

UC Office of the President

Research Grants Program Office (RGPO) Funded Publications

Title

M78 Emotion Regulation Expectancies and Smoking Cessation Factors: An Ecological Momentary Assessment Study During a Practice Quit Attempt

Permalink

<https://escholarship.org/uc/item/0hm5z5n2>

Authors

Pang, Raina

Wang, Shirlene

Tucker, Chyna

et al.

Publication Date

2024-07-01

DOI

10.1016/j.drugalcdep.2023.110358

Copyright Information

This work is made available under the terms of a Creative Commons Attribution-NonCommercial-NoDerivatives License, available at

<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Peer reviewed

1 ©Elsevier, 2023. This paper is not the copy of record and may not exactly replicate the
2 authoritative document published in the Elsevier journal. The final article is available,
3 upon publication, at: doi: 10.1016/j.drugalcdep.2023.109810
4

5

6

7 Emotion regulation expectancies and smoking cessation factors: a daily diary study of California
8 adults who smoke cigarettes during a practice quit attempt

9 Raina D. Pang^{a,b}, Shirlene D Wang^a, Chyna J. Tucker^{a,c}, Lori Zadoorian^a, Andrea H.

10 Weinberger^{d,e}, Lina D'Orazio^f, Matthew G. Kirkpatrick^{a,b}

11

12 ^aDepartment of Population and Public Health Sciences, Keck School of Medicine, University of
13 Southern California, 1845 N. Soto St., Los Angeles, CA 90032, USA

14 ^bDepartment of Psychology, University of Southern California, 3620 McClintock Ave., Los
15 Angeles, CA 90089, USA

16 ^cDepartment of Social Welfare, University of California, Los Angeles, 3250 Public Affairs
17 Building, Los Angeles, CA 90095, USA

18 ^dDepartment of Psychiatry and Behavioral Sciences, Ferkauf Graduate School of Psychology,
19 Yeshiva University, 1165 Morris Park Ave. Rousso Building, Bronx, NY 10461, USA

20 ^eDepartment of Epidemiology and Population Health Albert Einstein College of Medicine, 1300
21 Morris Park Avenue, Bronx, NY 10461, USA

22 ^fDepartment of Neurology, University of Southern California, 1520 San Pablo St. Los Angeles,
23 CA 90033, USA
24

25 Author Statement:

26 This work was supported by the Tobacco-Related Disease Research Program [28IR-0048].

27 Declarations of interest: none. Correspondence concerning this article should be addressed to

28 Raina D. Pang, 2001 N. Soto Street, Suite 312E, Los Angeles, CA 90032; Tel: 1-323-442-7251;

29 Email: rpang@usc.edu.

1

2

1 **Abstract**

2 **SIGNIFICANCE:** Cross-sectional studies have shown that greater cigarette smoking-related
3 emotion regulation expectancies were associated with retrospectively reported **withdrawal during**
4 prior quit attempts and greater barriers to cessation. Few studies have investigated the
5 relationship of within-person daily emotion regulation expectancies to factors related to initiating
6 and maintaining a brief quit attempt. **METHODS:** People living in California who smoked
7 cigarettes daily (n=220, 50% female; 48.5% white, 14.6% Hispanic, 16.7% Black or African
8 American, 9.6% Asian, 7.6% Multi-race, 3.0% other race; mean age=43.71 years old) completed
9 a practice quit attempt and 28-days of daily diary surveys. In the morning, participants reported
10 non-smoking and smoking emotion regulation expectancies based on the Affective Processing
11 Questionnaire, daily abstinence plan, abstinence self-efficacy, and cigarettes smoked. Successful
12 abstinence plans were calculated as days with an abstinence plan and no cigarettes smoked.
13 Multilevel models investigated whether within-person emotion regulation expectancies were
14 associated with abstinence plan, self-efficacy, and successful abstinence plan. **RESULTS:**
15 Greater within-person non-smoking emotion regulation expectancies were associated with
16 increased odds of having an abstinence plan, higher self-efficacy, and a successful abstinence
17 plan on a given day (ps<.05). Greater within-person smoking emotion regulation expectancies
18 were associated with lower odds of having an abstinence plan and lower self-efficacy (ps<.001)
19 but did not significantly associate with a successful abstinence plan. **CONCLUSIONS:** These
20 findings show that within-person levels of expectations in emotion regulation abilities may
21 contribute to factors relevant to initiating and achieving daily abstinence during a practice
22 attempt.

23
24 Keywords: smoking, smoking abstinence, smoking quit attempt, emotion regulation

25 expectancies, daily diary, abstinence self-efficacy

26

1 1. Introduction

2 Cigarette use is considered a leading cause of preventable disease and death in the United
3 States (Sealock & Sharma, 2022). Thus, smoking cessation is a necessary step to decreasing the
4 prevalence of preventable fatal diseases and it is important to analyze contributing factors that
5 impact a person's ability to attempt smoking cessation and stay abstinent. Emotion regulation is
6 a factor that may be relevant to smoking cessation outcomes. Several cross-sectional studies have
7 shown an association between trait emotion **dysregulation and greater problems with withdrawal**
8 during past smoking cessation attempts as reported retrospectively (Johnson & McLeish, 2016;
9 Rogers et al., 2018; Zvolensky et al., 2019a, 2019b). Fewer studies have examined the
10 relationship between emotion regulation and cessation success during a quit attempt. One study
11 of treatment-seeking adults who smoke daily in a smoking cessation clinical trial found that
12 **emotion dysregulation was** associated with greater withdrawal symptoms reported on quit day
13 and a slower decline in withdrawal symptoms over twelve weeks (Rogers et al., 2019). Smoking
14 and non-smoking emotion regulation expectancies, or expectations related to regulating emotions
15 with the use of cigarettes (i.e., I am confident that smoking would improve my mood.) and
16 without the use of cigarettes (i.e., I am confident that I could do something other than smoke to
17 improve my mood.), may also play an important role in smoking cessation. Greater expectations
18 that smoking improves emotions have been found to associate with a decreased likelihood of
19 abstinence during a cessation attempt (Wetter et al., 1994). Another study found that lower non-
20 smoking emotion regulation expectancies were associated with more smoking as indicated by
21 higher carbon monoxide levels following a laboratory stressor (Wetter et al., 1992). One study

1 did not find associations of average pre-quit day emotion regulation expectancies with smoking
2 abstinence on quit day or 7-days post quit date (Spears et al., 2019).

3 Taken together, prior studies suggest a role of emotion regulation expectancies as a factor
4 relevant to smoking cessation outcomes. However, these studies have been largely cross-
5 sectional, retrospective, and focused on between-person differences (i.e., individual differences
6 emotion regulation expectancies). It is unknown whether *within-person* levels of emotion
7 regulation expectancies (i.e., the deviation of a daily response from one's average response)
8 associate with factors relevant to daily decisions and ability to abstain from smoking.

9 The aim of this secondary analysis of daily diary data was to investigate associations of
10 non-smoking and smoking emotion regulation expectancies with abstinence plan, abstinence
11 self-efficacy, and successful abstinence (i.e., smoking 0 cigarettes on days with a plan to abstain
12 from smoking). We hypothesized that within-person non-smoking emotion regulation
13 expectancies would associate with a greater likelihood of an abstinence plan, higher abstinence
14 self-efficacy, and a greater likelihood of a successful abstinence plan. We also hypothesized that
15 days with higher-than-usual smoking emotion regulation expectancies would associate with a
16 lower likelihood of an abstinence plan, lower abstinence self-efficacy, and a lower likelihood of a
17 successful abstinence plan.

18 **2. Method**

19 *2.1 Participants*

20 The current report is a secondary analysis of a study investigating associations of
21 elevated depression symptoms and smoking reinstatement among adults with daily smoking with

1 and without depression symptoms. To be eligible for the parent study, participants were between
2 21 and 70 years of age; self-reported regular cigarette smoking for at least one year; reported
3 currently smoking 5+ cigarettes/day; were able to complete study procedures; resided in the state
4 of California (United States); owned a smart device compatible with the LifeData app; and were
5 able to complete online surveys and attend sessions via videoconference or phone. Participants
6 were excluded for (1) meeting diagnostic criteria for lifetime bipolar disorder or current
7 posttraumatic stress disorder assessed by a research assistant via a structured clinical interview
8 (the Mini International Neuropsychiatric Interview; Sheehan et al., 1998); (2) pregnancy or intent
9 to get pregnant; or (3) incompatible schedule with data collection protocol (i.e., having a job that
10 required being awake overnight).

11 *2.2 Procedure*

12 Following a preliminary phone screen assessing eligibility, participants attended a remote
13 baseline session that included informed consent, baseline measures, and a psychiatric interview.
14 Eligible participants were trained on Ecological Momentary Assessment (EMA) protocols and
15 completed 28-days of EMA with a practice quit attempt scheduled approximately one week
16 following study enrollment. Throughout EMA, participants were asked to complete smoking
17 event-contingent prompts for every cigarette they smoked and signal-contingent prompts
18 following some cigarettes (minimum 6 hours between post-cigarette prompts), three prompts at
19 pseudo-random times of the day, one prompt in the morning, and one prompt in the evening.
20 Participants received a minimum of 5 prompts per day, and the total number of prompts per day
21 depended on the number of cigarettes smoked each day. Emotion regulation expectancies and

1 self-efficacy were only assessed in the morning and abstinence plan and smoking abstinence
2 were assessed at the day level. The current daily diary analyses used measures from the morning
3 survey only; results from EMA prompts will be reported separately. Participants were contacted
4 approximately twice per week to review study compliance (i.e., the number of surveys that were
5 completed) and were paid at the end of every week they were enrolled in the study. Participants
6 could earn up to \$315 in the study. All procedures were approved by the University of Southern
7 California Institutional Review Board.

8 2.3 Baseline Measures

9 The author-constructed *Personal History Questionnaire* and *Smoking History*
10 *Questionnaire* assessed demographics (e.g., age, race/ethnicity, sex) and smoking history (e.g.,
11 cigarettes per day, age started smoking), respectively. The 6-item *Fagerström Test for Cigarette*
12 *Dependence (FTCD)* assessed cigarette dependence severity (Fagerström, 2003, 2012). The
13 *Center for Epidemiologic Studies Depression Scale (CES-D)* was used to measure depression
14 symptoms (Radloff, 1977).

15 2.4 Daily Diary Measures

16 Two questions based on the Affective Processing Questionnaire (Wetter et al., 1992)
17 assessed *non-smoking emotion regulation expectancies* (“I am confident that I could do
18 something other than smoke to improve my mood”) and *smoking emotion regulation*
19 *expectancies* (“I am confident that smoking would improve my mood”) on a rage slider from 1
20 (Not at all confident) to 6 (Extremely confident). These items have been used in another smoking
21 cessation EMA study (Spears et al., 2019). The interclass correlation (ICC) was .47 and .51 for

1 non-smoking emotion regulation expectancies and smoking emotion regulation expectancies,
2 respectively.

3 *Abstinence plan* was assessed by asking participants, “Do you have any plans to quit or cut
4 down on smoking today?”. Responses included “No, I plan to smoke today”; “Yes, I plan to cut
5 down today”; “Yes, I plan to not smoke today”. For the analyses, we created a binary variable
6 indicating an abstinence plan (i.e., “Yes, I plan to not smoke today”) compared to a plan to
7 smoke or reduce smoking. *Abstinence self-efficacy* was assessed by the question, “How confident
8 are you that you will be able to not smoke today?”.

9 Smoking behavior the day before was assessed by asking, “How many cigarettes did you
10 smoke yesterday?”. We created a dichotomized *abstinence* variable of abstaining (0 cigarettes
11 smoked) or not abstaining (1+ cigarettes smoked). To assess *successful abstinence*, we created a
12 variable that characterized whether participants abstained from smoking on days they reported a
13 plan to abstain. To encompass the full day following an abstinence plan, abstinence plan was
14 lagged to day t-1, such that abstinence plan and abstinence variables represented the same day.

15 2.5 Data Analysis

16 Preliminary data analyses assessed daily diary **survey compliance (i.e., the number of**
17 **surveys that were completed)** and patterns of missing data. Primary aims were evaluated using
18 multilevel linear models (abstinence self-efficacy) and multilevel logistic regressions (abstinence
19 plan, successful abstinence plan). Non-smoking and smoking emotion regulation expectancies
20 were partitioned into between- (i.e., mean across all completed responses, grand mean centered)
21 and within-person (i.e., that day’s response in relation to that person’s average response)

1 variables. First, we tested whether emotion regulation expectancies were associated with
2 abstinence plan and abstinence self-efficacy using all responses. Next, we ran models
3 investigating whether emotion regulation expectancies associated with successful abstinence
4 (i.e., cigarette abstinence on days with an abstinence plan). Non-smoking and smoking emotion
5 regulation expectancies were run in one model and all models controlled for between-person
6 non-smoking and smoking emotion regulation expectancies, sex, age, cigarette dependence, and
7 depression symptoms. Analyses were conducted in SPSS (Version 28) and missing data were
8 handled under missing at random assumptions.

9 3. Results

10 3.1 *Survey completion and demographics*

11 Of the 225 participants found eligible at baseline and enrolled, four participants were
12 excluded from the analyses due to completing a different version of the smoking intention
13 question and one participant was excluded for not completing any morning daily diary surveys.
14 The final analytic sample was 220. Participants completed an average of 25.60 days (SD = 4.77)
15 of prompts and responded to 5,172 (84% surveys completed) morning prompts. Completion of
16 morning prompts was not significantly correlated with sex, cigarette dependence, depression
17 symptoms, non-smoking emotion regulation expectancies, or smoking emotion regulation
18 expectancies ($p > .05$). Completion of surveys was significantly associated with age ($r = .19$,
19 $p = .005$). Sample demographics and baseline smoking characteristics are shown in Table 1.
20 Participants reported an abstinence plan on 31.7% of days and were successful (i.e., did not
21 smoke any cigarettes) on 74.8% of days they set an abstinence plan.

1 *3.2 Non-smoking emotion regulation expectancies*

2 Higher within-person non-smoking emotion regulation expectancies were associated with
3 increased odds of having an abstinence plan (OR [95%CI]=1.35 [1.27-1.44]; Table 2) and greater
4 abstinence self-efficacy (estimate=0.66, $p<.00$; Table 2). Within-person non-smoking emotion
5 regulation expectancies were associated with increased odds of successful abstinence (OR
6 [95%CI]=1.18 [1.04-1.33]; Table 2).

7 *3.3 Smoking emotion regulation expectancies*

8 Within-person smoking emotion regulation expectancies were associated with lower odds
9 of having an abstinence plan (OR [95%CI]=0.82 [0.77-0.88]; Table 2) and lower self-efficacy
10 (estimate=-0.20, $p<.001$; Table 2). There was not a significant association between within-person
11 smoking emotion regulation expectancies and successful abstinence (OR [95%CI]=1.10[0.96-
12 1.25]; Table 2).

13 **4. Discussion**

14 Consistent with our hypotheses, we found that within-person non-smoking emotion
15 regulation expectancies were associated with greater odds of an abstinence plan, greater
16 abstinence self-efficacy, and greater odds of remaining abstinent on days with an abstinence plan
17 (i.e., successful abstinence plan). These findings align with prior work showing that general
18 emotion regulation abilities may play a role in one's ability to have a successful smoking
19 cessation attempt (Johnson & McLeish, 2016; Rogers et al., 2018; Zvolensky et al., 2019a,
20 2019b). This study extends prior work by showing that after controlling for between-person
21 levels of non-smoking emotion regulation expectancies, within-person non-smoking emotion

1 regulation expectancies are associated with setting a plan to abstain from smoking, having
2 confidence in the plan to not smoke, and successfully carrying out a plan to abstain from
3 smoking. This finding is important because it suggests that treatments that improve an
4 individual's confidence in regulating their emotions without smoking may increase the likelihood
5 that one may set and carry out an abstinence plan.

6 We found support for hypotheses that within-person smoking emotion regulation
7 expectancies were associated with setting an abstinence plan and confidence in remaining
8 abstinent but did not find a significant association between within-person smoking emotion
9 regulation expectancies with successful abstinence plan. Prior research has found that
10 expectations that smoking helps relieve negative emotions associate with worse smoking
11 cessation success (Wetter et al., 1994), and the current findings suggest that day-level smoking-
12 related emotion regulation expectancies may decrease the intention and confidence in abstaining
13 from smoking that day. Yet, on days with an abstinence plan there was no significant effect of
14 smoking emotion regulation expectancies with smoking abstinence. These findings suggest that
15 overall expectations for emotion regulation capacity may play a greater role in successfully
16 carrying out a plan to abstain from smoking than expectations that smoking regulates emotions.
17 This finding is consistent with Wetter et al. (1992) who found non-smoking emotion regulation
18 was associated with more cigarette smoking as measured by greater expired carbon monoxide
19 levels following a stressor.

20 This study needs to be interpreted in the context of its limitations. This study focused on a
21 practice smoking cessation attempt and did not enroll people specifically intending to quit

1 smoking. As such, findings may not generalize to people who smoke and are actively trying to
2 quit smoking. The majority of people in the US who smoke report they want to quit smoking
3 (Babb et al., 2017), but less than one third report using evidence-based cessation methods (Babb
4 et al., 2017). As such, it is important to study individuals who smoke who may not be ready for
5 long-term smoking cessation. This study also focused on day-level abstinence plans, self-
6 efficacy, and ability to stay abstinent. While this limits the generalizability of the findings to
7 long-term smoking cessation, there are several reasons why studying brief quit attempts are
8 important. Individuals contemplating smoking cessation make more 24-hour quit attempts in
9 comparison to individuals not contemplating smoking cessation (DiClemente et al., 1991) and
10 enhancing intention to quit in individuals who are not ready to attempt long-term abstinence is
11 considered an important feature of several smoking interventions (Fiore et al., 2008). Taken
12 together, findings from this study importantly show that day-level non-smoking and smoking
13 emotion regulation expectancies play an important role in intention to abstain from smoking.
14 Furthermore, non-smoking emotion regulation expectancies were uniquely associated with
15 successfully abstaining from smoking when one had an abstinence plan.

16

17 Author disclosures**18 Role of funding source**

19 This work was supported by the Tobacco-Related Disease Research Program, US [28IR-
20 0048]. The funder had no role in study design, data collection and analysis, decision to publish,
21 or preparation of the manuscript.

1 **Conflict of Interest**

2 No conflict declared.

3 **Author's contribution**

4 RDP generated the initial idea for the analysis reported in the manuscript, conducted data
5 analysis, and wrote the original draft of the manuscript. SDW conducted data analysis and
6 provided critical review and commentary. LZ, CJT, AHW, LMD, and MGK provided critical
7 review and commentary. All authors approved the final manuscript.

8

Table 1. Sample demographics and smoking characteristics

	M or N	SD or %
Demographics^a		
Age (years)	43.71	12.64
Depression Symptoms ^b	20.31	12.48
Female sex	110	50.0%
Race/Ethnicity		
White	96	48.5%
Hispanic, any race	29	14.6%
Black or African American	33	16.7%
Asian	19	9.6%
Multi-race	15	7.6%
Other	6	3.0%
Baseline Smoking Characteristics^a		
Cigarettes per day	12.70	7.49
Cigarette Dependence ^c	4.70	2.17
Daily Diary		
non-smoking emotion regulation expectancies	3.62	1.47
smoking emotion regulation expectancies	2.99	1.49

Note. ^an's ranged from 198-220 due to patterns of missing data. ^bDepression symptoms was measured using the Center for Epidemiological Studies Depression (CES-D) with higher scores indicating greater depression symptoms. ^cCigarette dependence was assessed using the Fagerström Test of Cigarette Dependence (FTCD) with higher scores indicating higher cigarette dependence.

1 Table 2. Models of emotion regulation expectancies associations with smoking-cessation-related factors.

	Abstinence Plan		Abstinence Self-Efficacy		Successful Abstinence	
	OR [95% CI]	p	Estimate (SE)	p	OR [95% CI]	p
Intercept	0.50 [0.03, 9.45]	.64	2.88 (0.08)	<.001	2.63 [0.15, 46.51]	.51
Non-Smoking Emotion Regulation Expectancies-WP	1.35 [1.27, 1.44]	<.001	0.66 (0.06)	<.001	1.18 [1.04, 1.33]	.01
Smoking Emotion Regulation Expectancies-WP	0.82 [0.77, 0.88]	<.001	-0.20(0.06)	.001	1.10 [0.96, 1.25]	.17

2 Key: CI, confidence interval; OR, odds ratios; SE, standard error, WP, within-person

3 Note. All models controlled for between-person non-smoking emotion regulation expectancies, between-person smoking

4 emotion regulation expectancies, sex, age, cigarette dependence, and depression symptoms. Successful Abstinence was defined

5 as abstaining from smoking on days with an abstinence plan.

1 **Reference**

- 2 Babb, S., Malarcher, A., Schauer, G., Asman, K., & Jamal, A. (2017). Quitting Smoking Among
3 Adults-United States, 2000-2015. *MMWR Morbidity and Mortality Weekly Report*(65),
4 1457-1464. <https://doi.org/https://www.cdc.gov/mmwr/volumes/65/wr/mm6552a1.htm>
- 5 DiClemente, C. C., Prochaska, J. O., Fairhurst, S. K., Velicer, W. F., Velasquez, M. M., & Rossi,
6 J. S. (1991). The process of smoking cessation: an analysis of precontemplation,
7 contemplation, and preparation stages of change. *J Consult Clin Psychol*, 59(2), 295-304.
8 <https://doi.org/10.1037//0022-006x.59.2.295>
- 9 Fagerström, K. (2003). Time to first cigarette; the best single indicator of tobacco dependence?
10 [Research Support, Non-U.S. Gov't]. *Monaldi Arch Chest Dis*, 59(1), 91-94.
11 <http://www.ncbi.nlm.nih.gov/pubmed/14533289>
- 12 Fagerström, K. (2012). Determinants of tobacco use and renaming the FTND to the Fagerström
13 Test for Cigarette Dependence. *Nicotine Tob Res*, 14(1), 75-78.
14 <https://doi.org/10.1093/ntr/ntr137>
- 15 Fiore, M. C., Jaen, C., & Baker, T. B. (2008). *Treating tobacco use and dependence: 2008*
16 *update*. U.S. Department of Health and Human Services. Public Health Service.
- 17 Johnson, A. L., & McLeish, A. C. (2016). The indirect effect of emotion dysregulation in terms
18 of negative affect and smoking-related cognitive processes. *Addict Behav*, 53, 187-192.
19 <https://doi.org/10.1016/j.addbeh.2015.10.023>
- 20 Radloff, L. S. (1977). The CES-D Scale: A Self-Report Depression Scale for Research in the
21 General Population. *Applied Psychological Measurement*, 1(3), 385-401.
22 <https://doi.org/10.1177/014662167700100306>
- 23 Rogers, A. H., Bakhshaie, J., Garey, L., Piasecki, T. M., Gallagher, M. W., Schmidt, N. B., &
24 Zvolensky, M. J. (2019). Individual differences in emotion dysregulation and trajectory
25 of withdrawal symptoms during a quit attempt among treatment-seeking smokers. *Behav*
26 *Res Ther*, 115, 4-11. <https://doi.org/10.1016/j.brat.2018.10.007>
- 27 Rogers, A. H., Bakhshaie, J., Viana, A. G., Manning, K., Mayorga, N. A., Garey, L., Raines, A.
28 M., Schmidt, N. B., & Zvolensky, M. J. (2018). Emotion dysregulation and smoking
29 among treatment-seeking smokers. *Addict Behav*, 79, 124-130.
30 <https://doi.org/10.1016/j.addbeh.2017.12.025>
- 31 Sealock, T., & Sharma, S. (2022). Smoking Cessation. In *StatPearls*. StatPearls Publishing
32 Copyright © 2022, StatPearls Publishing LLC.
- 33 Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., Hergueta, T.,
34 Baker, R., & Dunbar, G. C. (1998). The Mini-International Neuropsychiatric Interview
35 (M.I.N.I.): the development and validation of a structured diagnostic psychiatric
36 interview for DSM-IV and ICD-10. *J Clin Psychiatry*, 59 Suppl 20, 22-33;quiz 34-57.
- 37 Spears, C. A., Li, L., Wu, C., Vinci, C., Heppner, W. L., Hoover, D. S., Lam, C., & Wetter, D.
38 W. (2019). Mechanisms linking mindfulness and early smoking abstinence: An
39 ecological momentary assessment study. *Psychol Addict Behav*, 33(3), 197-207.
40 <https://doi.org/10.1037/adb0000451>

- 1 Wetter, D. W., Brandon, T. H., & Baker, T. B. (1992). The relation of affective processing
2 measures and smoking motivation indices among college-age smokers. *Advances in*
3 *Behaviour Research and Therapy*, 14(3), 169-193.
4 [https://doi.org/https://doi.org/10.1016/0146-6402\(92\)90007-B](https://doi.org/https://doi.org/10.1016/0146-6402(92)90007-B)
- 5 Wetter, D. W., Smith, S. S., Kenford, S. L., Jorenby, D. E., Fiore, M. C., Hurt, R. D., Offord, K.
6 P., & Baker, T. B. (1994). Smoking outcome expectancies: factor structure, predictive
7 validity, and discriminant validity. *J Abnorm Psychol*, 103(4), 801-811.
- 8 Zvolensky, M. J., Shepherd, J. M., Bakhshaie, J., Garey, L., Viana, A. G., & Peraza, N. (2019a).
9 Emotion dysregulation and cigarette dependence, perceptions of quitting, and problems
10 during quit attempts among Spanish-speaking Latinx adult smokers. *Addict Behav*, 96,
11 127-132. <https://doi.org/10.1016/j.addbeh.2019.05.002>
- 12 Zvolensky, M. J., Shepherd, J. M., Bakhshaie, J., Garey, L., Viana, A. G., & Peraza, N. (2019b).
13 Emotion dysregulation and smoking outcome expectancies among Spanish-speaking
14 Latinx adult cigarette smokers in the United States. *Psychol Addict Behav*, 33(6), 574-
15 579. <https://doi.org/10.1037/adb0000481>
16