

Evaluating mechanisms: Mapping weekly dynamics between experiential avoidance and SAD symptoms

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Supplemental Materials (Online Resource)

Psychoeducation

For the AAT Rationale provided in Session 1, participants verbally received the following information and received a paper copy to follow along. The Principal Investigator or research assistants checked for questions and participants' comprehension after each section. As well, participants were encouraged to elaborate upon the key points in this script.

Study Overview and Defining Experiential Avoidance

During this 3-session study, you will receive 3 sessions of a training, called the Approach Avoid Task, or AAT. The goal of this training is to reduce your experiential avoidance. Experiential avoidance is the tendency to avoid or resist uncomfortable emotions or thoughts. Many people think that their emotions must be controlled or stopped. They may learn, from an early age, that they can and should control thoughts and feelings. People are told things like “Don’t get your hopes up” or “Just calm down.” People try to control their feelings across different situations, like at funerals, in crisis situations, in class, or at social events. You may come to believe that people should *always* try to control their emotions! What are the types of situations where you try to control your emotions?

In some cases, you *can* control your feelings, and emotional control can sometimes work in temporary ways. Distraction, for example, can help you feel less pain while you’re in a dentist’s chair, or listening to upbeat music can pull you out of a bad mood. However, it is often *not* so easy to control or stop emotions like anxiety, excitement, sadness, or hope. Just think of how difficult it is to follow through on another person’s suggestion to “just calm down” when you are feeling upset. It’s not as easy as it sounds, right? What are types of situations where you’ve wanted to control your emotions, but you haven’t been able to?

Emotions 101

Let’s talk about emotions for a second. Emotions are natural reactions to situations. They follow a natural course. Left to their own devices, they occur, peak, and then fade, without leading to awful consequences. In fact, many researchers think that emotions originated for a specific evolutionary purpose—to help us survive. For example, hunters and gatherers needed anxiety to run away from predators. Loneliness might have encouraged ancient people to stick with a tribe. Disgust pointed us away from poisonous or rotting food. So emotions may have actually evolved to help us survive.

Efforts to Block Emotions and Problems with Trying to Control One's Emotions

In modern times, it makes sense that people would want to control certain emotions, like anxiety or sadness, or sometimes self-compassion or hope. Allowing oneself to truly *feel* these emotions can be unfamiliar and difficult for many individuals. Efforts to block these feelings are understandable. However, although self-control may work in many areas of your life, there are situations involving emotions where it might be difficult or even impossible to control emotions. Struggling against natural emotions can actually intensify and prolong your feelings. What do you think would happen if I told you that you can think about *anything* you want, *except for* a white bear? <<pause for participant response>>. You'd probably think even more about a white bear. The same thing is true when we try to stop feeling certain emotions. For example, imagine if you were gearing up to give a speech for one of your classes, and I told you that you can feel of *anything* you want, *except for* anxiety? <<pause for participant response>>. Yes! That would be pretty unrealistic. I feel anxious when giving speeches too!

Research has found that avoiding emotions is related to a lot of problems, including anxiety in social situations. For example, students may try to avoid social anxiety by being quiet in groups or mentally "checking out" at a party by looking at their phone. In turn, this limits authentic interactions and can actually fuel anxiety. So, accepting that it's okay for you to feel a little anxious around other people can lead you to engage more authentically in social situations, increasing the likelihood that you'll form more meaningful relationships with other people and ultimately lower your anxiety in the long term.

Suffering vs. Pain: An Alternative to Experiential Avoidance

As you know, experiencing painful emotions is a part of being human. However, just because you experience painful emotions does not mean you need to suffer. One way that you can think about it is: Suffering = Pain + Lack of Acceptance of that pain. In other words, it's not pain per se that is thought to lead to suffering. Instead, it is pain coupled with struggling to change or avoid pain.

Are we suggesting that you completely give up on ever trying to change your emotions? No, we are suggesting that there are alternatives to constantly struggling with your emotions, and it is called acceptance. After all, even if we WANT to change our emotions, they will ALWAYS come back. If it were so easy to simply change the way you feel all the time, everyone would do it, right?

Accepting your emotions means that you are willing to experience them fully and that you don't try to control or change them. Accepting your emotions means that you will continue to pursue your values—things that matter to you in your life—even when you feel sad or anxious or ashamed. So, rather than: "I feel anxious so I can't go to the party", you will learn: "I feel anxious AND I will go to the party." In other words, your emotions don't need to dictate the actions that you pursue! Can you think of examples where you've been able to accept your emotions in order to pursue something that you value? Tell me about those examples...

Does that mean we are suggesting that you should just put up with discomfort and distress? No, we are suggesting that you can come to think about your emotions in a different way; not as something that always needs to be contained or controlled for you to be okay or to pursue what

matters to you. Instead, emotions are natural reactions that will peak and fade, without leading to awful consequences.

Automatic Evaluations of Emotions as Threatening

Importantly, people don't always realize when they're avoiding their emotions, because it can happen outside of conscious awareness, or "automatically." We are inundated with messages about emotional control from a young age, like a mom saying, "Stop crying, we're in public" or a teacher telling his class to "settle down." Plus, emotions don't always feel that great! Research tells us that rejection activates similar areas to physical pain in our brain. Because of these different internal and external influences, we may *automatically*, or unconsciously, learn to label emotions as bad over time. Unconsciously labeling our emotions as "bad" then makes us act in certain ways, like avoiding a party to avoid anxiety. Again, these habits are so **automatic** that they are very difficult to "catch" or change on purpose. However, just like other habits like typing or riding a bicycle, with practice we can change these mental habits. Do you have questions about this?

Approach Avoidance Training Task

We believe that our training using the Approach Avoidance Task, or AAT, will help you accept your emotions on a more automatic level. In fact, versions of the AAT have been used to reduce symptoms of social anxiety, obsessive compulsive disorder, and alcohol use disorders. In the current study, you will complete a version of the AAT where your job is to pull emotion-related words toward you to train your brain to be more open to your experience of emotions. The emotion words you see will be words like "fear" or "excitement." You will push all non-emotion words away from you. These words will be household objects like "table" or "spoon". The AAT is similar to those "brain games" that try to improve memory or attention. Gaining control over automatic mental habits is like strengthening a muscle, and it takes regular training. As you repeat the AAT, accepting your emotions will likely become easier to do. In between sessions, we also want you practice accepting your emotions in the real world. For example, if you are talking to someone new and start to feel anxious, try to tell yourself that "a little anxiety is normal and okay."

Additional Reading

If you are interested in learning more, check out some of the following books and articles.

-Experiential Avoidance and Acceptance

- Chawla, N., & Ostafin, B. (2007). Experiential avoidance as a functional dimensional approach to psychopathology: An empirical review. *Journal of Clinical Psychology*, 63, 871-890.
- Hayes, S. A., Orsillo, S. M., & Roemer, L. (2010). Changes in proposed mechanisms of action during an acceptance-based behavior therapy for generalized anxiety disorder. *Behaviour Research and Therapy*, 48, 238-245.
- Hayes, S., Strosahl, K., & Wilson, K. (2012). *Acceptance and commitment therapy: The process and practice of mindful change*. (2nd Ed.). New York, NY: The Guilford Press.
- Roemer, L., & Orsillo, S. (2009). *Mindfulness- and acceptance-based behavioral therapies in practice*. New York, NY: The Guilford Press.

-AAT Training

- Taylor, C., & Amir, N. (2012). Modifying automatic approach action tendencies in individuals with elevated social anxiety symptoms. *Behaviour Research and Therapy*, 50, 529-536.
- Rinck, M., Telli, S., Kampmann, I. L., Woud, M. L., Kerstholt, M., Velthuis, S. T...Becker, E. S. (2013). Training approach-avoidance of smiling faces affects emotional vulnerability in socially anxious individuals. *Frontiers in Human Neuroscience*, 7, 1-6.
- Wiers, R. W., Eberl, C., Rinck, M., Becker, E. S., & Lindenmeyer, J. (2011). Retraining automatic action tendencies changes alcoholic patients' approach bias for alcohol and improves treatment outcome. *Psychological Science*, 22, 490-497.

Psychoeducation Summary

During Sessions 2 and 3, participants verbally received a brief summary reminder of the AAT Rationale. More specifically, they were told the following:

“Remember that the purpose of the training today is to reduce experiential avoidance. Specifically, this training is designed to help you automatically accept your emotions, which we believe will reduce your social anxiety symptoms over time. Struggling against natural emotions, like anxiety, can actually intensify and prolong your distress. In fact, research has found that avoiding emotions is related to a lot of problems, including anxiety in social situations. In the AAT, your job is to pull emotion-related words toward you to train your brain to be more open to your experience of emotions. In between sessions, we also want you to practice accepting your emotions in the real world. As a reminder, accepting your emotions means that you are willing to experience them fully and that you don't try to control or change them. Accepting your emotions means that you will continue to pursue your values—things that matter to you in your life—even when you feel sad or anxious or ashamed. So, rather than: “I feel anxious so I can't go to the party”, you will learn: “I feel anxious AND I will go to the party.” In other words, your emotions don't need to dictate the actions that you pursue! [note, the examples given here will vary each session]. Can you think of examples where you've been able to accept your emotions in order to pursue something you value over the past week or month? Tell me about those examples. <<Pause for participant response>>. Exactly! Do you have any questions before we get started?”

Additional information on the Approach-Avoidance Task (AAT) Training used in the present study

Approximating previous studies (e.g., Wiers et al., 2011), each training session consisted of 240 trials, with a total of 30 “positive” emotion words, 30 “negative” emotion words, and 60 household object words (see . Each word was presented in isolation as a single “trial.” Trials were grouped into three blocks per session consisting of 80 trials each. Blocks consisted of different words and each block included 10 “positive” emotion words with two repetitions, 10 “negative” emotion words with two repetitions, and 20 household-related words with two repetitions. The blocks were separated by two short breaks during which participants completed a context-shifting activity of single-digit addition math problems, designed to maximize learning within short periods of time (following Capron & Schmidt, 2016). At the start of each AAT training session, participants completed four practice trials. During the practice trials, participants were provided with visual and verbal feedback regarding push/pull errors before moving onto the next item (Wittekind et al., 2015).

AAT Block 1		AAT Block 2		AAT Block 3	
Emotion Words	Household Object Words	Emotion Words	Household Object Words	Emotion Words	Household Object Words
Brave	Cabinet	Courageous	Refrigerator	Capable	Thermometer
Confident	Radiator	Empowered	Dustpan	Strong	Scissors
Calm	Lamp	Content	Shelf	Peaceful	Tupperware
Relaxed	Dishwasher	Enthusiastic	Broom	Interested	Rug
Passionate	Bathtub	Curious	Mailbox	Inspired	Lightbulb
Happy	Mantel	Excited	Sink	Satisfied	Plate
Hopeful	Bowl	Cheerful	Tool	Elated	Couch
Surprised	Stove	Optimistic	Utensils	Joyful	Hairdryer
Proud	Dresser	Grateful	Blender	Thankful	Mattress
Delighted	Curtains	Loving	Wastebasket	Vulnerable	Table
Panicked	Microwave	Afraid	Stool	Fearful	Spoon
Nervous	Faucet	Stressed	Toaster	Scared	Television
Anxious	Cup	Annoyed	Hammer	Worried	Desk
Angry	Carpet	Irritated	Spatula	Shy	Chair
Guilty	Vacuum	Embarrassed	Pillow	Mad	Kettle
Humiliated	Pan	Ashamed	Mirror	Jealous	Fork
Hurt	Vase	Insecure	Iron	Bashful	Toilet
Sad	Chandelier	Discouraged	Fireplace	Unhappy	Bed
Overwhelmed	Armchair	Distressed	Sofa	Frustrated	Oven
Disgusted	Trashcan	Repulsed	Ladder	Disappointed	Bookcase

Note. AAT = Approach Avoidance Task. This table presents the stimuli used in the AAT training.