Manchester Metropolitan University

e-space

Manchester Metropolitan University's Research Repository

Please cite the Published Version

Brojerdian, N, Dagnall, N, Fatoye, F and Goodwin, P (2019) Can loss aversion be applied to health situations? In: Physiotherapy UK Conference 2018, 19 October 2018 - 20 October 2018, Birmingham, UK.

Version: Presentation

Downloaded from: https://e-space.mmu.ac.uk/622437/

Enquiries:
If you have questions about this document, contact openresearch@mmu.ac.uk. Please include the URL of the record in e-space. If you believe that your, or a third party's rights have been compromised through this document please see our Take Down policy (available from https://www.mmu.ac.uk/library/using-the-library/policies-and-guidelines)

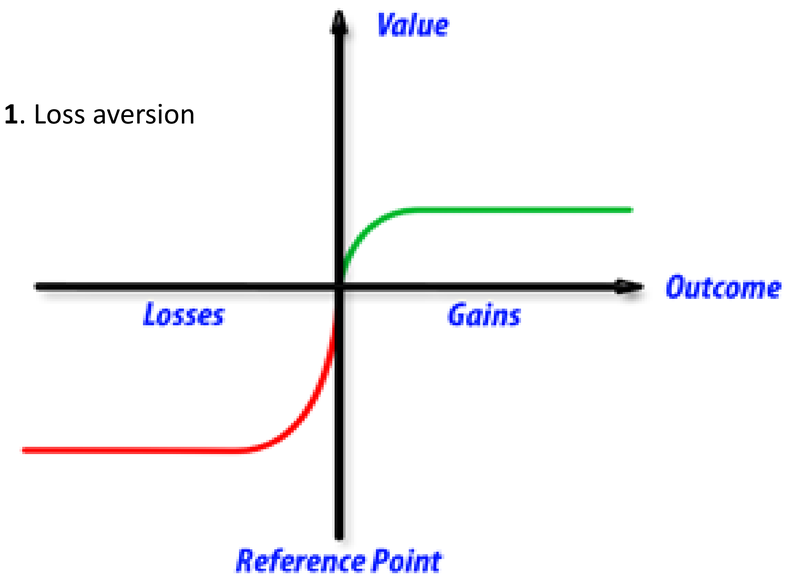
Can loss aversion be applied to health situations?

Brojerdian, Nafiseh., Fatoye, Francis., Dagnall, Neil., Goodwin, Peter C.
Department of Health Professions, Brooks Building, 53 Bonsall St, Manchester M15 6GX

Background:

According to the behavioural economic concept of loss aversion, loss has a greater effect on decision-making choices than equivalent gain (Fig. 1). This concept is widely established in the financial sector and psychology. Research on the application of loss aversion in health is limited but evolving.

Figure 1. Loss aversion



Aims:

a) To determine the impact of LA on health-related decision-making in relation to five common health situations.
b) To determine if LA and risk taking in health are related.
c) To determine if LA in health is magnitude-dependent.

Methods:

Quantitative, cross sectional design. Pilot was carried out with N=4 participants. Study participants: N= 61 staff and students from Manchester Metropolitan University (MMU).
Approval was obtained from MMU Ethics Committee (Phys/17/9).
Inclusion Criteria: 18 years of age.
Exclusion criteria: previous knowledge of LA.
5 health conditions: back pain, neck pain, breathlessness, headache and influenza were included.
Measures:

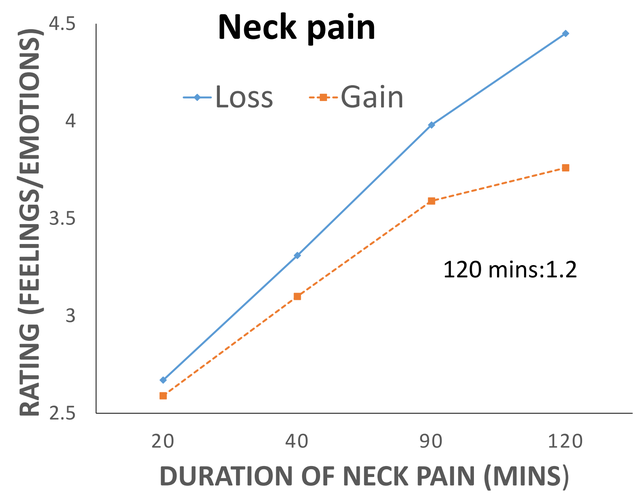
- Coin tossing game
- Two questionnaires
- Risk Propensity Scale
- unipolar response Scale

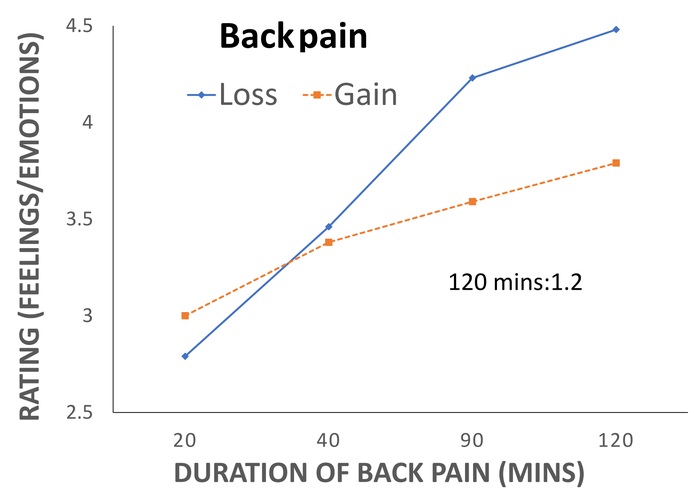
Data Analysis:

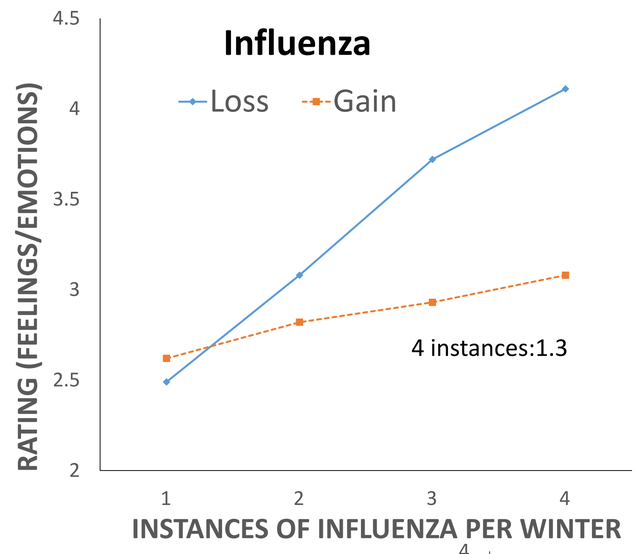
Descriptive statistics: Demographic data.
Pearson's Product Moment Correlation: Relationship between RPS, RPS health-item and each of the health conditions (Aims a and b).
2-way ANOVA: to investigate the differences between and loss and gain and determine the impact of magnitude of loss on health-related decision-making (Aim c).

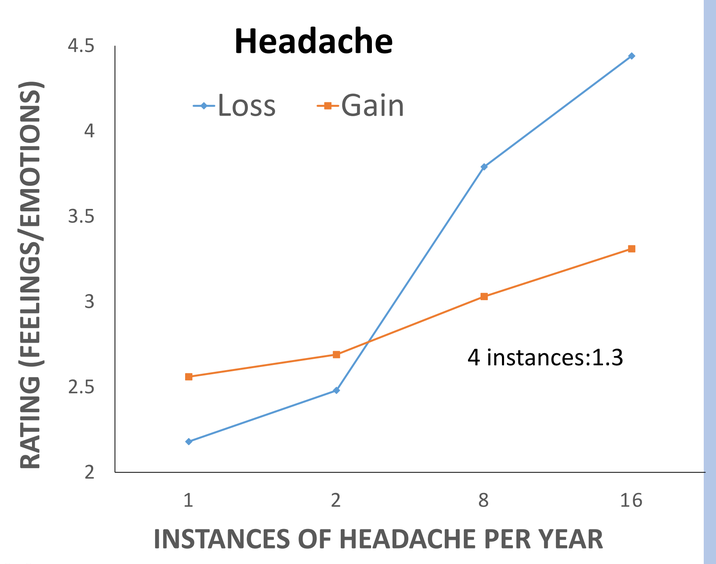
Results:

- LA was demonstrated in the 5 health conditions investigated (Figs. 2-6).
- LA was not observed at small magnitude of loss except breathlessness (Fig. 6).
- No correlation was found between general risk taking and LA decision-making towards health.
- A strong association was found between back and neck pain and participant's LA behaviour ($r = 0.75$, $n = 61$, $p \leq 0.001$).
- A weak negative association was found between RPS Health and LA decision making towards neck ($r = 0.24$, $n = 61$, $p = 0.032$) and back pain ($r = -0.22$, $n = 61$, $p = 0.046$).
- There were no gender differences in LA decision-making towards health.

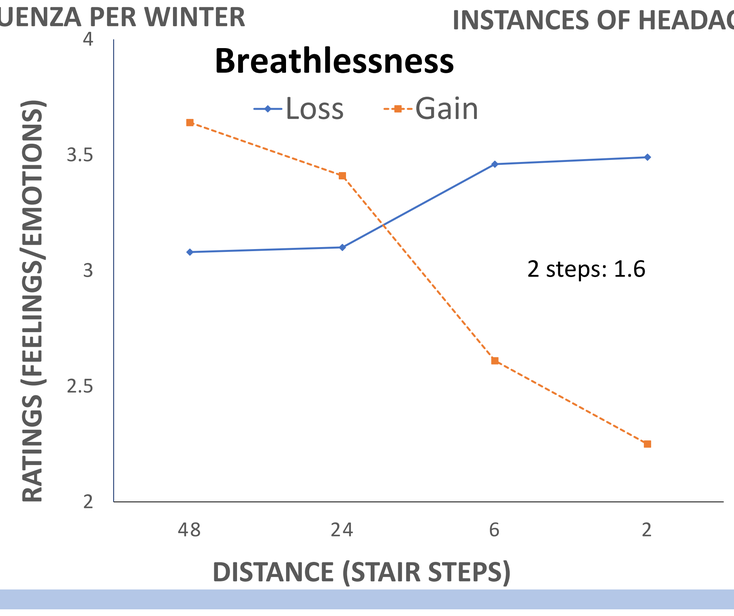








Figures 2-6: Amount of loss vs. gain for different health conditions



Conclusions:

- The findings from this study are consistent with those in monetary situations.
- People are more concerned about loss than gain when they make risky decisions about their health.
- LA is not present in small amount of loss apart from breathlessness.
- There was not a significant association between general risk taking and LA.

Implications:

Our study shows that loss aversion applies to health situations. This concept can be utilised by clinicians alongside many other tools to individualise their approach when prescribing medical or therapeutic regimens. This may result in improving patients' health-related decision making.

References:

- Hardie, B., Johnson, E., & Fader, P. (1993). Modelling Loss Aversion and Reference Dependence Effects on Brand Choice. *Marketing Science*, 12(4) 378-394.
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica,* 47(2), 263-292.
- Novemsky, N., & Kahneman, D. (2005). How Do Intentions Affect Loss Aversion? *Journal of Marketing Research*, 2(42), 139-140.

Contact Details:

Dr Peter Goodwin: p.goodwin@mmu.ac.uk
Nafiseh Brojerdian: b.nafiseh@gmail.com

Supported by The Private Physiotherapy Educational Foundation (PPEF)
Presented at the Physiotherapy UK Conference 2018, Birmingham.