Awareness of the costs and negative consequences of addictive behavior Elicit (evoke) change talk Clarification of core values Modification of normative beliefs Creation of doubts and concerns Reduction of perceived barriers to dropout Increased opportunity cost of the addictive behavior Reinforcement of abstinence and alternative behaviors to consumption Awareness of the ineffectiveness of attempts to control unpleasant internal states 	<ul style="list-style-type: none"> Psychoeducation Drug use monitoring and personalized feedback Evocative open questions Confronting values and behavior Create discrepancy Decisional balance Use of incentives and social/natural reinforcers Contingency contracts Experiential exercises, metaphors, and paradoxes that address creative hopelessness
Lack of clarification of core values	<ul style="list-style-type: none"> Identification of core values Matching of behavioral objectives linked to core values 	<ul style="list-style-type: none"> Create discrepancy Establishment of goals and behavioral commitment Confronting values and behavior Experiential exercises, metaphors, and paradoxes Programming of reinforcing activities consistent with values
Cue reactivity	<ul style="list-style-type: none"> Awareness of discriminative stimuli preceding addictive behavior Modification of environmental conditions that facilitate addictive behavior Extinction of conditioned response to discriminative stimuli associated with addictive behavior Increased self-efficacy in managing risk situations Improved social and coping skills 	<ul style="list-style-type: none"> Functional analysis Monitoring of risk situations Stimulus control (avoidance) Decision-making training Relaxation/breathing training Exposure to stimuli with response prevention Social and coping skills training (modeling, role-playing, corrective feedback, and reinforcement) Reinforcement of alternative behaviors
Craving	<ul style="list-style-type: none"> Counterconditioning Openness to distress (acceptance, cognitive defusion, and self-as-context) Contact with the present moment and development of the "observing self" Increased psychological flexibility in the face of unpleasant emotions and sensations associated with craving 	<ul style="list-style-type: none"> Relaxation/breathing training Exposure to stimuli Alternative activities Experiential exercises, metaphors, and paradoxes Mindfulness
Social skills deficits and lack of social support	<ul style="list-style-type: none"> Increased social skills Increased social support 	<ul style="list-style-type: none"> Training in problem-solving skills Job seeking/social skills training Skills training to improve family and/or couple relationships Reinforcer exchange in family contexts
Difficulties in emotional regulation	<ul style="list-style-type: none"> Improved emotional regulation Increased awareness, understanding, and acceptance of emotions Increased cognitive flexibility Acceptance of emotions Reduced vulnerability to intense emotional states Development of mindfulness skills (participation and presence in the present moment) 	<ul style="list-style-type: none"> Psychoeducation Cognitive restructuring Relaxation/breathing training Skills training Exposure to stimuli Scheduling of activities Training in distress tolerance and regulation skills Exposure to private events Mindfulness
Impulsivity	<ul style="list-style-type: none"> Decrease in the automaticity of addictive behavior Adoption of a forward-looking and reward-oriented decision-making framework Improvement of deliberative processes Increased opportunity cost of the addictive behavior Reinforcement of abstinence and alternative behaviors and/or ones that are incompatible with consumption Increased psychological flexibility Development of mindfulness skills Reduced vulnerability to intense emotional states that precede addictive behavior 	<ul style="list-style-type: none"> Interpersonal and problem-solving skills training Training in vivid visualization of future events Use of incentives Programming of alternative reinforcing activities Experiential exercises, metaphors, and paradoxes Mindfulness practices Training in emotional regulation skills and distress tolerance
High reinforcing value of addictive behavior	<ul style="list-style-type: none"> Reinforcement of abstinence Increased price and availability restrictions on addictive behavior Increased opportunity cost of the addictive behavior Increased value and access to alternative reinforcers 	<ul style="list-style-type: none"> Use of incentives Stimulus control Skills training Programming of alternative reinforcing activities
Low sensitivity and/or availability of alternative reinforcers	<ul style="list-style-type: none"> Reduction of limitations and costs of drug-free activities Increase in alternative reinforcing activities Enhanced ability (interest) to attend to alternative reinforcers 	<ul style="list-style-type: none"> Use of incentives Programming of reinforcing activities Social skills training Working memory training Training in the modification of attentional biases
Expectations and irrational thoughts	<ul style="list-style-type: none"> Changing cognitive biases, erroneous beliefs, and expectations 	<ul style="list-style-type: none"> Psychoeducation Cognitive restructuring Exposure <i>in vivo</i> or in imagination

problematic behavior). The professional adopts an empathic stance and reinforces the person's self-efficacy (Coloma-Carmona & Carballo, 2022), which reduces ambivalence and increases motivation for change, tipping the balance in favor of abandoning the addictive behavior.

Contingency management (CM) is used primarily in the early phases of treatment in people with limited environmental support to achieve abstinence or commitment to treatment (Secades-Villa, García-Rodríguez & Fernández-Hermida, 2015). CM is an operant conditioning-based procedure in which treatment goals (such as abstinence or adherence) are reinforced, verified by objective evidence, such as biochemical testing (Petry, 2011). It is usually used in conjunction with contingency contracts in which, among other conditions, the characteristics of the CM protocol are specified. One of the most widespread procedures is based on the delivery of incentives, tangible reinforcers (vouchers) redeemable for various goods or services such as sports or self-care activities, which allows people to choose among several reinforcers that compete with substance use (Weidberg et al., 2022). CM increases motivation to change in that it increases the opportunity cost (i.e., the loss of alternative reinforcers), since access to the reinforcer is incompatible with engaging in the addictive behavior.

Acceptance and Commitment Therapy (ACT) is a therapy aimed at increasing psychological flexibility (Wilson et al., 2012). In its initial phases it increases motivation for change through creative hopelessness. Its objective is for the person to give up everything that has not worked for them in order to try to control their physical or emotional distress, since trying to control unpleasant internal experiences (e.g., craving, sadness) through substance use is what got them into the addiction loop (González-Menéndez et al., 2022). Different experiential exercises, paradoxes, and metaphors (e.g., the Chinese finger trap, the person-in-the-hole metaphor, the tug-of-war with a monster metaphor), which form the backbone of the therapy, allow the person to differentiate between what matters, what they do, and what they get (Luciano et al., 2010). This opens up the possibility of facing the distress without consuming (acceptance), while simultaneously clarifying their values and making decisions in alignment with them (commitment).

Lack of Clarification of Core Values

For the contextual approach of CBT, it is important to clarify what values are important to the person and to get them to act in the various domains of life (work/education, personal relationships, physical health, etc.) in line with these. It is not so much a matter of fighting against what the person feels or thinks in relation to the addictive object, but of behaviorally moving towards alternative valued goals (Hayes, 2004).

Values work is a fundamental goal in motivational interviewing (MI), behavioral activation (BA), and especially acceptance and commitment therapy (ACT). MI seeks to address ambivalence and increase (evoke) motivation for change by creating a discrepancy and establishing a behavioral commitment in accordance with the person's significant core values.

Planning pleasurable activities with the aim of fulfilling personally meaningful life goals is also a central process in BA. In

particular, the LETS ACT protocol (Daughters et al., 2016) focuses on the link between mood and substance use and seeks to identify substance-free, goal-oriented forms of positive reinforcement. Daily activity monitoring aims to identify activities that have low relevance (discordant with core values) and low enjoyment (low reinforcing), in order to select new, more reinforcing and value-oriented activities that are meaningful to the individual. BA is based on the notion that the person has to act and get involved in activities that are meaningful to them, even if they lack the initial motivation. This is done to break the cycle of behavioral inactivation and engagement in behaviors with a low rate of reinforcement or that are incompatible with significant core values, which underlie both depression and addictive behavior, with a view to the horizon of values that are meaningful to the individual (Martell et al., 2010).

ACT proposes to change the person's relationship with their own experience of distress (derived from abstinence), through involvement in activities congruent with values that truly matter, despite those unpleasant experiences (Luciano et al., 2010; Pérez-Álvarez, 2014). Initially, work is done with behavioral exercises and/or metaphors that are structured by time or activity, and not by symptom severity (craving, withdrawal symptoms) (González-Menéndez et al., 2022). In the early phases, both the values and the tasks or exercises of commitment to them are more concrete and shorter, whereas as the intervention progresses and the person becomes more psychologically flexible, the "size" of the values and of the commitment exercises is greater and they even transcend the duration of the therapy (actions committed to the future), at which point general life domains (education, relationships, etc.) are incorporated (González-Menéndez et al., 2022). Metaphors such as the journey or the garden (Wilson & Luciano, 2002) allow the person to understand that the process of taking a valuable direction does not mean that at every moment the results one desires are evident, but rather that it includes circumstances of all kinds, more or less pleasant, in which the choice of the chosen life goal is revalued. Experiential exercises are intended to help the person understand the importance of accepting unpleasant private events while acting in the direction of values that matter to them, such as the "physicalizing barriers" exercise (Wilson & Luciano, 2002).

Cue Reactivity

Environmental stimuli present before the response occurs play a decisive role in the maintenance and relapse of addictive behaviors (Bickel & Kelly, 1988), which is why stimulus control is essential throughout the therapeutic process, especially in the early stages of treatment. Stimulus control is a procedure that usually consists of restricting exposure to the discriminative stimulus (e.g., places, people) that controls the behavior (Bickel & Kelly, 1988). Functional behavioral analysis helps the person to become aware of the discriminative stimuli that precede the addictive behavior (to identify high-risk situations), while training in decision making and coping skills provides strategies to avoid involvement in addictive behaviors in these types of situations. In contrast, exposure with response prevention aims to extinguish the addictive behavior by

reducing the value of the stimuli associated with it (e.g., a bar) through gradual exposure without performing that behavior (drinking alcohol, gambling at the slot machine), which increases the person's self-control (Bergeron et al., 2022). The aim is that the conditioned stimulus does not evoke the conditioned response (desire to drink or gamble), or that the stimulus is stripped of the discriminative stimulus function that increases the possibility of drinking or gambling (Ferrer García et al., 2022). Skills training helps to expand the behavioral repertoire of individuals in the presence of the addictive stimulus.

The set of cognitive-behavioral techniques encompassed under the term "relapse prevention" address the phenomenon of relapse by reinforcing coping strategies to maintain abstinence (Sánchez Hervás et al., 2022). First, risk situations are identified and a procedure is established to reduce the likelihood of an initial use (lapse) occurring. If it does occur, the person is trained to prevent the abstinence violation effect (feeling of loss of control after breaking the no-use rule), which could lead to a pattern of impulsive behaviors that trigger a full relapse (return to the previous pattern of use) (Marlatt et al., 2002).

Craving

Although craving is considered a central component of addiction, there is no common definition shared by all clinicians and researchers (Drummond et al., 2000). Numerous models have been suggested for the mechanisms underlying craving, including neuroadaptive, cognitive, and learning-based models. In this context, craving is conceived as the intense desire or urge to consume a substance or to engage in addictive behavior in order to avoid unpleasant physiological and/or psychological states associated with the absence of the substance (withdrawal syndrome) or the desire to seek the positive (reinforcing) effect of the addictive object (Drummond et al., 2000). It is a rigid and repetitive (compulsive) pattern of responses that is maintained over time forming a cycle of negative and/or positive reinforcement (Koob, 2017). Individuals with addictive disorders often exhibit ruminative thoughts around substance use, focusing their attention on the internal state, which is also known as hyperreflexivity (Ingram, 1990).

CBT employs relaxation/breathing techniques aimed at reducing the intense physiological activation associated with craving and breaking the automaticity linked to the desire to consume, offering an adaptive behavioral alternative that helps control the associated stress levels (Louvardi et al., 2021). Involvement in alternative activities is also important to disrupt this automatic pattern.

Instead of using techniques to reduce distress, ACT encourages openness to experience it (Wilson et al., 2012). With the aim of breaking the addiction loop, the therapy focuses on psychological flexibility, with special emphasis on addressing the self-as-context (e.g., through the metaphor of the chessboard), which aims to develop self-awareness as an observing self that witnesses the present experience without judgment (González-Menéndez et al., 2022).

Finally, mindfulness employed in Mindfulness-Based Relapse Prevention (MBRP), ACT, and Dialectical Behavioral Therapy

(DBT) can also reduce compulsive behaviors in the presence of craving (Tapper, 2018) by providing the means to manage urges without feeling overcome by them (Bowen et al., 2013). Intentionally focusing attention on breathing and noticing when the mind "wanders" to refocus it on the present moment leads to improvements in the ability to attend to other elements unrelated to the substance, increases body awareness, facilitates emotion regulation, and produces a change in self-perspective (Hölzel et al., 2011).

Deficits in Social/Coping Skills and Lack of Social Support

Deficits in social support affect the entire addictive process, from its onset to potential recovery (Carter-Rogers et al., 2024; Wang et al., 2024). Interactions with family and/or significant others in the environment can become a source of support that helps the recovery process from addictive behaviors (García-Fernández et al., 2022). However, ineffective supportive behaviors, even when well-intentioned, can serve to enable dysfunctional coping mechanisms in the person presenting with addictive behavior (Calkins & Brock, 2020; Kim & Hodgins, 2018).

Within the framework of family behavioral therapy, various strategies are employed that incorporate working with the family, including training in communication skills aimed at improving the family relationships and climate, counseling parents with children with behavioral problems, or the exchange of reinforcers in family contexts (Donohue et al., 2014; García-Fernández et al., 2022).

Family behavioral therapy has its theoretical basis in the Community Reinforcement Approach (CRA) (Hunt & Azrin, 1973). CRA emphasizes the importance of environmental factors in the intervention of addictive behaviors, using family, social, vocational and/or recreational reinforcers. Both CRA and the Community Reinforcement and Family Training (CRAFT) approach are based on the idea that significant people in the environment can play a key role in reinforcing or extinguishing addictive behavior (García-Fernández et al., 2022). CRAFT seeks to reduce addictive behavior indirectly, intervening with the person's family and/or close social environment to provide them with a range of techniques that contribute to reducing substance use and initiating treatment (Meyers et al., 2005). In the first phase, significant others are provided with skills aimed at reducing the addictive behavior, motivating the person to become involved in treatment, and improving the family climate. The second phase is aimed directly at the individuals who present the addictive behavior, using an MI approach in the first sessions, followed by the application of the CRA intervention.

Couples behavioral therapy primarily aims to restructure the interaction patterns of the couple with the dual intention of achieving long-term abstinence from the addictive behavior and improving the dynamics of the relationship, addressing both issues in an integrated manner (Fals-Stewart et al., 2004). It has the following cognitive-behavioral components: recovery and abstinence contract, recognition of positive behaviors in the other partner, planning of activities aimed at increasing the presence of pleasant emotions in the other partner, planning of shared activities and training in constructive communication skills, as well as relapse prevention (Fals-Stewart et al., 2009).

Difficulties in Emotional Regulation

The difficulty in identifying one's own emotions and/or applying appropriate strategies to regulate emotional responses plays a fundamental role in the process of overcoming addictive behaviors (McRae & Gross, 2020; Roos & Witkiewitz, 2017). Interventions aimed at developing emotional regulation skills may seek to modify behavioral responses toward both internal emotional experiences (e.g., stress, anxiety) and external ones (e.g., arguments with a partner) (Roos & Witkiewitz, 2017).

From the perspective of traditional CBT, the procedures employed (psychoeducation, relaxation, exposure with response prevention, cognitive restructuring) seek to reduce or extinguish such aversive private events. For example, exposure with response prevention promotes habituation to the conditioned cues previously associated with the addictive behavior, which in turn involves the gradual reduction of the aversive emotional states triggered by exposure to these cues without engaging in the addictive behavior (i.e., response prevention). Another example is cognitive restructuring, which focuses on detecting and challenging the factual basis of erroneous cognitions, thereby reducing aversive emotional states.

DBT was originally designed to address emotional dysregulation in individuals with borderline personality disorder (Linehan, 2015), but over time it has been extended to the field of addictive behaviors. DBT, ACT, and MBRP all train emotional regulation skills through awareness and acceptance of negative or unpleasant internal experiences (craving, withdrawal symptoms, distressing thoughts). The aim is for the internal emotional behavior not to exert control over the addictive (external) behavior, no matter how aversive it is. Thus, the emotional experience itself does not need to be modified (González-Menéndez et al., 2022). These interventions emphasize the acceptance of such emotional events and the establishing of a link between the overt behavior and the chosen core values (i.e., even when experiencing unpleasant emotions, the person chooses to remain abstinent because it aligns with their core values).

Impulsivity

Various interventions aim to decrease the automaticity of addictive behavior by promoting future-oriented decision-making based on the magnitude of rewards rather than their delay (delay discounting), or by teaching skills to avoid impulsive actions in the presence of positive or negative emotions (positive or negative urgency). Alterations in decision-making processes are both a cause and consequence of addictive disorders (Verdejo-García et al., 2018).

The problem-solving and interpersonal skills training of CBT are especially relevant for reducing impulsive behaviors. The aim is to equip the individual with effective strategies to refuse offers of consumption, seek social support, and manage problems in an alternative way to engaging in the addictive behavior (McHugh et al., 2010). This expands their adaptive behavioral repertoire, enabling them to process both pleasant and unpleasant emotions.

CM trains attention to the costs of obtaining the immediate reward of substance use, as access to alternative reinforcers occurs only when drug use has not occurred (Higgins, 1994). CM is effective because it offers a concrete and immediate alternative to

drug use, and enhances deliberative processes to attend to non-drug options, counteracting more automatic action-selection systems (Regier & Redish, 2015). CM creates a choice context in which the alternative reward (i.e., abstinence rather than drug use) is more tangible and temporally proximate, thus competing with the option to use substances.

“Episodic future thinking” (EFT) is a protocol that aims to increase people's ability to self-project into the future and pre-experience a particular event (Atance & O'Neill, 2001). EFT trains the vivid and realistic visualization of various events that are highly likely to occur at different future time points (e.g., six or 12 months), reinforcing the value of time-delayed rewards over the immediate reinforcers associated with the addictive behavior (Aonso-Diego et al., 2023; Bickel et al., 2016). In other words, it reduces delay discounting (Ye et al., 2022). Although its implementation in clinical settings is limited to date (González-Roz et al., 2021), several studies show that EFT is effective in reducing impulsivity levels in people with addictive behavior problems.

Meanwhile, ACT's efforts to promote psychological flexibility involve addressing acceptance, cognitive defusion, and self-as-context, resulting in a reduction of impulsive behaviors. The therapy focuses on helping individuals actively experience distressing private events without avoidance, perceive thoughts and sensations triggering addictive behavior as mere verbal behavior (not absolute truths), and reconceptualize the “self” not as defined by distress but as the context in which such experiences occur (González-Menéndez et al., 2022).

Mindfulness can also reduce impulsive behaviors controlled by short-term reinforcement. Its practice is the main focus of MBRP, although it is also used, for example, in ACT and DBT through informal meditations. Mindfulness is the act of intentionally focusing attention on the present moment with acceptance, that is, without judging or rejecting what is happening (Kabat-Zinn, 1990). The practice of mindfulness promotes awareness of the triggers of addictive behaviors, increases the tolerance and acceptance of unpleasant experiences, and reduces the frequency of automatic behaviors linked to addiction (González-Menéndez et al., 2022).

Lastly, DBT's training in distress tolerance skills and development of emotional regulation skills foster the acquisition of coping strategies (e.g., TIPP skills—Temperature, Intense exercise, Paced breathing, and Paired muscle relaxation) and teach individuals how to modulate intense emotional states, for example through the opposite action (García Palacios, 2006). All this offers an alternative non-impulsive response to the intense emotional states that occasionally precede addictive behavior.

High Reinforcing Value of Addictive Behavior and low Sensitivity and/or Availability of Alternative Reinforcers

These two factors are consistent with the Behavioral Economics (BE) model described in the first article of this monograph (Secades-Villa, 2025), which suggests that substance use is a function of the availability of reinforcing alternatives. Emphasis is placed here on the importance of analyzing not only the aspects of the addictive object itself but also the context in which its consumption occurs, that is, the relative efficacy of different reinforcers in maintaining

the addictive behavior (González-Roz et al., 2020). The contextual model focuses not only on reducing the value of the addictive behavior or achieving self-control but also on increasing the availability and value of alternative reinforcers.

CM, as previously described, reduces addictive behavior by increasing the opportunity cost associated with it, facilitating access to and involvement in alternative behaviors and/or behaviors that are incompatible with the addictive behavior. It seeks to alter the person's external context in such a way that it competes with the reinforcing value that the addictive behavior provides (Roll, 2013). To this end, CM employs positive or negative reinforcers contingent on abstinence from the addictive behavior (McPherson et al., 2018), as previously discussed. In this way, it seeks to increase the person's access to alternative sources of reinforcement to the addictive behavior (i.e., to increase the opportunity cost) (Rash et al., 2019; Weidberg et al., 2022). CM has also been applied for reinforcement of other therapeutic goals, such as session attendance (Khazanov et al., 2022; Pfund et al., 2022) and medication adherence (Khazanov et al., 2023, 2024).

CA is another intervention particularly aimed at increasing the cost of addictive behavior and compensating for the loss of alternative and/or incompatible reinforcers. CA seeks to redirect the person to increase their involvement in activities that are reinforcing and valuable to them (Martell et al., 2010; Ross et al., 2016). Engaging in these activities increases the rate of alternative reinforcement and reduces the likelihood of engaging in other dysfunctional behaviors, such as avoidance, which are very common in both addictive behaviors and depression (Daughters et al., 2016; Pott et al., 2022).

In CBT, intervention modules designed for specific skills training (e.g., problem-solving and social skills training, job seeking, etc.) aim to increase the number of reinforcement alternatives to the addictive behavior that exist in the person's immediate environment, i.e., an increase in the opportunity cost and, therefore, a decrease in the demand for the addictive object (Acuff et al., 2023). Similarly, the CRA approach makes use of family, social, vocational, and/or recreational reinforcers in an attempt to increase the opportunity cost derived from the addictive behavior (Hunt & Azrin, 1973).

In addition to these, there are various interventions in the experimental phase that aim to generalize improvements in cognitive skills to behavioral choice processes, thereby increasing the ability to attend to alternative reinforcers to addictive behavior. An example is working memory training (Bickel et al., 2014), which aims to improve executive function by training cognitive skills that allow for the maintenance of information processing despite potential interference (Zhao et al., 2020). Likewise, attentional bias modification training includes a variety of computerized tasks designed to interfere with attentional and cognitive evaluation processes triggered by cues related to addictive behavior by shifting the attentional focus from these cues to control cues (Boffo et al., 2019; Wiers et al., 2013).

Expectancies and Irrational Thoughts

Expectancies (anticipatory beliefs) about the effects of cognitive behaviors (e.g., "using cannabis makes me feel outgoing and

friendly") and irrational thoughts (permissive beliefs) that provide a justification for engaging in addictive behaviors (e.g., "I think I'm going to get lucky when I gamble") may be etiological and maintenance factors in both SUD (Anthenien et al., 2021; Coates et al., 2018) and behavioral addictions, especially gambling (Armstrong, Rockloff, & Browne, 2020). For this reason, CBT includes components to help people identify and challenge maladaptive cognitions and positive expectancies about the consequences of addictive behavior, through psychoeducation, cognitive restructuring, and exposure, using the "thinking aloud" procedure, used to collect, record, and modify irrational thoughts. These interventions aimed at correcting cognitive distortions obtain good results in reducing addictive behavior, particularly in problem gambling (Chrétien et al., 2017).

Conclusions

The contextual proposal for a transdiagnostic intervention model presented here is based on the evidence of similarity between substance and non-substance addictive disorders (and extends to other psychological problems as well), despite the heterogeneity in their presentation.

The contextual approach to CBT is based on the idea that addictive behaviors are maintained by the proximal and distal context of the environment of choice, as well as by the costs and benefits of both the addictive behavior and the alternatives to it. Thus, the individual maintenance variables included in this proposal (motivation, values, etc.) should be analyzed in terms of their interaction with the context (immediate and broader), and this interaction should also be taken into account in the treatment of this type of problem.

This approach has implications for guiding public policy, clinical practice, and research, including the identification of new mechanisms of change to improve existing interventions (Acuff et al., 2024). The contextual-molar approach goes beyond the direct manipulation of the proposed mechanism of change, as many aspects of the environmental context that are important for human behavior cannot be manipulated experimentally, so research designs are needed that can analyze associations between contexts and behavior related or unrelated to addictive habits over time (Witkiewitz et al., 2022). Preference for involvement in addictive behavior develops in a broad environmental context involving the availability of alternative substance-free reinforcers and their associated environmental constraints (Coelho et al., 2024; Correia et al., 2010).

Improved methods for assessing individual mechanisms of behavior change in near-real time through ambulatory assessment using mHealth technology (e.g., Litt, Kadden, & Kabela-Cormier, 2009) can help to gain a more accurate understanding of the effects of an intervention on the putative mechanisms of change from an idiographic approach, more typical of the contextual model. These intensive measurement methods are particularly useful for capturing how individual variables change across contexts and over time.

It is to be expected that in the coming years, research from the contextual model based on the processes of change will help to improve our understanding of addictive phenomena and to optimize existing psychological treatments.

Conflict of Interest

There is no conflict of interest.

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