

Anxiety, Depression, & Smoking

David A. F. Haaga, Ph.D.

American University

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good news and bad

- Smoking prevalence among US adults now below 20% (19.8 in 2007, down from 20.8 in 2006) (CDC).
- Then again, 22% of 18-24 year olds smoke, so it's not a passing fad that will soon disappear, like reading newspapers

Don't take my word for it

- Quitting smoking is good for you per the Surgeon General:
- **Question: Why should I quit?**
- **Answer:** You will live longer and feel better. Quitting will lower your chances of having a heart attack, stroke, or cancer. The people you live with, especially children, will be healthier. If you are pregnant, you will improve your chances of having a healthy baby.
- **RECESSION RATIONALE:** And you will have extra money to spend on things other than cigarettes.

But alas.....

- ...it's not easy.....
- From “Treating Tobacco Use and Dependence” [2008] meta-analysis: Estimated abstinence (6-month followup, intent to treat, 1-week point prevalence) rate:
 - Self-help 11
 - Proactive telephone counseling 13
 - Group counseling 14
 - Individual counseling 17
 - Medication 22
 - Medication and counseling 28

Even for athletic Presidents it's not
easy to quit!



You're another!

- Don't let those who work with other psychological disorders put you down.
- Brown & Barlow 2-year followup of panic control therapy found (completers only):
- % high endstate functioning at 3-month and 24-month FU AND no panic attacks in 2nd year of followup =.....
- 21

Ditto depression

- For one year in cognitive therapy of moderate to severe depression [better longterm results than antidepressants]
- (Penn/Vanderbilt study), 37% showed sustained response (up to 3 booster sessions allowed during the followup)

Whether smoking is especially hard to treat.....

- Depends on perspective. If we decided Tx worked b/c average rate declines relative to no treatment, would look great.
- But we want to achieve sustained abstinence for health reasons, and....

It's not getting any easier

- year of publication correlated $-.45$ (controlling for use of nicotine replacement) with 6-month abstinence point prevalence in Irvin/Brandon review 1970's through 1990's for CBT coping skills training

Why might this be?

- some increase in extent to which smokers are disproportionately male, with lower incomes and less formal education.
- Maybe some of the easy-to-treat people from 1970's programs are now quitting on their own via quality self-help books/websites
- More to the point for today's talk, some evidence that smokers are more likely to have mood/anxiety comorbidity than before.

One group who find it especially difficult to quit

- Depressed or depression-prone smokers.



Depression vulnerability and Smoking

- Brody, Hamer, & Haaga (2004).
- N = 487 adults (279 women). 74% caucasian, 11% African American, 7% Asian American, 1% Hispanic.
- Measured depression vulnerability with Depression Proneness Inventory (DPI).

DPI

- 10-item questionnaire (Alloy et al. 1987) stable, internally consistent, predicts depressive reactions to stress.
- Sample item: “Would your friends who know you best rate you as a person who easily becomes very depressed, sad, blue, or down in the dumps?” [1 to 7]

Smoking status

- Current everyday smokers (81)
- Current some day smokers (29)
- Former smokers (100)
- Never smokers (275) [<100 cigarettes lifetime]
- Higher depression proneness was associated with current smoking (vs. former or never)
- And with ever smoking (current and former vs. never)
- And with smoking to alleviate negative mood

Longitudinal research

- Other studies (e.g., Breslau) have shown that history of major depression at baseline predicts progression to daily smoking

Depression Vulnerability and Smoking Cessation

- Difficulty quitting smoking has been linked to:
 - Current depression (Glassman)
 - Subclinical depressive symptoms (Niaura)
 - Depressed mood (Cinciripini)
 - Depression history (sometimes)
 - Bipolar disorder (Kalman et al. review)

Anxiety and Smoking Cessation: PTSD

- Combat veterans with PTSD more likely to smoke and to smoke heavily than combat vets without PTSD
- PTSD symptoms positively correlate with nicotine dependence even with statistical control of depression proneness, at least among men (Thorndike et al.).

Anxiety and Smoking Cessation: Panic

- Smoking may increase the risk of panic disorder, though apparently not the reverse
- Panic and anxiety sensitivity associated with greater motivation to quit but also greater likelihood of relapsing within a week [Zvolensky]

Smoking cessation and increased negative mood

- Quitting smoking itself can lead to increased depressive symptoms (Niaura) and depressed mood (Hall), especially among those with a history of depression
- And increases in depressed mood after quitting predict relapse (Burgess)
- Negative mood states are commonly reported immediate precipitants of lapses

Interim Tentative Conclusion

- One reason depression-vulnerable smokers are smoking is to help them manage negative mood.
- Take this tool away [i.e., quit smoking], and they have a harder time managing negative mood, become more depressed, and revert to what has worked well for them before [smoking]

So should we try to help depressed and anxious people quit?

- Several case reports of major depressive episodes in the wake of smoking cessation give pause, but....
- Very little controlled research on whether it is better to treat psychological disorder and cigarette smoking concurrently or sequentially
- As a precaution, at AU we exclude actively suicidal and strongly encourage currently depressed to be in separate therapy also.

Treatment Principle

- Just as we use nicotine replacement to address a deficiency among the highly nicotine dependent, so too we might need to focus with depression-vulnerable smokers on helping them manage negative moods.

Treatment procedures--Generic

- General good advice such as:
- set a quit date
- tell everybody you know to support and ask for understanding
- make your home smoke-free
- anticipate withdrawal symptoms
- consider bupropion, varenicline, nicotine replacement esp. if heavy smoker
- anticipate challenges based on prior quit attempts

Treatment Procedures-specialized

–Current comorbid Disorders

- Little controlled research on specialized options for smokers with anxiety disorders
- Recent trial with currently depressed smokers (Hall, Prochaska et al.): standard psychological and pharmacological methods worked better than brief contact
- Depressive symptoms lowered with treatment whether smoking stopped or not

Specialized options for depression-prone smokers

- Antidepressants, e.g., nortriptyline
- Psychotherapy adaptations – example cognitive behavior therapy

CBT for Depression Applied to Smoking

- Based on manuals by Hall, Munoz, Brandon, adapted to fit scheduled reduced smoking (SRS)
- Session 1 – group rules, SRS plan (2/3, 1/3, then lower every 2 days—dissociate smoking from cues), review quit histories, smoking patterns.
- #2 personalize cons of smoking and pros of quitting. Social support. Patch education. Individual obstacles to quitting

CBT and Comparison (cont.)

- #3 social support plan, coping strategies for anticipated obstacles/temptations, patch plan, discard all cigarettes before quit day
- #4 quit day – self-reinforcement for abstinence, coping plans
- #5 [2 days later] review urges/lapses, self-reward strategies, group support. Troubleshoot weight concerns

CBT and Comparison (cont.)

- #6 review urges/lapses, temptations, longterm consequences of quitting
- #7 social support, environmental modifications. Review lapses. Vigilance, wary of overconfidence. Exercise
- #8 review all strategies. Individual plan for maintenance. Public commitment to abstinence (cf. dissonance strategies).

CBT – unique component

- Starting in session #2 time for C and B strategies for managing negative mood
- Some is just framing – exercise as healthy lifestyle vs. exercise helps you cope with mild depression
- Also responding to negative automatic thoughts a la CBT of depression. Could pertain to quitting process or not.

Sample automatic thought review

- *Situation:* USATF changed the rules on club eligibility without telling us, making it hard for MCRRC to renew and greatly increasing hassle factor on team registration.
- *Emotions:* Vexatious, peeved, irked 50
- *Automatic thoughts:* I wish I hadn't bothered with team recruitment. Why does everything have to be such a pain? Bureaucrats make up rules just to justify their own existence. 90

Restructuring/reframing

- What's the evidence? Is there any way to test this thought? Is there any other way to look at it? Is it useful to think this way? Is there anything I can do about it?
- *Balanced [aka rational] response:* I suppose I could try to find out why they changed the rule. Everyone I've dealt with individually seems well-meaning. Several people have gone out of their way to help. Taking it personally is not going to help me achieve my goal in this situation. 65

Feeling any better?

- *Re-rate belief in AT: 40 [was 90]*
- *Re-rate emotion: 20 [was 50]*

Efficacy of CBT for depression-vulnerable smokers

- Initial Hall finding of selective benefit for depression-history-positive smokers but...

Alternative Explanation

- Contact time not equated. Maybe the depression-vulnerable benefit especially from ANY additional intervention [e.g., the group support perhaps]
- 1996 (non)replication with contact time equated, and 1998 replication with contact time unequal again support this possibility

On the other hand.....

- Brown 2001 study with secondary analysis of 2 or more episodes as marker
- Haas replication of Brown in secondary analysis of several UCSF studies
- Brown 2007 failure to replicate Brown 2001
- Maybe depression-history-positive (even recurrent) is insensitive as an index of vulnerability [Alloy]
- Brandon study with DPI

Kapson & Haaga (2009) study

- Full CBT vs. comparison without the cognitive restructuring:
- N = 100 (51% female) adults (20 to 68, M = 43), 65% Caucasian, 29% African American, 9% Hispanic, M = 18 cigarettes/day for M = 23 years. M = 4 failed quit attempts, FTND mean 4.66.
- Near-perfect differentiability and therapist adherence

7-day Point prevalence abstinence 3 months after quit day

Depression Prone	CBT	Comparison
• High (DPI \geq 32)	35	22
• Low	10	33
• No significant main effects. Significant interaction of depression proneness and treatment condition		

Hypothesized explanation

- The cognitive restructuring component is giving highly depression-prone something they need [though mediator still to be pinned down].....
-but is perhaps a waste of time for the less depression-prone, watering down the other components of treatment since we matched on time (8 group sessions X 90 mins.)

Next frontier: Improve uptake of the intervention

- In Thorndike et al. 2006 pilot study 1-month abstainers were more likely to:
- attend all sessions [replicated in Kapson & Haaga 2009)
- Adhere to scheduled reduced smoking
- Adhere to thought records if in CBT
- 12% in '09 study refused treatment altogether. Others attended mean of 5 out of 8 sessions and many showed spotty homework adherence.

Tentative Conclusion

- More research is needed (as usual), particularly to pin down the optimal cutoff, but tentatively recommend
- $DPI \geq 32$, incorporate cognitive restructuring/mood management
- $DPI \leq 31$, don't bother.
- Time permitting, go on to consider how to scare people into doing what's good for them. If not, see slides on the web and be ready for the final exam

You can't help but those who show up

- Provided we can get them to keep attending, this is all well and good if the person is interested in quitting
- Smokers in early stages of change (esp. precontemplators) no more likely to be depressed currently (Acton et al.) than are other smokers.
- Still, approximately 40% are precontemplators (not planning to quit in next 6 months)

Another problem that may be getting worse

- CDC: 2007 40% of current everyday smokers quit for at least 24 hours, down from 47% in 2006.

What promotes contemplation?

- Pearlman, Wernicke, Thorndike, & Haaga (2004, using think-aloud cognitive assessment), among others, have found contemplation inversely correlated with outcome expectancies for smoking.

Cancer = dramatic outcome- expectancy intervention

- Most people who develop cancer at least try to quit, often successfully.
- 65% 12-month abstinence in a study of head and neck cancer [Gritz et al.] patients
- But ideally we'd like people to personalize it sooner

Motivational interviewing

- Express empathy, roll with resistance, reinforce change talk, develop discrepancy.
- Meta-analysis suggests useful for generating quit attempts but not successful abstinence (e.g., when added to cessation programs).

Right tactic at the right time?

- Carlo DiClemente and colleagues' research suggests that apt change processes vary by stage, e.g. experiential processes such as consciousness raising more important in early stages, relative to behavioral/action processes

Time to Resuscitate Fear Appeals?

- Generally we're concerned that heightened anxiety will make it harder for smokers to quit
- But to motivate behavior change may need at least some anxiety *about* smoking itself.
- Not sufficient, as it doesn't tell you what to do or make you confident you can do it, but maybe necessary.

Putting the “cons” in motion to activate quitting behavior

- One idea is to focus on short-term negatives – forget lung cancer risk some day; your breath stinks now!
- Alternate hypothesis borrowed from anxiety literature: activate a sense of “looming” vulnerability to the major long-term harms caused by smoking to increase anxiety and make it seem urgent to quit

Looming vulnerability

- Riskind's research/theorizing: anxiety is driven not just by perceived threat but by the perception that the threat is rapidly rising and becoming more proximal.

Research in progress

- McDonald, O'Brien, Farr, and Haaga (2009) pilot study with $N = 72$ smokers, with data complete and analyzed for first wave of 36

Looming vs. control conditions

- Imagery scripts e.g., as you smoke, a train speeds up toward you on tracks vs. you go for a pleasant drive
- As you smoke, calendar pages fly off the wall vs. image of turning pages in a magazine you're reading on the metro

Prelim results

- Visual analogue scale (0-100) for state anxiety before and after imagery (means)
- | | Looming | Control |
|--------|---------|---------|
| • Pre | 27 | 20 |
| • Post | 50 | 28 |

Contemplation Ladder (0-10)

- Immediately after imagery manipulation, contemplation of quitting:
- Looming Control
- 7.00 5.78

Quit attempt (>24 hours) in next month

• Quit Attempt	Looming	Control
• %	43	12

Future research

- Now running a second set of 36 subjects. If stable finding, want to get funding to do it with in-person second assessment so can verify whether they are abstinent
- Test as a lead-in to a change strategy such as self-help site and OTC nicotine replacement
- Test various alternative ways of activating the sense of looming vulnerability

Conclusion: Threading the Needle

- May need to get people upset enough about their smoking to want to do something about it NOW.....
- But not just discourage them and leave them coping with feeling bad by smoking.

What people would like



What may be more realistic



Motto

- It's going to be tough, but you can do it, and your life will be a lot better as a result