The Trader's Curriculum

Oct 18th · Aligning Your Feelings With Your System · Sources & Further Reading

This supplement gives the research behind the LEARN section, the caveats worth knowing, and the books referenced in the issue.

I. The Research at a Glance

Study	What it found	Use in the issue
Lo & Repin (2002); Singh et al. (2022)	Professional traders show measurable physiological responses to market events, even highly experienced ones. Experience may help traders manage that activation.	Emotion doesn't disappear with experience. The skill is working with it.
Gross (1998, 2002); Gross & Levenson (1997)	Suppressing an emotion leaves the feeling largely unchanged and raises physiological arousal. Reappraisal works better.	Never battle your emotions. Fighting a feeling feeds it.
Kuhnen & Knutson (2005)	Reward-anticipation activity preceded risk-seeking mistakes; loss-anticipation activity preceded risk-averse mistakes.	An unnoticed feeling can steer the trade.
Lieberman et al. (2007)	Putting feelings into words dampens amygdala activity.	Name the feeling in real time: "This is fear."
Hölzel et al. (2010, 2011)	Eight weeks of mindfulness practice was linked to structural brain changes, including in the amygdala, that correlated with reduced stress.	Supports the 10-minute daily meditation practice.

II. The Research in Detail

1. Emotion is part of how traders process risk

Lo, A. W., & Repin, D. V. (2002). The psychophysiology of real-time financial risk processing. *Journal of Cognitive Neuroscience, 14*(3), 323–339.

Physiological signals such as skin conductance and blood volume pulse were measured in 10 professional traders during live trading. The authors found significant correlations between electrodermal responses and transient market events, and between cardiovascular changes and market volatility. Even the most experienced traders in the sample showed significant autonomic responses during market events.

Singh, M., Xu, Q., Wang, S. J., Hong, T., Ghassemi, M. M., & Lo, A. W. (2022). Real-time extended psychophysiological analysis of financial risk processing. *PLOS ONE, 17*(7).

The follow-up recorded heart rate, blood volume pulse and electrodermal activity in 55 traders over five days. The authors suggest that with more experience, traders may develop skills to manage their physiological activation when making risky decisions.

Use in the issue: Emotion doesn't disappear with experience. What develops is the ability to work with it.

2. Suppressing emotion backfires; reappraisal works better

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*(3), 271–299.

Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology, 39*(3), 281–291.

Gross, J. J., & Levenson, R. W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology, 106*(1), 95–103.

Suppression leaves the subjective experience of the emotion largely unchanged while increasing physiological arousal. Reappraisal changes how the emotion unfolds.

Use in the issue: "Never battling them" has a scientific basis. Fighting a feeling feeds it.

3. Emotional states precede specific kinds of risk mistakes

Kuhnen, C. M., & Knutson, B. (2005). The neural basis of financial risk taking. *Neuron, 47*(5), 763–770.

In an investment task, activity in the nucleus accumbens (linked to anticipating reward) preceded risk-seeking choices and risk-seeking mistakes. Anterior insula activity (linked to anticipating loss) preceded risk-averse choices and risk-averse mistakes.

Use in the issue: An unnoticed feeling can steer the trade, so noticing it matters.

4. Naming a feeling reduces its grip

Lieberman, M. D., et al. (2007). Putting feelings into words: Affect labeling disrupts amygdala activity in response to affective stimuli. *Psychological Science, 18*(5), 421–428.

Use in the issue: This is the basis for the TRAIN step of naming the feeling in real time.

5. Meditation and the brain

Hölzel, B. K., et al. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Research: Neuroimaging, 191*(1), 36–43.

Hölzel, B. K., et al. (2010). Stress reduction correlates with structural changes in the amygdala. *Social Cognitive and Affective Neuroscience, 5*(1), 11–17.

After an eight-week mindfulness program, participants showed changes in brain structure, including in the amygdala, that correlated with reduced perceived stress.

Use in the issue: Supports the 10-minute daily meditation practice.

6. Journaling

Pennebaker, J. W., & Smyth, J. M. (2016). *Opening Up by Writing It Down* (3rd ed.). Guilford Press.

Pennebaker's expressive-writing research is the foundation for the emotion journal in TRAIN.

III. Caveats Worth Knowing

- The original Lo & Repin study had only 10 traders, which is why the 2022 follow-up with 55 matters.
- The Kuhnen & Knutson task was a laboratory investing game, not live trading.
- The mindfulness imaging studies used small samples, so treat the findings as promising rather than definitive.
- None of these studies shows that journaling or meditation improves trading P&L directly. They show mechanisms (emotional awareness and regulation) that plausibly support better rule adherence.

IV. Books Referenced

- Martin, M. *The Inner Voice of Trading*. [Add publisher and year from your copy.]
- Douglas, M. (2000). *Trading in the Zone*. New York Institute of Finance.
- Steenbarger, B. *The Daily Trading Coach*. Wiley.
- Tendler, J. *The Mental Game of Trading*.
- Kabat-Zinn, J. *Full Catastrophe Living* (a practical introduction to mindfulness practice).