

SAD effects on grantsmanship

George A. Lozano

Seasonal affective disorder (SAD) is a state of depression induced by a lack of sufficient sunlight that occurs in some people living at high latitudes during the fall and winter. The symptoms are typical of most forms of depression. Physical symptoms include lethargy, inability to concentrate, increased sleeping and eating, lack of activity, and weight gain. Psychological symptoms include irritability, sadness, pessimism, guilt, worthlessness, lack of creativity, low sex drive, increased thoughts of suicide, and loss of interest in hobbies and social activities [1, 2]. SAD can affect up to 15% of the population, and it is generally more prevalent at higher latitudes [3]. Sub-clinical symptoms occur in at least as many people [4], so clinical SAD is just an extreme case of an otherwise relatively common condition.

Depression leads to risk-aversion in investment decisions [5]; SAD-induced depression has the same effect. For instance, seasonal cycles in stock markets, and a 6-month difference between market cycles in the two hemispheres, are both consistent with the hypothesis that investors are most risk-averse in the fall and winter, and most risk-prone in the spring and summer [6]. Similarly, initial public offerings in the USA are relatively underpriced in the fall and winter compared to in the summer and spring [7]. Also, stock analysts in the USA are significantly less optimistic about their forecasts during SAD months than the rest of the year, and

more so in northern states [8]. In a laboratory setting, people who are affected by SAD are significantly more likely than control individuals to avoid risk in financial decisions, but only during the winter [9]. Fluctuations in the stock market are driven by individual decisions of millions of people; hence, it is apparent that clinical and sub-clinical forms of SAD are strong enough to affect decision-making in the general population.

One might think that this information is important only to investors and CEOs, but at least one other group should heed these results: Granting agencies in high-latitude countries. Investing and grant evaluation are similar processes. In both cases, assessors, whether they are called investors or evaluators, must choose among many possible ventures. To arrive at a decision, assessors use past performance, current leadership, infrastructure, location, feasibility, collaborators, and partners, and, of course, the expected return on investment money. Unlike investors, evaluators do not directly benefit from their investments; after all, it is not their money, so they are more like investment consultants. As such, they have a fiduciary duty to try to obtain the greatest return (impact) for the grant agency's money [10].

Funding agencies generally are aware that, as in investing, greater risk increases both the potential reward and the possibility of failure. Innovation is essential to scientific progress, but it is also inherently risky. Hence, agencies often have specific programmes aimed at high-risk, innovative research. High-risk funding programmes might specifically cater to risky research projects, people who wish to work outside the comfort of their usual research groups or fields, individuals as opposed to groups, and tangential ideas and projects. In contrast, low-risk funding programmes might include continuing funding, institutional funding that must be awarded, and funding to large or

politically well-connected groups that, realistically, would not be denied funding.

National granting agencies invite, accept, assess, and fund research proposals throughout the year. By necessity, some programmes are tied to specific times of the year, sometimes linked to academic or fiscal calendars, and other programmes are scattered across the year. However, the timing of purposefully high-risk programmes usually does not take into account the fact that proposal writers, and perhaps more importantly, the expert reviewers who evaluate the proposals, and agency officials who eventually make the funding decisions, might – to a significant extent – be influenced by SAD.

Granting agencies in high latitude countries must be careful to time these “high-risk”, “innovative research” competitions such that they are not written or evaluated during the SAD months. During the late fall – November and December – as days become increasingly shorter, many people might very well be walking around in a darkness-induced state of mild depression. As such, they would be more likely to opt for safe investments, more of the same, the well established: The antithesis of innovative research. In high-latitude countries, submitting and, perhaps more importantly, evaluating high-risk, innovative, proposals during the late fall might significantly detract from the very purpose of such programmes.

SAD can affect both the process of reviewing and the act of writing a research proposal. As long as the call for proposals is made sufficiently in advance, there is no way of knowing when exactly the proposals are written and the main ideas generated. However, a proposal's final review would probably be close to the submission deadline. If that submission deadline is during the SAD months, there is a higher likelihood that the proposal writers would remove the bolder, riskier, and perhaps most innovative parts of their proposals. A

DOI 10.1002/bies.201400165

Estonian Centre of Evolutionary Ecology, Tartu, Estonia

Corresponding author:

George A. Lozano
E-mail: dr.george.lozano@gmail.com

Keywords:

granting agency; grantsmanship; research evaluation; research funding; SAD; seasonal affective disorder

particularly interesting situation might occur when purposely high-risk proposals are written during the SAD months and evaluated in the spring, or vice-versa. In any case, granting agencies in high latitude countries might have to ensure that neither the evaluation nor the submission deadlines of “high” risk proposals coincide with the SAD months.

In confirming this hypothesis, one must assess both the mean impact of the funded proposals, and the variance of that impact. Compared with regular programmes, high-risk programmes would, inevitably, materialize into a mixture of atrociously dismal failures and surprisingly wonderful successes. A possible test of this idea might involve comparing instances when the same competition is conducted at two times of the year, and assessing the eventual impact of the funded proposals. Alternatively, one could search for instances when the timing of the evaluation and/or submission deadline of a particular programme has changed, and examine the impact of the said research before and after the change. In the lab, it is

possible to carry out controlled experiments whereby proposals could be evaluated at different times of the year by the same, or by different people. As always, each approach has distinct strengths and weaknesses.

The effects of SAD have been documented in investing, but not yet in grantsmanship. However, just like entrepreneurs and investors, researchers and evaluators are not necessarily immune to the effects of SAD. If the effects are similar – and there is no reason to think that they would not be – granting agencies should consider setting the submission and evaluation dates for innovative and high-risk competitions so they do not coincide with the SAD months.

Acknowledgements

I thank the University of Tartu for providing me free access to their online library. I thank Drs. M. Kery, A. Ros, and G. Paz-y-Miño for the comments on previous versions of this manuscript. This is contribution number 1512 of the ECEE (reg. no. 80355697).

References

1. **Magnusson A, Boivin D.** 2003. Seasonal affective disorder: An overview. *Chronobiol Int* **20**: 189–207.
2. **Kurlansik SL, Ibay AD.** 2012. Seasonal affective disorder. *Am Fam Physician* **86**: 1037–41.
3. **Potkin SG, Zetin M, Stamenkovic V, Kripke D,** et al. 1986. Seasonal affective-disorder—prevalence varies with latitude and climate. *Clin Neuropharmacol* **9**: 181–3.
4. **Kasper S, Rogers SLB, Yancey A, Schulz PM,** et al. 1989. Phototherapy in individuals with and without subsyndromal seasonal affective disorder. *Arch Gen Psychiatry* **46**: 837–44.
5. **Leahy RL, Tirsch DD, Melwani PS.** 2012. Processes underlying depression: Risk aversion, emotional schemas, and psychological flexibility. *Int J Cogn Ther* **5**: 362–79.
6. **Kamstra MJ, Kramer LA, Levi MD.** 2003. Winter blues: A SAD stock market cycle. *Am Econ Rev* **93**: 324–43.
7. **Dolvin SD, Pyles MK.** 2007. Seasonal affective disorder and the pricing of IPOs. *Rev Account Finance* **6**: 214–28.
8. **Dolvin SD, Pyles MK, Wu Q.** 2009. Analysts get SAD too: The effect of seasonal affective disorder on stock analysts' earnings estimates. *J Behav Finance* **10**: 214–25.
9. **Kramer LA, Weber JM.** 2012. This is your portfolio on winter: Seasonal affective disorder and risk aversion in financial decision making. *Soc Psychol Pers Sci* **3**: 193–9.
10. **Lozano GA.** 2010. A new criterion for allocating research funds: “impact per dollar”. *Curr Sci* **99**: 1187–8.