

# *Environmental sustainability education and its impact on psychological well-being: A cognitive-behavioral approach*

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## **Abstract**

Psychological well-being is essential for promoting sustainable behaviors, yet awareness alone is insufficient. Economic and cognitive barriers often hinder eco-friendly choices. This article offers a theoretical reflection, supported by academic literature, on the applicability of Cognitive Behavioral Therapy (CBT) in fostering sustainable lifestyles. CBT can reduce cognitive distortions, enhance self-efficacy, and support value-based decisions. Techniques like mindfulness, nudging, and reframing all-or-nothing thinking can help bridge the intention-behavior gap. Schools and workplaces are key contexts for applying these strategies to promote lasting, environmentally responsible habits. A structured effort at social and educational levels is needed, but CBT provides key tools for a lasting sustainable mindset.

*Keywords:* Cognitive behavioral therapy, mindfulness, environmental sustainability, psychological well-being, personal values, psychology

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## **Introduction**

Psychological well-being is a core element in educational processes and in the construction of an inclusive and sustainable society. From a pedagogical and psychological perspective, learning plays a key role in motivating change to improve awareness about environmental sustainability. Otherwise, to improve sustainable behaviors, information is not enough:

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people are often aware of the eco-sustainable behaviors should be, but they struggle to put them into practice.

A critical aspect is represented by economical accessibility of eco-sustainable choices, such as sustainable clothing or eco-friendly alternatives to disposable plastic. The so-called green gap phenomenon emphasizes that despite growing environmental awareness, many people struggle to translate their awareness into action due to economic, cultural, or psychological constraints.

### **Sustainability and psychological well-being: the role of Cognitive Behavior Therapy approach**

Cognitive Behavioral Therapy (CBT) is one of the most widely practiced psychotherapeutic approaches worldwide, and its effectiveness has been demonstrated in the treatment of various disorders, including anxiety, depression, personality disorders, substance abuse, and insomnia (Thoma; Pilecki and McKay, 2015).

CBT can be described as an integration of Cognitive Therapy (CT) and Behavioral Therapy (BT). While traditional behavioral therapy focused exclusively on the observation and modification of observable behaviors, cognitive therapy introduced a crucial element: cognition. This addition expanded the scope of intervention, as it allows for the modification of thought patterns that influence behavior, rather than merely altering behavior directly.

The incorporation of cognition into therapy significantly enhances individuals' self-efficacy, as it enables them to intervene in their thought processes, thereby gaining greater control over their behaviors.

In addition to these foundations, CBT has evolved further with the emergence of the so-called “third wave” of cognitive-behavioral therapies, which includes approaches such as Acceptance and Commitment Therapy (Hayes; Strosahl; and Wilson, 1999). Dialectical Behavior Therapy (Linehan, 1987) Mindfulness-Based Cognitive Therapy (MBCT), and Compassion-Focused Therapy (CFT). These therapies integrate concepts of mindfulness, acceptance, and emotional regulation, broadening the scope of traditional CBT to address deeper psychological processes beyond just cognition and behavior.

In this sense, CBT can give cognitive instrument to assess a sustainable lifestyle and to promote changes in behavior in the direction of more conscious choices. Cognitive Behavior is an evidenced-base approach (Lofthouse; Davies and Hodgekins, 2025). often use for psychological

diseases treatment, such as anxiety and depression, but also stress and habits management. So, it could also be used in environmental sustainability context. CBT could also be applied in treating the environmental distress (Doherty, 2024).

A recent study has highlighted that concern for sustainability essentially depends on how much people feel in harmony with their surrounding environment and the value they attribute to themselves, others, plants, and animals (Koessler; Heinz; and Engel, 2023). In this sense, a collectivist mindset, which prioritizes the protection of the community over a self-centered perspective, is more likely to lead to behaviors aimed at environmental sustainability. This seems to be influenced by the degree to which people feel interconnected with others and their level of empathy, particularly their ability to take another person's perspective.

In this context, Cognitive Behavioral Therapy (CBT) offers several interventions that can foster perspective-taking, one of which is the chair technique, originally developed by Fritz Perls (1951) in Gestalt therapy. This method involves guiding individuals to sit in different chairs and role-play different perspectives, allowing them to engage in a dialogue with themselves or with imagined others (Pugh, 2019). By shifting positions and embodying different viewpoints, individuals can gain a deeper understanding of others' experiences, fostering empathy and a greater sense of interconnectedness. Integrating such approaches into sustainability education or behavior change programs could enhance individuals' ability to recognize the broader impact of their actions and cultivate a mindset more attuned to collective well-being.

## **Consciousness training and change motivation**

One of the principal obstacles to a sustainable lifestyle transition is the tendency to underestimate individual impact. Many people think “There’s no point in me being sustainable if others aren’t. It won’t change anything.” CBT approach works on this kind of cognitive distortion and help people in many ways, identifying and challenging dysfunctional beliefs, such as fatalistic thinking or all-or-nothing thinking. Dichotomous thinking describes a rigid cognitive style that frames reality in strict terms such as “true or false” or “right or wrong”. This type of cognitive process can lead to statements like “Either I live in a perfectly sustainable way, or it’s not worth trying”, resulting in a sense of disengagement and lack of responsibility toward environmental issues.

Treating dichotomous thinking can lead to benefits in developing coping strategies (Mieda et al., 2021) to manage environmental distress, just as it does for other types of stress and psychological conditions. Moreover, it can promote the adoption of healthy habits, as has already been proven in the case of dietary behaviors (Alberts, 2012).

One of the most common strategies for intervening in dichotomous thinking is cognitive restructuring, which helps people identify maladaptive thoughts, such as all-or-nothing thinking, and understand how this kind of thought distances them from what they truly desire (e.g., adopting a more sustainable lifestyle). Other techniques include the problem-solving approach, in which people are guided to break down a problem into smaller, manageable steps (e.g., *“I won’t only buy second-hand clothing, but I will gradually stop purchasing fast fashion in large quantities”*). The gray scale technique helps people situate themselves within a continuum of graduality between two opposite behaviors.

Cognitive reconstruction could help improve self-efficacy too, that is the perception of being able to effectively impact reality. Studies have shown that higher self-efficacy is correlated with a greater likelihood of adopting sustainable behaviors (Bandura, 1997).

Create concrete plan of action with little and progressive steps that could reduce the distance between intention and behavior. For example, consider using public transportation at least twice a week instead of completely giving up the car.

## **The Acceptance and Commitment therapy in facing environment distress**

Acceptance and Commitment Therapy (ACT) is a psychological approach that includes techniques like mindfulness, behavioral change, and cognitive flexibility to help individuals match their actions with their values. At its core, it promotes the idea that psychological well-being is not achieved by eliminating distressing thoughts or emotions but by developing a flexible, values-driven approach to life, where individuals learn to accept what is beyond their control, commit to personally meaningful values, and take concrete steps toward them. ACT is applied not only to psychopathological conditions such as anxiety, depression, or personality disorders but also in other contexts, such as performance at work (Hayes et al., 2006). According to Hayes (2012) ACT approach can be defined by six main processes:

1. Acceptance that is the active and aware embrace of private experiences without unnecessary attempts to change their frequency or form.

2. Cognitive defusion which refers to a positive detachment from maladaptive thoughts. For example, in the context of environmental distress, this technique could help individuals distance themselves from catastrophic thoughts such as “*Climate change is unstoppable, and nothing I do will make a difference*”. These and similar exercises help individuals see their thoughts for what they are – mental events rather than absolute truths – allowing them to respond more flexibly and effectively.
3. Being present: Acceptance and Commitment Therapy encourages voluntary contact with the present moment through mindfulness or other non-contemplative techniques. Research has shown that such techniques reduce perceived stress (Khoury et al., 2015).
4. Noticing-self: The noticing self is a transcendent and flexible sense of self that arises from perspective-taking and conscious awareness. Unlike the conceptualized self, which is based on personal narratives and self-descriptions, the noticing self allows individuals to observe their experiences, thoughts, and emotions without attachment or overidentification. For example, someone who sees themselves as a “practical person who values convenience” might resist sustainable choices like using public transport. In this way, people could make eco-friendly decisions, in line with sustainability values. Acceptance and Commitment Therapy connects behavior to intrinsic values, making actions meaningful in the present rather than just future goals. For example, someone who values environmental responsibility doesn’t just aim to “be sustainable” but actively lives out sustainability in daily choices – recycling, reducing waste, or conserving energy – because the value itself reinforces the behavior. ACT fosters this through metaphors, self-exploration, and experiential exercises, making values a continuous process rather than a distant outcome.
5. Committed Action: Acceptance and Commitment Therapy promotes committed action, where behavior is continuously adjusted to align with personal values. Unlike impulsivity or avoidant persistence (repeating ineffective behaviors to escape discomfort), committed action involves structured, goal-oriented changes tailored to specific challenges. For example, in managing climate anxiety, a person might impulsively avoid discussions about environmental issues or persist in ineffective guilt-driven actions. ACT instead encourages sustained, values-based behaviors, like consistently reducing waste or engaging in climate advocacy, reinforcing commitment over time (Levitt et al., 2004; Dahl et al., 2005).

6. Psychological flexibility: is the ability to be fully present, open to experiences without defense, and to adapt behavior in alignment with chosen values. It is the core goal of Acceptance and Commitment Therapy (ACT), integrating processes like acceptance, cognitive defusion, mindfulness, noticing self, values, and committed action. For example, in environmental sustainability, someone may avoid acting because of the scale of the climate crisis. In the context of sustainability, ACT can be a very useful way to prevent distress, frustration and pressure. However, it is important to consider that ACT does not aim to eliminate the psychological distress related to environmental issues but rather to foster cognitive flexibility, encouraging the development of new ways of interacting with one's experience. ACT supports the ability to remain committed to long-term environmental goals despite uncertainty with psychological flexibility.

This approach suggests that sustainable action is not about achieving a state of perfection but about making consistent, values-based choices even in the presence of difficulties. By integrating psychological flexibility with environmental commitment, ACT provides a framework that can enhance both individual well-being and collective efforts toward a more sustainable future.

One of the central processes, studied by ACT, is *cognitive defusion*, which helps reduce the impact of negative thoughts by recognizing them as mere thoughts, rather than absolute truths. Through experiential exercises – such as repeating a word until it loses its meaning or imagining thoughts as leaves floating down a stream – individuals can learn to observe their thoughts with greater detachment, reducing their power to dictate behavior.

ACT can also help in facing uncomfortable emotions by allowing these emotions to exist without letting them become barriers to meaningful action. This approach is deeply connected to *mindfulness and present-moment awareness*, which is the reflection on what is happening in the here and now, with a more grounded and responsive way of engaging with the world.

This perspective, known as “self-as-context,” fosters a greater sense of psychological space, allowing for more flexible and adaptive responses to life's challenges. At the heart of ACT is also the process of values clarification – helping individuals define what truly matters to them, beyond fleeting emotions or external expectations. From this awareness emerges committed action – the ability to take concrete steps toward long-term goals, even in the face of obstacles and discomfort.

When it comes to environmental sustainability, being present in the moment can help people feel more connected to nature and make more thoughtful choices in everyday life. Cognitive defusion, for instance, can

support people in challenging limiting beliefs – like thinking their actions don't matter – and in making concrete changes to how they live, facing uncertainty, and acting in ways that are more environmentally conscious. Seen this way, both personal and collective change become less of a struggle and more of a chance to act in line with what truly matters.

## **Sustainability in Schools and Businesses: A Behavioral Approach**

Schools and workplaces play a crucial role in making sustainable choices through CBT-based programs. It is proven that psycho-educational interventions on environmental sustainability in school can make the difference and involve the integration of practical activities with behavioral strategies to reinforce new habits. For example, the pledge contract has been shown to increase the likelihood of maintaining a public commitment to eco-friendly behaviors. In the same way, training for managers and business leaders focuses on integrating sustainability into corporate policies, emphasizing the role of positive reinforcement and immediate rewards in encouraging environmentally friendly behavior. Another optimal strategy is the use of the so-called “nudging”, which involves small cognitive prompts that facilitate sustainable choices without imposing them. For example, Garnett (2019) discovered that simply redesigning workplaces spaces to make vegetarian options more accessible on menu, can increase their selection from customers by 25%. Nudging is the deliberate modification of how choices are presented (by putting them in evidence, for example) to encourage a predicted outcome; it has been widely studied for its effectiveness in promoting healthy habits, including prenatal screening and breast screening (Hofmann & Stanak, 2018). In this context, nudging could help people who may find difficulty making decisions – often referred to as “bad choosers” – become more consistent in making sustainable choices. Adjusting the environment to influence people's decisions has been identified as a key strategy for promoting behaviors such as adopting a plant-based diet, increasing the availability of vegetarian food in restaurants, or choosing sustainable clothing brands. Research has also shown that nudging can improve engagement in mental health treatment, while highlighting the social benefits of sustainable choices, such as recycling, can further enhance their adoption. A recent study suggests that nudges are particularly effective for low-effort behaviors, such as opting for healthier snacks instead of a cookie at the supermarket.

## **Aligning Values with Action: A Path to Sustainable Well-Being**

Cognitive Behavior Therapy also works on personal values and self-esteem, key factors for adopting long-term sustainable choices. Often, those who live in conditions of economic insecurity lack the cognitive resources and knowledge that are crucial for a long-term commitment to sustainability. Psychological research highlights that individuals experience greater well-being when they actively engage in behaviors aligned with their core values, rather than merely endorsing them. A recent intervention, “Acting on Values” (AoV), demonstrated that taking concrete steps to live according to one’s principles enhances both hedonic and eudaimonic well-being, fostering greater life satisfaction and emotional resilience. (Bojanowska et al., 2022). This observation is particularly relevant to sustainability, as many people express deep concern for the environment but struggle to consistently align their actions with their values. Encouraging individuals to bridge this ‘value importance/behaviour gap’ by integrating sustainability into everyday habits – such as conscious consumption, waste reduction and advocacy – could not only support environmental goals but also contribute to a deeper sense of personal fulfilment and purpose.

Thus, the key interventions should focus on

- A higher psychological well-being, that promotes sustainability: When people feel in control of their choices and less overwhelmed by stress, they are more likely to take care of the environment as well.
- Self-efficacy training can enhance resilience to economic difficulties, helping individuals find sustainable strategies suited to their context (e.g., self-production, conscious consumption, circular economy).
- Mindfulness-based approaches which can reduce impulsive consumption – one of the main causes of unsustainable purchases – by enhancing the ability to distinguish real needs from momentary desires.

## **Conclusions**

The adoption of sustainable choices cannot be left solely to individual initiative; it requires a structured effort at both educational and social levels. However, a cognitive-behavioral approach can be a key ally in this process, providing practical tools to enhance awareness, motivation, and self-efficacy – essential elements for integrating sustainability into everyday life.

Environmental psychology interventions based on CBT in schools, workplaces, and public policies can facilitate the transition to a society more mindful of its ecological impact, ensuring that no one is left behind. As



studies show, when people experience greater psychological well-being, their choices improve as well – both for themselves and for the planet.

## References

- Alberts H.J.E.M., Thewissen R., Raes L. (2012). Dealing with problematic eating behaviour: The effects of a mindfulness-based intervention on eating behaviour, food cravings, dichotomous thinking, and body image concern. *Appetite*, Jun, 58(3): 847-51. DOI: 10.1016/j.appet.2012.01.009.
- Anderson P., Jacobs C.H., Lindner G.K., Edwards S. (2006). Cognitive behavior therapy for fear of flying: sustainability of treatment gains after September 11. *Behavior Therapy*, 37(1): 89-98. DOI: 10.1016/j.beth.2005.05.001.
- Arno A., Thomas S. (2016). The efficacy of nudge theory strategies in influencing adult dietary behaviour: a systematic review and meta-analysis. *BMC Public Health*, 16: 676. DOI: 10.1186/s12889-016-3272-x.
- Bandura A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.
- Bojanowska A., Kaczmarek L.D., Urbańska B., Puchalska M. (2022). Acting on Values: A Novel Intervention Enhancing Hedonic and Eudaimonic Well-Being. *Journal of Happiness Studies*, 23: 3889-3908. DOI: 10.1007/s10902-022-00585-4.
- Bonfá-Araujo B., Oshio A., Hauck-Filho N. (2022). Seeing Things in Black-and-White: A Scoping Review on Dichotomous Thinking Style. *Japanese Psychological Research*, 64(4): 461-472. DOI: 10.1111/jpr.12328.
- Dahl J., Wilson K.G., Luciano C., Hayes S.C. (2005). *Committed action in chronic pain patients: Effects of an ACT-based intervention on work sustainability*.
- Doherty T., Artman S., Homan J., Keluskar J., and White K.E. (2024). Environmental identity-based therapies for climate distress: applying cognitive behavioural approaches. *The Cognitive Behaviour Therapist*. DOI: 10.1017/S1754470X24000278.
- Garnett E.E., Marteau T.M., Sandbrook C., Pilling M.A., Balmford A. (2019). Impact of increasing vegetarian availability on meal selection and sales in cafeterias. *Proceedings of the National Academy of Sciences*, 116(42): 20923-20929. DOI: 10.1073/pnas.1907207116.
- Gilbert P. (2010). *The Compassionate Mind: A New Approach to Life's Challenges*. New Harbinger Publications.
- Hayes S.C., Luoma J.B., Bond F.W., Masuda A., Lillis J. (2006). Acceptance and Commitment Therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1): 1-25.
- Hayes S.C., Strosahl K.D., Wilson K.G. (1999). *Acceptance and Commitment Therapy: An Experiential Approach to Behavior Change*.
- Hayes S. C., Strosahl K. D., & Wilson K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). The Guilford Press.

- Heinz N., Koessler A.-K., & Engel S. (2023) Distance to climate change consequences reduces willingness to engage in low-cost mitigation actions – Results from an experimental online study from Germany. *PLoS ONE*, 18(4).
- Harris R. (2006). Embracing your demons: an overview of acceptance and commitment therapy. *Psychotherapy in Australia*, 12(4): 70-76. DOI: 10.3316/informit.545561433272993.
- Hofmann B., Stanak M. (2018). Nudging in Screening: Literature Review and Ethical Guidance. *Patient Educ Couns.*, Sep, 101(9): 1561-1569. doi: 10.1016/j.pec.2018.03.021.
- Hosany A. R. S., Hosany S., & He H. (2022). Children sustainable behaviour: A review and research agenda. *Journal of Business Research*, 147: 236-257. DOI: 10.1016/j.jbusres.2022.04.008.
- Khoury B., Sharma M., Rush S.E., Fournier C. (2015). Mindfulness-based stress reduction for healthy individuals: A meta-analysis. *J Psychosom Res.*, Jun, 78(6): 519-28. doi: 10.1016/j.jpsychores.2015.03.009.
- Kolko D.J., Iselin A.M.R., Gully K.J. (2011). Evaluation of the sustainability and clinical outcome of Alternatives for Families: A Cognitive-Behavioral Therapy (AF-CBT) in a child protection center. *Child Abuse & Neglect*, 35(2): 105-116. DOI: 10.1016/j.chiabu.2010.10.003.
- Levitt Jill T. et al. (2004). The effects of acceptance versus suppression of emotion on subjective and psychophysiological response to carbon dioxide challenge in patients with panic disorder. *Behavior Therapy*, 35(4): 747-766. DOI: 10.1016/S0005-7894(04)80018-2.
- Linehan M.M. (1987). Dialectical behavior therapy: A cognitive behavioral approach to parasuicide. *Journal of Personality Disorders*, 1(4): 328-333. DOI: 10.1521/pedi.1987.1.4.328.
- Linehan M.M. (1993). *Cognitive-Behavioral Treatment of Borderline Personality Disorder*. Guilford Press.
- Lofthouse K., Davies A., Hodgekins J. (2025). Systematic review and meta-analysis: Imputing response rates for first-line psychological treatments for posttraumatic stress disorder in youth. *Journal of the American Academy of Child and Adolescent Psychiatry*. DOI: 10.1016/j.jaac.2024.12.014.
- Mehl S., Werner D., Lincoln T.M. (2015) Does Cognitive Behavior Therapy for psychosis (CBTp) show a sustainable effect on delusions? A meta-analysis. *Frontiers in Psychology*, 6, 1450. DOI: 10.3389/fpsyg.2015.01450.
- Mieda T., Taku K., Oshio A. Dichotomous thinking and cognitive ability.
- Pugh M. (2019). *Cognitive Behavioural Chairwork: Distinctive Features*. Routledge.
- Rehfeldt R.A., Dillen J., Ziomek M.M., Kowalchuk R.K. (2007). *The emergence of the noticing self: A relational frame theory perspective*.
- Riecke J., Rief W., Lemmer G. (2024). Sustainability of cognitive behavioural interventions for chronic back pain: A long-term follow-up. *European Journal of Pain*. DOI: 10.1002/ejp.2160.
- Segal Z.V., Williams J.M.G., Teasdale J.D. (2002). *Mindfulness-Based Cognitive Therapy for Depression: A New Approach to Preventing Relapse*. Guilford Press.

- Schubert F. T., Schmidt N. B. (2024). Nudging for improving mental health treatment-seeking. *Current Opinion in Psychology*, 59. DOI: 10.1016/j.copsyc.2024.101857.
- Schultz P. W. (2000). Empathizing with nature: The effects of perspective taking on concern for environmental issues. *Journal of Social Issues*, 56: 391-406. DOI: 10.1111/0022-4537.00174.
- Stirman S.W., Calloway M.A., Toder M.K. (2013) Modifications to cognitive therapy by community mental health providers: Implications for effectiveness and sustainability. *Psychiatric Services*, 64(12): 1199-1206. DOI: 10.1176/appi.ps.201200456.
- Thoma N., Pilecki B., McKay D. (2015). Contemporary Cognitive Behavior Therapy: A Review of Theory, History, and Evidence. *Psychodynamic Psychiatry*, 43(3): 423-461.
- Tsang H.W.H., Cheung W.M., Huang Y. (2016). Improving sustainability of cognitive-behavioral therapy (CBT) by complementary and alternative medicine approaches (CAM) on reducing workplace stress. *Journal of Pain & Relief*.
- Tutus D., Pfeiffer E., Plener P.L., Rosner R. (2021) The change in parental symptoms and dysfunctional cognitions in the course of trauma-focused cognitive-behavioral therapy: sustainability until one-year post-treatment. *Journal of Child and Adolescent Psychopharmacology*. DOI: 10.1089/cap.2020.0097.
- Weaver A., LeBeau R., Brydon D., Rubyan M. (2024). Work-Related Cognitive Behavioral Therapy (WCBT) in Vocational Service Settings: A Qualitative Exploration of Intervention Acceptability and Sustainability. *Journal of Behavioral Health Services & Research*. DOI: 10.1007/s11414-024-09911-5.
- Williams M.O., Samuel V.M. (2024). Acceptance and commitment therapy as an approach for working with climate distress. *The Cognitive Behaviour Therapist*, 17: e35. DOI:10.1017/S1754470X23000247.