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Experiential Avoidance and Meta- Emotions in Smokers and Non- Smokers: A Comparative Study

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Published Date: July 27, 2026**Article DOI:** 10.65150/EP-jsshrs/V2E7/2026-40**ABSTRACT:**

Background: Experiential avoidance is the tendency to avoid unpleasant thoughts and emotions, while meta- emotions are feelings about one's own emotions. Smoking may serve as a coping mechanism for managing emotional distress.

Objective: This study examined the main and interaction effects of smoking and non- smoking behaviour and sex on experiential avoidance and meta- emotions.

Methods: Using a cross- sectional comparative design, data were collected from 120 university students aged 18-25 with equal representation of smoking and non- smoking behaviour and balanced sex distribution. Analysis was carried out on 108 participants after data cleaning. Standardized tools, including Brief experiential avoidance questionnaire (BEAQ) and meta- emotion scale (MES) were administered and data was analysed using descriptive statistics and two- way ANOVA.

Results: Results showed that smokers had significantly higher experiential avoidance than non- smokers, with no significant effects of sex or interaction. Non- smokers reported higher negative meta- emotions, including greater emotional awareness, while no sex or interaction effects emerged for this variable. For, positive meta- emotions, females scored higher than males, suggesting greater awareness and compassion, whereas smoking status had no significant effect.

Conclusions: These findings identify experiential avoidance as a key factor differentiating smokers from non- smokers, supporting its link with avoidance- based coping and substance use. Low score on negative meta- emotions in smokers may reflect emotional suppression rather than healthier functioning, while sex difference was evident only in positive meta- emotions. The results highlight the need to address experiential avoidance and emotion regulation- particularly emotional suppression- through targeted and gender sensitive smoking cessation interventions.

KEYWORDS: Experiential Avoidance; Meta-emotions; Smoking Behaviour; Gender Differences; Young Adults

INTRODUCTION

Tobacco consumption is a leading risk factor for numerous chronic diseases, including cancer, lung disease, cardiovascular disease, and stroke. It remains one of the foremost causes of preventable death and illness in India, accounting for an estimated 1.35 million deaths annually. India holds the distinction of being both the world's second-largest producer and consumer of tobacco, with a wide range of products available at extremely low prices, making them accessible across socioeconomic groups (WHO). According to the Global Adult Tobacco Survey (GATS) India, 2016–17, nearly 267 million adults aged 15 years and above—representing about 29% of the adult population—use tobacco in some form. The prevalence of smoking among adults aged 15 years and older in India was reported at 9.3% in 2024, marking an increase from 8.1% in 2020. Gender differences remain striking: in 2024, 16.7% of adult males were current smokers compared to only 1.4% of adult females. Smoking-related mortality continues to pose a major public health challenge.

Experiential avoidance describes efforts to escape or suppress unwanted internal experiences such as distressing thoughts, emotions, or bodily sensations. This avoidance may take the form of distraction, denial, or substance use. Smokers report that a key reason for smoking is to manage, avoid or escape from negative emotions and stressful situations (Bakers et al., 2004). Avoidance refers the effort to prevent, reduce or withdraw from unpleasant or low- reward internal experience (such as thoughts and emotions) or external situations (Hayes et al., 1996). Researchers suggest that such avoidance may function as a transdiagnostic process- one that operates across multiple psychological condition- and plays a role in substance use (Aldao et al., 2010; Chawla & Ostafin, 2007). Within Acceptance and Commitment Therapy (ACT), Hayes et al. (1996) identified experiential avoidance as a central mechanism sustaining maladaptive behaviours. Smokers use cigarettes to manage negative emotions, suggesting a reliance on avoidance strategies (Baker et al., 2004).

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Meta-emotion refers how individuals feel about their feelings. For example, a person may feel sadness but also guilt or shame for being sad. This evaluative stance toward emotions can shape coping strategies and self-perception (Gottman, Katz, & Hooven, 1996; Miceli & Castelfranchi, 2019). Meta-emotional awareness is closely tied to emotional regulation and intelligence (Norman & Furnes, 2016). Some individuals accept negative emotions as natural, while others judge themselves harshly for experiencing them. Such differences in meta-emotional processing may influence vulnerability to maladaptive coping behaviours, including smoking.

Experiential avoidance and meta emotion are conceptually linked through the broader framework of emotion regulation. Meta emotions refer to individuals' emotional responses to their own emotions and when these emotions are negative- such non- acceptance, criticism or suppression of one's own feelings- they increase psychological distress and reduce emotional tolerance. This in turn, foster experiential avoidance, defined as attempts to avoid, suppress or escape from unwanted internal experience such as thoughts, emotions and bodily sensations (Hayes, Wilson, Gifford, Follett and Strosahl, 1996). Maladaptive emotion regulation strategies- especially avoidance and suppression- are strongly associated with various forms of psychopathology, suggesting that negative ways of relating to emotions i.e. maladaptive meta- emotion contribute to avoidance- based coping (Aldao, Nolen-Hoeksema, and Schweizer, 2010). Individuals who are less accepting of their emotional experience- a key aspect of negative meta- emotion- are more likely to engage in experiential avoidance, which in turn predicts maladaptive behaviours (Kashdan, Barrios, Forsyth, and Steger, 2006). Experiential avoidance is viewed as a fundamental transdiagnostic process common to both emotional disorders and substance use, often arising from difficulty in accepting and fully experiencing one's internal emotions (Chawla and Ostafin, 2007).

Thus, negative meta- emotions (e.g., non- acceptance, shame about emotions) can be seen as antecedence of experiential avoidance, as they motivate individuals to escape or regulate their internal experiences rather than process them adaptively. Smoking is not solely a physiological addiction; it is deeply intertwined with emotional regulation. Prior studies have shown that smokers often use cigarettes to cope with stress or negative affect (Baker et al., 2004). Yet, little is known about how smokers differ from non-smokers in terms of meta-emotion and experiential avoidance.

METHODOLOGY

Objectives

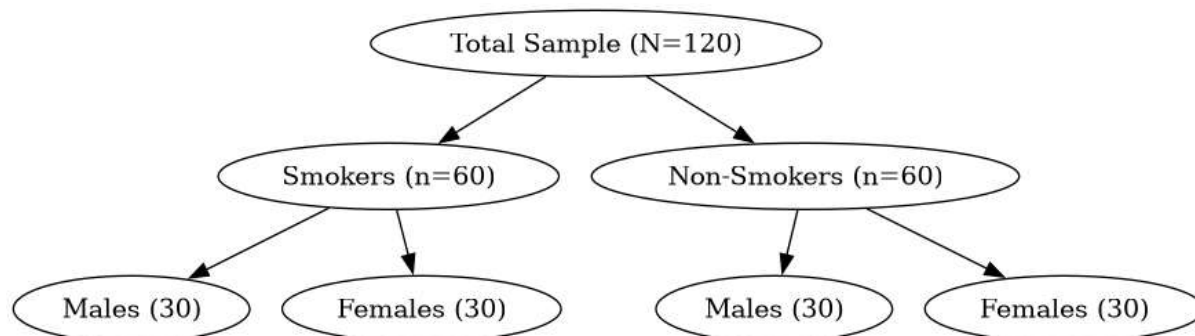
The objectives of the present study were:

1. To explore the main effect of group (smokers and non-smokers) on experiential avoidance and meta-emotion.
2. To determine the main effect of sex (male and female) on experiential avoidance and meta-emotion.
3. To see the interaction effect of group (smokers and non-smokers) and sex (male and female) on experiential avoidance and meta-emotion.

Samples

The study included a total sample of 120 university students (aged 18-25 years). Among them, males constituted 64 (53.3%) while females accounted for 56 (46.7%). In terms of education, 83 (30.3%) were postgraduate. Regarding locality, the majority belonged to urban areas with 117 participants (97.5%), followed by other areas with 3 participants (2.5%). Socio- economic status (SES) showed that most participants were from the middle group (108; 90 %) while 9 (7.5%) belongs to high and 3 (2.5%) to low SES group. Family type distribution revealed that 70 participants (58.3%) were from nuclear families and 50 (41.7%) from joint families. With respect to birth order, 36 participants (30 %) were elders, 29 (24.2%) were middle- born, 35 (29.2%) were younger and 20 (16.75) were single children.

The group was equally divided into smokers (60 daily users) and non- smokers (60 individuals who never smoked) status. Each group had an equal gender distribution of 30 males and 30 females to ensure balanced comparison.



The smoker group included adults aged eighteen years and older who reported daily cigarette smoking for at least one year and demonstrated the ability to provide informed consent. The non- smokers group included participants who never smoked, and signed the informed consent. Exclusion criterion was: individuals were excluded having a history of any psychiatric illness or comorbidity of that could significantly affect the emotional regulation or if they had cognitive impairments that limited their ability to complete the questionnaire. Those who currently undergoing treatment for substance use disorder, pregnant individuals and history of brain injury were excluded from this study

Tools

This study utilized the following standardized questionnaires to measure the variables of interest:

A **demographic data sheet** with informed consent was developed by the researcher to collect essential participant details, enabling the selection of a suitable sample with similar characteristics and minimizing extraneous variables.

Brief Experiential Avoidance Questionnaire (BEAQ): BEAQ a unidimensional and self- report, questionnaire developed by Gámez et al. in 2014. It consists of 15 items rated on 6- point Likert scale ranging from strongly disagree (1) to strongly agree (6). The instrument yields a single

total score from 15 to 90, with higher scores indicating greater levels of experiential avoidance. The BEAQ has demonstrated good internal consistency (Cronbach alpha value $\geq .70$) and satisfactory test-retest reliability (approximately .75-.79). It demonstrates strong construct validity and convergent validity.

Meta-emotion Scale (MES; Mitmansgruber et al. 2009): The MES comprised 28 items, each rated on a 6-point scale ranging from 1 (not at all true for me) to 6 (completely true for me). Participants were instructed to respond based on their actual experience rather than how they believe they should react. The scale yields scores on two subscales: negative meta-emotions (including emotions as anger, contempt, anxiety, sadness, shame and guilt) and positive meta-emotions (interest and compassionate care). The MES has also demonstrated good psychometric properties, making it a reliable and valid tool for assessing meta-emotion sensitivity.

These tools will be administered to all participants in both the smoker and non-smoker groups. The data obtained from these questionnaires used to assess and compare the levels of experiential avoidance and meta-emotion sensitivity between the two groups, as well as to explore the relationships between these variables and other factors, such as smoking status and sex.

Procedure

Participants, all university students aged 18-24, were recruited from campus. Rapport was first established with the participants, ensuring a relaxed and comfortable environment to encourage candid response. Participants were instructed not to spend excessive time on any item but to provide their overall, immediate reaction. They were told that there are no right and wrong answers and were encouraged to respond quickly and honestly based on true feelings. After initial screening and informed consent, participants completed demographic questionnaires, followed by the Brief Experiential Avoidance Questionnaire (BEAQ) and the Meta-Emotion Scale (MES). Following completion, participants were debriefed. Data was then analysed using appropriate statistical methods. All procedures adhered to ethical guideline and ensured participant confidentiality.

Research Design

The study employed a comparative, cross sectional research design to examine differences in psychological variables between two groups- smokers and non-smokers. Specifically, it aimed to compare the levels of meta-emotions and experiential avoidance at a single point in time.

Statistical Analysis

Descriptive statistics (means, standard deviations) were calculated for across smoker/non-smoker groups and sexes. Two-way analysis of variance (2 X 2 ANOVA) to highlight the main and interaction effects of groups and sex of facets of meta-emotions, and experiential avoidance, separately, on the measures of the dependent variables.

RESULT AND INTERPRETATION

The objectives of the present study were to explore the main effect of group, sex and interaction effect of group and sex on experiential avoidance and meta-emotion. 12 cases were excluded while data cleaning. Table 1 is presenting descriptive statistics (Mean and SD) for groups (smokers and non-smokers) and sex (male and female) for experiential avoidance and meta emotion (n=108).

Table 1: descriptive statistics for groups (smokers and non-smokers) and sex (male and female) for experiential avoidance and meta emotion (n=108)				
Group	Sex	Experiential avoidance mean±SD	Meta-emotions Negative meta-emotion mean±SD	Positive meta-emotion mean±SD
Smokers	Male (n=28)	57.36±10.01	41.93±6.41	30.46±4.92
	Female (n=26)	54.35±10.95	41.85±8.31	32.69±5.09
Non-smokers	Male (n=28)	46.57±4.48	48.86±5.8	30.93±5.23
	Female (n=26)	46.42±5.12	49.85±6.33	34.27±4.88

Table 2 is explaining descriptive statistics (Mean and SD) total number of smokers, non-smokers and total number of male and female for experiential avoidance and meta emotion (n=108).

Table 2: descriptive statistics for total of smoking status (smokers and non-smokers) and total sex (male and female) for experiential avoidance and meta emotion (n=108)			
Group	Experiential avoidance mean±SD	Meta-emotions Negative meta-emotion mean±SD	Positive meta-emotion mean±SD
Male (n=56)	51.96±9.42	45.39±6.99	30.69±5.04
Female (n=52)	50.38±9.36	45.85±8.36	33.48±4.99
Smokers (n=54)	55.91±10.48	41.89±7.31	31.54±5.08
Non-smokers (n=54)	46.5±4.75	49.33±6.02	32.54±5.29

Table 3 is describing the f value for main effect of group and sex and interaction effect of Group and sex.

Table 3: Two- way Analysis of Variance for groups (smokers and non- smokers) and sex (male and female) for experiential avoidance and meta emotion (n=108)

Variables	Group	Sex	Group X Sex
Experiential avoidance	35.56**	1.01	0.83
Meta- emotions			
Negative meta- emotion	32.9**	0.12	0.17
Positive meta- emotion	1.108	8.25*	0.33

* $p < .05$; ** $p < .01$

The ANOVA revealed a significant main effect of group on experiential avoidance ($F(1, 104) = 35.56, p < .01$). Smokers exhibited significantly higher levels of experiential avoidance compared to non-smokers (Table 2). No significant main effect of sex and significant interaction effect between group and sex was found. The effect size analysis indicates that group differences had a large effect ($\eta^2 = 0.255$) suggesting that smokers and non- smokers differ substantially in their levels of experiential avoidance. In contrast, sex showed only a small effect ($\eta^2 = 0.010$), indicating minimal differences between males and females. Similarly, the interaction between group and sex had a small effect ($\eta^2 = 0.008$), suggesting that the combined effect of group and sex is negligible on experiential avoidance. Overall, group appears to be the most influential factor in explaining variations in experiential avoidance.

The ANOVA revealed a significant main effect of group (table 3) on negative meta emotions ($F(1, 104) = 32.91, p < .001$). Non- Smokers reported significantly higher levels of negative meta-emotion compared to smokers (table 2). There was no significant main effect of sex or a significant interaction effect between group and sex. The effect size analysis for negative meta- emotion reveals that group differences had a large effect ($\eta^2 = 0.240$), indicating a substantial difference between non- smokers and smokers in terms of negative meta- emotions. In contrast, sex showed a negligible effect ($\eta^2 = 0.001$), suggesting that males and females do not differ meaningfully on this variable. Similarly, the interaction between group and sex was also negligible ($\eta^2 = 0.002$), indicating that the combined influence of group and sex does not significantly impact negative meta- emotions.

The ANOVA (table 3) revealed a significant main effect of sex on positive meta- emotion scores ($F(1, 104) = 8.25, p = .005$). Females reported significantly higher levels of positive meta-emotion (table 2) compared to males. There was no significant main effect of group or a significant interaction between group and sex (table 3). The effect size analysis for positive meta- emotion indicates that group differences had a small effect ($\eta^2 = 0.011$), suggesting minimal variation between smokers and non- smokers. In contrast, sex demonstrated a moderate effect ($\eta^2 = 0.073$), indicating that males and females differ to a noticeable extent in positive meta- emotion experiences. The interaction between group and sex showed a small to negligible effect ($\eta^2 = 0.003$), implying that the combined influence of group and sex has little impact on positive meta- emotion. Overall, sex appears to play a more important role than group in influencing positive meta- emotion.

DISCUSSION

The objective of the study was to explore the main effect of group (smokers and non-smokers, male and female) and interaction effect of these groups on experiential avoidance and meta-emotion. The result indicate that smokers have higher levels of experiential avoidance than non-smokers, and this difference is substantial. In contrast, sex does not significantly influence experiential avoidance, and there is no meaningful interaction between group and sex. Overall, smoking emerges as the primary factor explaining differences in experiential avoidance. Previous studies identify experiential avoidance as a key factor in substance use (Hayes et al., 1996). Smokers use nicotine as maladaptive way to manage negative internal states. Previous studies also indicate that individuals high in experiential avoidance are more prone to addictive behaviour and relapse (Gifford et al., 2004; Kashdan et al., 2006). Research in Acceptance and commitment Therapy (ACT) views smoking as an avoidance- based behaviour. Studies (Bricker et al. 2013) show that reducing experiential avoidance can aid smoking cessation, supporting the idea that smokers use smoking to manage internal distress. The large effect size highlights that it is a strong distinguishing factor between smokers and non- smokers. In contrast sex showed no significant effect, suggesting that experiential avoidance operates similarly across males and females, consistent with prior findings of Tull et al. (2004). The non- significant interaction effect further indicates that the relationship between smoking and experiential avoidance is stable across gender (Leyro et al., 2010). Overall, these results reinforce the view that smoking is closely linked to avoidance- based coping processes.

ANOVA showed a significant main effect of group on negative meta- emotions. Non- smokers reported higher levels than smokers. There were no significant effects of sex or the group and sex interaction. Although prior studies indicate that smokers exhibit greater emotional dysregulation and poorer emotional clarity, the current result can be explained by the self- medication hypothesis (Khantzian, 1997). Research suggests smokers often use nicotine to suppress or avoid negative emotional states, including higher- order evaluations of emotions. Consequently, smokers may report lower negative meta- emotion not because they function better emotionally but because they avoid or dampen awareness of these experiences. In contrast, non- smokers remain more emotionally aware, leading to higher reported negative meta- emotions. Additionally, negative emotions are known as mediate stress- smoking relationships, reinforcing avoidance- based coping (Faulkner et al., 2020; Wang, Chen, Gong & Yan 2016). The large effect size aligns with earlier research showing meaningful psychological differences between smokers and non-smokers, including variation in emotional traits and personality factors, supporting the robustness of group differences (Hakulinen, 2015). The absence of sex differences is consistent with evidence that gender differences in emotional experience are often small or inconsistent, and may reflect reporting biases rather than true differences. Similarly, the non- significant interaction suggests that smoking status influences meta- emotions similarly across males and females, consistent with findings that demographic factors do not strongly moderate smoking- related

psychological processes (Givon et al., 2023; Pang, Li, Zhou, Gao and Han, 2023; Hakulinen, 2015). In sum, these findings suggest that higher negative meta-emotions in non-smokers reflect greater emotional awareness, whereas lower levels in smokers may indicate avoidance-based regulation rather than better emotional functioning.

The present findings- showing significant main effect of sex on positive meta-emotion with females reporting higher than males on this domain. No significant effect of group or group and sex interaction- are broadly consistent with a substantial body of prior literature on emotional awareness and meta-emotional process. Researches on emotional awareness and emotional intelligence has consistently demonstrated gender-based differences, often favouring females in terms of emotional understanding and engagement (Mankus, Boden & Thompson, 2016; Fischer, Kret & Broekens, 2018). A notable sex difference emerged, with females reporting higher positive meta-emotion sensitivity in understanding and regulating emotions, aligning with previous research on sex-based differences in emotional processing. Research has found a small-to-moderate female advantage in emotional perception and emotional intelligence, especially in recognizing emotions in others (Barrett & Bliss-Moreau 2009; Fischer ;1993, Plant, Hyde, Keltner & Devine, 2000; Shields, 1991 and Shields 2002). Researches on meta-emotion (Gottman et al., 1996) conceptualizes meta-emotions as individual's thoughts and feelings about emotions, emphasizing how emotional understanding develops with social context. Females are generally encouraged to express and discuss emotions more openly than boys, whereas boys are more likely to be discouraged from emotional expression. Meta-analytic evidence also indicates that girls show greater expression of internalizing emotions such as sadness and empathy, while boys exhibit more externalizing emotional patterns (Chaplin & Aldao, 2013). The non-significant main effect of group indicates that smoking or non-smoking did not meaningfully influence the positive meta-cognition. The absence of interaction effect shows smoking status and sex difference were consistent across groups. The effect size results show that smoking and non-smoking group has a very small impact on positive meta-emotion, meaning there is a little difference between them. Sex has a moderate impact, indicating noticeable difference between males and females. The interaction effect is negligible, so group and sex together do not meaningfully influence outcomes. Overall, sex is a more important factor than smoking status in positive meta-emotion.

This study undertook an important examination of the factors influencing smoking behaviour, focusing on differences in experiential avoidance and meta-emotion behaviour between smokers and non-smokers' group. The results provide meaning insight into the complex link between emotional regulation and nicotine dependence, highlighting notable distinctions between the two groups. By shedding light on the psychological processes that sustain smoking, the research underscores the importance of addressing these underlying factors in efforts to support smoking cessation.

The study's implications are significant for both research and practice. Future research should examine how emotional regulation and meta-emotions relate to nicotine dependence and test interventions that improve emotion regulation. There is also a need for tailored approaches, especially for smokers with high experiential avoidance and low meta-emotion, and for considering sex differences through targeted intervention. Limitations of this study include its cross-sectional design, which precludes causal inferences, and reliance on self-report measures, which may introduce bias. The sample, comprising university students aged 18-24, limits generalizability, necessitating studies with diverse populations. Additionally, future research should explore specific emotional regulation strategies used by smokers.

Authors' contribution: Conceptualization, research methodology, data gathering and analysis is performed by the authors.

Ethical review statement: the research is submitted to the ethical review committee and approved for the conduct of the study. It does not involve human-sensitive issues.

Declarations

Conflict of Interest: The authors declare no conflicts of interest.

Consent to Participate: Informed consent was obtained from all participants.

Consent for Publication: All authors have approved and consented to the publication of this manuscript.

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REFERENCES

- 1) Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). *Emotion-regulation strategies across psychopathology: A meta-analytic review*. *Clinical Psychology Review*, 30, 217-237. doi: 10.1016/j.cpr.2009.11.004
- 2) Baker, T. B., Brandon, T. H., & Chassin, L. (2004). Motivational influences on cigarette smoking. *Annual Review of Psychology*, 55, 463-491. doi:10.1146/annurev.psych.55.090902.142054
- 3) Barrett L F & Bliss-Moreau E. She's emotional. He's having a bad day: Attributional explanations for emotion stereotypes. *Emotion*. 2009; 9, 649-658. <https://doi.org/10.1037/a0016821> PMID: 19803587
- 4) Bricker, J. B., Wyszynski, C. M., Comstock, B. A., & Heffner, J. L. (2013). Pilot randomized controlled trial of web-based acceptance and commitment therapy for smoking cessation. *Nicotine & Tobacco Research*, 15(10), 1756-1764.
- 5) Chaplin, T. M., & Aldao, A. (2013). Gender differences in emotion expression in children: A meta-analytic review. *Psychological Bulletin*, 139(4), 735-765. <https://doi.org/10.1037/a0030737>
- 6) Chawla, N., & Ostafin, B. (2007). *Experiential avoidance as a functional dimensional approach to psychopathology: An empirical review*. *Journal of Clinical Psychology*, 63, 871-890. doi: 10.1002/jclp.20400
- 7) Faulkner, P., Dean, A. C., Ghahremani, D. G., & London, E. D. (2020). Neural Basis of Smoking-Related Difficulties in Emotion Regulation. *The international journal of neuropsychopharmacology*, 23(7), 409-416. <https://doi.org/10.1093/ijnp/pyaa015>
- 8) Fischer A.H. Sex differences in emotionality: Fact or stereotype? *Feminism & Psychology*. 1993; 3, 303-318.
- 9) Fischer, A.H., Kret, M.E. & Broekens, J. (2018). Gender differences in emotion perception and self-reported emotional intelligence: A test of the emotion sensitivity hypothesis. *PLoS ONE* 13(1): e0190712. <https://doi.org/10.1371/journal.pone.0190712>

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- 10) Gámez, W., Chmielewski, M., Kotov, R., Ruggero, C., Suzuki, N., & Watson, D. (2014). *The Brief Experiential Avoidance Questionnaire: Development and initial validation*. **Psychological Assessment**, 26(1), 35–45. <https://doi.org/10.1037/a0034473>
- 11) Gifford, E. V., Kohlenberg, B. S., Hayes, S. C., Pierson, H. M., Piasecki, M. M., Antonuccio, D. O., & Palm, K. M. (2004). Acceptance-based treatment for smoking cessation. *Behavior Therapy*, 35(4), 689–705.
- 12) Givon, E., Berkovich, R., Oz-Cohen, E. *et al.* Are women truly “more emotional” than men? Sex differences in an indirect model-based measure of emotional feelings. *Curr Psychol* 42, 32469–32482 (2023). <https://doi.org/10.1007/s12144-022-04227-z>
- 13) Gottman, J. M., Katz, L. F., & Hooven, C. (1996). Parental meta-emotion philosophy and the emotional life of families: Theoretical models and preliminary data. *Journal of Family Psychology*, 10(3), 243–268. <https://doi.org/10.1037/0893-3200.10.3.243>
- 14) Hakulinen, C., Hintsanen, M., Munafo, M. R., Virtanen, M., Kivimäki, M., Batty, G. D., & Jokela, M. (2015). Personality and smoking: individual-participant meta-analysis of nine cohort studies. *Addiction*, 110(11), 1844–1852. <https://doi.org/10.1111/add.13079>
- 15) Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology*, 64(6), 1152–1168.
- 16) Horst Mitmansgruber, Thomas N. Beck, Stefan Höfer, Gerhard Schübler, When you don't like what you feel: Experiential avoidance, mindfulness and meta-emotion in emotion regulation, *Personality and Individual Differences*, Volume 46, Issue 4, 2009, Pages 448–453, ISSN 0191-8869, <https://doi.org/10.1016/j.paid.2008.11.013>.
- 17) Kashdan, T. B., Barrios, V., Forsyth, J. P., & Steger, M. F. (2006). Experiential avoidance as a generalized psychological vulnerability. *Behaviour Research and Therapy*, 44(9), 1301–1320.
- 18) Khantzian E. J. (1997). The self-medication hypothesis of substance use disorders: a reconsideration and recent applications. *Harvard review of psychiatry*, 4(5), 231–244. <https://doi.org/10.3109/10673229709030550>
- 19) Leyro, T. M., Zvolensky, M. J., & Bernstein, A. (2010). Distress tolerance and psychopathological symptoms and disorders: a review of the empirical literature among adults. *Psychological bulletin*, 136(4), 576–600. <https://doi.org/10.1037/a0019712>
- 20) Mankus, A. M., Boden, M. T., & Thompson, R. J. (2016). Sources of variation in emotional awareness: Age, gender, and socioeconomic status. *Personality and individual differences*, 89, 28–33. <https://doi.org/10.1016/j.paid.2015.09.043>
- 21) Miceli, M., & Castelfranchi, C. (2019). Anger and Its Cousins. *Emotion Review*, 11(1), 13–26.
- 22) Norman, E., & Furnes, B. (2016). The Concept of “Metaemotion”: What is There to Learn From Research on Metacognition? *Emotion Review*, 8(2), 187–193.
- 23) Plant E. A., Hyde J. S., Keltner D., & Devine P. G. (2000). The gender stereotyping of emotions. *Psychology of Women Quarterly*, 24, 81–92.
- 24) Shields SA. Gender in the psychology of emotion: A selective research review. In Strongman KT (Ed.), *International Review of Studies on Emotion* (pp. 227–245). 1991; New York: Wiley.
- 25) Tull, M. T., Gratz, K. L., Salters, K., & Roemer, L. (2004). The role of experiential avoidance in posttraumatic stress symptoms. *Journal of Nervous and Mental Disease*, 192(11), 754–761.
- 26) Wang, Y., Chen, X., Gong, J., & Yan, Y. (2016). Relationships Between Stress, Negative Emotions, Resilience, and Smoking: Testing a Moderated Mediation Model. *Substance use & misuse*, 51(4), 427–438. <https://doi.org/10.3109/10826084.2015.1110176>