

Using Systematic Desensitization

Chrystin Bullock, Board Certified Behavior Analyst
The Florida Autism Center



Group Stats . . .



- Name and agency
- What population / age group do you work with?
- Have you used systematic desensitization previously?
- If you can, give an example of something you have extinguished using pure extinction and / or something you have extinguished using systematic desensitization.
- Have you ever attended one of my sessions previously?

About me . . .

- Chrystin Bullock
- BCBA
- ONU, FIT, Nova
- Florida Autism Center, Autism Consulting Network
- Primary interests: Verbal Behavior, EIBI, business development



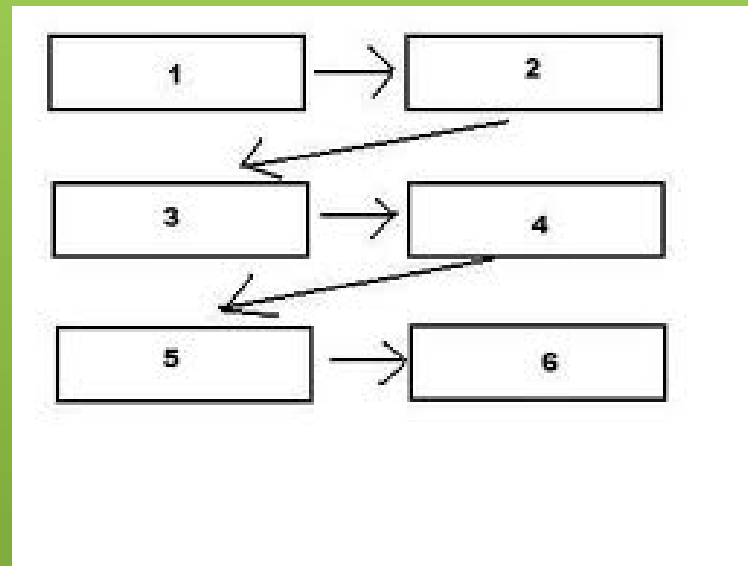
What is systematic desensitization?

- A procedure credited to Wolpe in which:
 - Relaxation techniques are taught
 - A “hierarchy of anxieties” is created
 - Involves both the practitioner and the client
 - Client goes through each stage of hierarchy, only moving on to the next level of ‘anxiety producing’ stimuli when the current level no longer ‘feels threatening.’



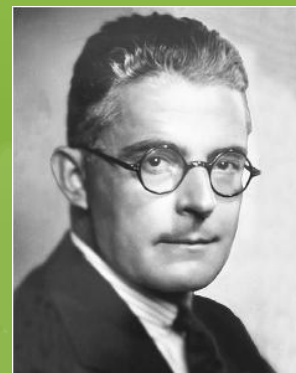
Mini-Extinction!

Basically, systematic desensitization is just a series of mini-extinctions being shaped over time and via forward chaining into tolerating the previously aversive item.



Some contributors

- Joseph Wolpe, behavioral therapist/ researcher
 - Dissent from Freud; search for better methods
 - Did not believe in “cookie cutter treatments”
- Mary Cover Jones, behavior therapist/ researcher
 - Wolpe called her “the mother of behavior therapy”
 - She worked with Watson on “undoing” Peter’s fear of white rabbits (shortly after little Albert)



Mary Cover Jones' Work



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(Watson did this part.)



+

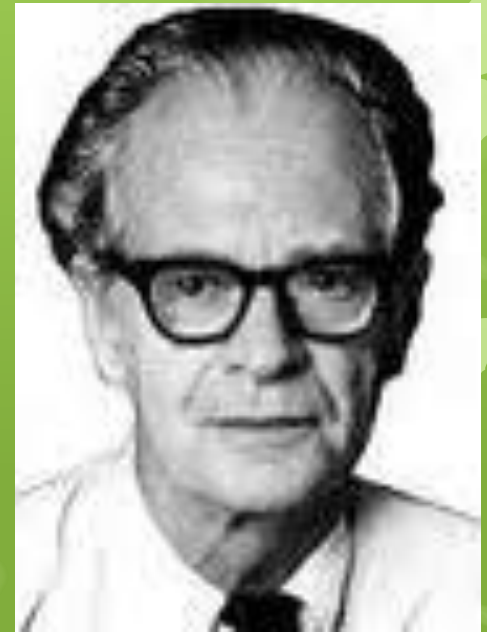


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Is systematic desensitization compatible with ABA?

- SURE! If we look at it behaviorally, it's:
 - Shaping
 - We're just reinforcing successive approximations until we get to the target behavior of interest!
 - Task analysis
 - Forward chaining
 - Extinction still occurs



Skinner is in there, we just need to look!

Function



Cognitive behavioral systematic desensitization typically is used for fears or phobias.

One can hypothesize that the reinforcer in such proceedings is escape from an aversive.

A
aversive stimuli
presented

B
escape-seeking
behavior (cry,
scream, run, etc.)

C
escape from
aversive

From the ABA perspective, clearly the reinforcer is escape from aversive.

Using Escape to our Advantage

- When the aversive is presented, our client seeks escape.
- In pure extinction, there is simply no access to it.
- BUT WHAT IF THERE WAS?
- What if we used SHAPING, and reinforced successive approximations to our terminal behavior with the escape our client is seeking?
- Well, that would be systematic desensitization!



Systematic Desensitization



A

aversive stimuli
is presented

B

client seeks
escape (cry,
scream, run)

C

client is granted
escape

SAY WHAT!?!?!?!? That's not ABA!



Oh, but it can be

Future presentations



- We are jumping the gun and offering the reinforcer (escape) before avoidance behavior can occur.
- We are offering a lower dose of the non-preferred item / activity than typically elicits the escape seeking response.
- We are not offering a more salient version of the non-preferred item or activity until we have the data to support moving to the next phase.
- Essentially, we are taking the components of the traditional systematic desensitization program and creating data measures, operational definitions, and mastery criteria to convert it to good behavior analysis.

Pure Extinction



- You are scared of spiders. Here is a spider. This spider is going to stay right here touching your skin until you show no signs of being scared of spiders. Previously, you were reinforced (via escape) when you ran away screaming at the sight of a spider. Not anymore. This spider is here to stay. Deal with it.

“Flooding”



- The cognitive behaviorist might call pure extinction “flooding”
- Flooding is when the patient agrees to be immersed in the “fear inducing” setting and to be unallowed to escape.
- As in, for example, our spider example.

Pros of pure extinction

- It's (often) pretty fast (especially for these phobic behaviors that have typically been reinforced on an FR1).
- It's effective.
- **It's empirically validated to WORK.**



Cons of pure extinction

- It's (typically) highly aversive.
- It's upsetting (to the child and their parents).
- Our clients with autism cannot typically agree to the condition (though, of course, their guardian can) or be prepped for the condition occurrence.



Quandary . . .



- Can we still get the effects of pure extinction with systematic desensitization?
- Is it as timely?
- Is it less aversive?
- Does it WORK?

CLINICAL DISCLAIMER



- SOME research has been done
- MORE research must be done
- ALL of the samples today are from WITHIN the Florida Autism Center and are UNPUBLISHED
- You should use these procedures staying in line with what we KNOW from the field, and you should publish your results!

JABA says:

- Published procedures based on systematic desensitization exist for:
- Needle phobia
- Dental procedures / tooth-brushing
- Feeding / eating
- Fear of darkness
- Fear of large stores
- Transitions
- Fear of animatronic objects
- Fear of loud environmental sounds



What's missing?



- No comparisons between pure extinction and systematic desensitization
- No guidelines for the types of clients or situations in which each would be best
- Not enough literature on the subject
- There's a LOT missing – we need to keep working on this if we want it in our toolbox.

What makes systematic desensitization an interesting alternative to pure extinction?

- It's gentler.
- It's less severe.
- It could help our public image*
- It still extinguishes the inappropriate behavior.
- It has shown good generalization.
- It is easier to implement.
- Untrained practitioners and parents are less likely to fail at its implementation.
- It utilizes the naturally occurring reinforcer (escape).
- It mitigates the effects of the extinction burst.
- Reduces likelihood of the (unintended) shaping up of (VR schedules of reinforcement for) inappropriate behaviors.



What are some potential problems?

- Time needed to complete steps
- Unsure of effectiveness, generalization, and maintenance as compared with pure extinction
- Potentially more labor intensive in program planning and creation (though maybe not)
- Still NOT a cookie cutter solution, must be modified for each client



Systematic Desensitization



- You are scared of spiders. Look, there's a fake spider across the room – Oh, look, the spider is gone. You did a great job looking at that spider.
- (A while later) There's a spider on the other side of the table, let me take him away for you.
- (A while later) Look, this is my pet spider . . .

Another view . . .

Extinction

- Pros
 - Fast
 - Effective
 - Scientifically validated
- Cons
 - Can be ugly / aversive
 - Extinction burst

Systematic Desensitization

- Pros
 - Gentler
 - Effective*
 - Easy to implement
- Cons
 - Can be time consuming
 - Needs more quality research

Candidates and Situations

- While this procedure might be great for many, we hypothesize it will be really great:
 - For people with special needs
 - For little bitty people
 - For clients who have PARENTS or LINE THERAPISTS implementing their programs
 - For items or situations that you don't want kids to learn to just TOLERATE, but want them to learn to ENJOY (less aversive, think food refusal, and of that white rabbit)



Pure Extinction

- Food refusal example
 - Take a bite. Food is present. Food stays in front of mouth and is shoved into mouth. Sometimes, someone pries the mouth open to insert food. If food is spit out, it's put back in. We are staying here until you swallow this bite, no matter how much you fight it.



Systematic Desensitization.

- Food Refusal Example

- You hate mandarin oranges. We know that. We just want you to take a look at this can of mandarin oranges. You're cool with that? Great! We just want open up this can of mandarin oranges, then. No big deal? Alright, let me put a few mandarin oranges on your plate. No, you don't have to eat them, but would you pick one up with the fork



Some common components of systematic desensitization programs



- Reinforcer is typically escape
- Prompt completion of the current level – do it FAST and then get the item AWAY (out of sight, typically)
- Deliver the reinforcer (escape and typically some praise or even possibly something more than just escape and praise, like a treat) immediately following the interaction
- Typically involves: a task analysis, forward chaining, client calm at each level / step, “fading in demand”

Systematic Desensitization at Work

- Video: Baked Beans



Photo by alfredo-9 on stock.adobe.com

- Keep in mind, this is a verbal adult. Think about the kids you work with.

Your clients

- Tell me some things your clients show aversion to which you think you could apply systematic desensitization.



- A YouTube search and the "Maury" show give us pickles, cotton balls, birds, frogs, chicken, Jell-O, gum, dogs, crabs, lizards, mustard, ketchup, and more.
- And remember, it doesn't just have to be for things we "fear" – we can really use this for virtually any aversive we come in contact with.

Systematic desensitization at FAC

- Fear of microphone
- Fear of toilets (all except one specific and ALL)
- Dental Procedures
- Swimming / Pool
- Shopping (in large stores)
- Aversion to diaper changes
- Work refusal / avoidance
- Tolerating a bath
- Tolerating lotion
- Tolerating nail clipping
- Leaving reinforcement*
- Leaving mom*
- Sound of the dishwasher cycle
- Riding in a car seat
- Fear of lizards
- Fear of outside/playground
- Feeding / Eating
- Pooping in the potty (without diaper)
- Tolerating a haircut
- Tolerating tooth brushing

Task Analysis



- The first step in a systematic desensitization program is to create the "hierarchy of anxieties."
- We would call this a task analysis, pretty much.
- Write this as a forward chain of events / as a hierarchy from simplest to easiest.
- Remember, it might be more than just DOING the actual activity. You might need to include looking at the item, being in the same room as the item, touching the item, etc. before you get to the terminal behavior.
- Essentially, you should write out EACH STEP of the process you want to shape.
- This task analysis / forward chain is the key to your desensitization program!

Sample: Poop with no diaper!



- Rationale: some kids hate letting go of their poop; the plop, the loss of the diaper, something! So they need help to gradually fade out the diaper and do the deed without it. Here's a brief version of a TA for this:
- Stand in bathroom wearing diaper and poop.
- Sit on potty fully diapered and poop.
- Cut tiny hole in diaper and do previous step.
- Cut slightly larger hole in diaper and do the same.
- Cut out bottom of diaper.
- Cut out sides of diaper (child wearing diaper band only)
- Snip off the diaper band!

Let's do one together: Food Refusal



- If you won't look at it, you won't touch it.
- If you won't touch it, you CERTAINLY won't taste it.
- If you won't smell it, you probably won't taste it.
- Let's try to get them to taste it!

Do we need ALL those steps?



- It depends.
- For some kids, you will need every step you can think of and a few more.
- For other kids, you'll just need the hardest few.
- Good news – many of our kids SKIP steps or generalize really quickly once they've had a single exposure.

Let's practice. Pick a program.

- Fear of microphone
- Fear of toilets (all except one specific and ALL)
- Dental Procedures
- Swimming / Pool
- Shopping (in large stores)
- Aversion to diaper changes
- Work refusal / avoidance
- Tolerating a bath
- Tolerating lotion
- Tolerating nail clipping
- Leaving reinforcement*
- Leaving mom*
- Sound of the dishwasher cycle
- Riding in a car seat
- Fear of lizards
- Fear of outside/playground
- Feeding / Eating
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- Tolerating a haircut
- Tolerating tooth brushing

Let's share!




- Everyone will take a turn sharing the task analysis their team has written.

Another video

- Afraid of clowns.





show me the data!

- Remember, we're behavior analysts! Data first!
- We are the SHOW ME method, not the tell me method, so what we see from those cognitive folks won't fly. We don't pick a number. We observe actual behavior.

General Notes for a Good Program



- Frequency / Intervals that you want the program run
- Response definition for a “correct” response
- Examples and non-examples of a correct response
- Mastery criteria for each step
- Method for selecting step to start at
- Method for determining if step should be skipped
- Method of selecting item to begin with if multiple items need the program (i.e. for food refusal)

How do I determine: Frequency

- You want your program run pretty frequently.
- You don't want to overwhelm your client.
- You need to determine the right balance for exposure to the stimuli AND for still getting other things done (if you are working on systematic desensitization concurrent with other programs, which I believe you should be)
- General guide, once every 15 – 20 minutes



How do I determine: Correct

- Unfortunately, a lot of what we are looking for as “correct” doesn’t pass dead man’s test
- Perhaps setting a criteria for “incorrect” is easier. Any attempts to leave the area, crying, flailing, dropping, wiggling, etc.
- You will have to set this dependent on your client, but remember, he or she should be **TOTALLY CALM** in the presence of the item / activity to be counted as correct.



How do I determine: Mastery



- A condition is mastered only when the client shows X instances of exposure met with no inappropriate behavior.
- You will need to determine what X is.
- If it is an item that produces extreme reactions in your client, perhaps you don't want to call it mastered until they have had 10 or 12 instances without inappropriate behavior. If they seem to have no problem with it the first time, skip it.

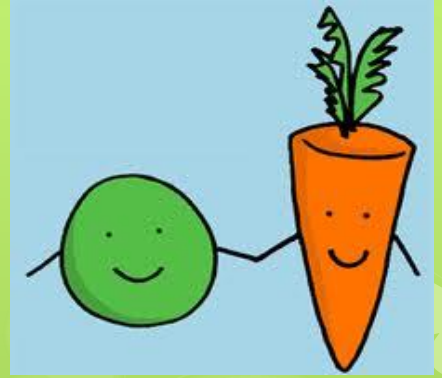
How do I determine: Starting Step

- Probe each step in your task analysis.
- The first step that produces an incorrect response is probably a good starting point.
- Remember, SHOW ME, not tell me – so we don't need to rely on all that verbal mediation we see in the videos.



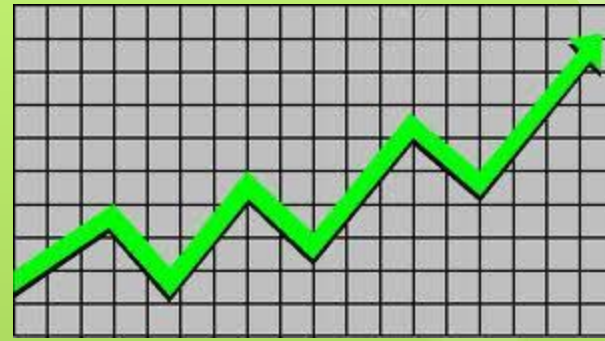
- Likewise, skip a step if it's the next step on your task analysis and seems to provoke no inappropriate reaction after several exposures.

How do I determine: Item



- If you are working on a program like food refusal, you will need to select the current food.
- It is recommended you choose a non-preferred food to start with, but not the MOST non-preferred food ever. Choose something maybe your client has tried before, or liked in the past, for example. You can select foods via formal preference assessment or other means, like parent report.
- It is recommended you stick with the SAME non-preferred (food) until it is mastered and then move onto another food. Don't intersperse a variety of non-preferred foods.

Let's get data!



- Converting your task analysis to take data is easy!
- Add columns to the right where you can write in "C" for correct and independent or "P" for prompted.
- When you see the number of "C's" you want in a row, it's time to move on to the next step.
- You can easily graph your corrects for the hour, day, week, etc. by converting your total trials to percentage correct and putting it on a graph. This way, you could set mastery criteria of X number of days, etc. correct.

Putting it all together



- Isolate your clients' inappropriate behavior.
- Identify the function.
- Determine which is better, pure extinction or systematic desensitization.
- If it's systematic desensitization, create a task analysis / shaping hierarchy.
- Start at the lowest level of exposure, granting the reinforcer (typically escape, though occasionally access) immediately following the exposure.
- Shape the behavior to the terminal goal.

**PRACTICE
MAKES
PERFECT!**

- Let's use one or two of our task analyses to "act out" a systematic desensitization program we have created today.

Contact Me

- Chrystin Bullock
- Cell: 407.460.1021
- Fax: 866.610.0580
- E-Mail: Chrystin@FLAutism.com
- Web: www.FLAutism.com

