

# Putting self-efficacy on the map, the impact of biofeedback on self-efficacy in adults with asthma. MSc by Research Proposal.

J. Walsh<sup>1</sup>, L. Lombard<sup>1</sup>, S. Plunkett<sup>1</sup>, E. Mac Hale<sup>1</sup>, C. Mulvey<sup>1</sup>, G. Greene<sup>1</sup>, B. Murray<sup>2</sup>, Z. Moore<sup>2</sup>, RW. Costello<sup>1</sup>.  
1 Clinical Research Centre, RCSI, Dublin. 2 School of Nursing and Midwifery, RCSI, Dublin.

## Background

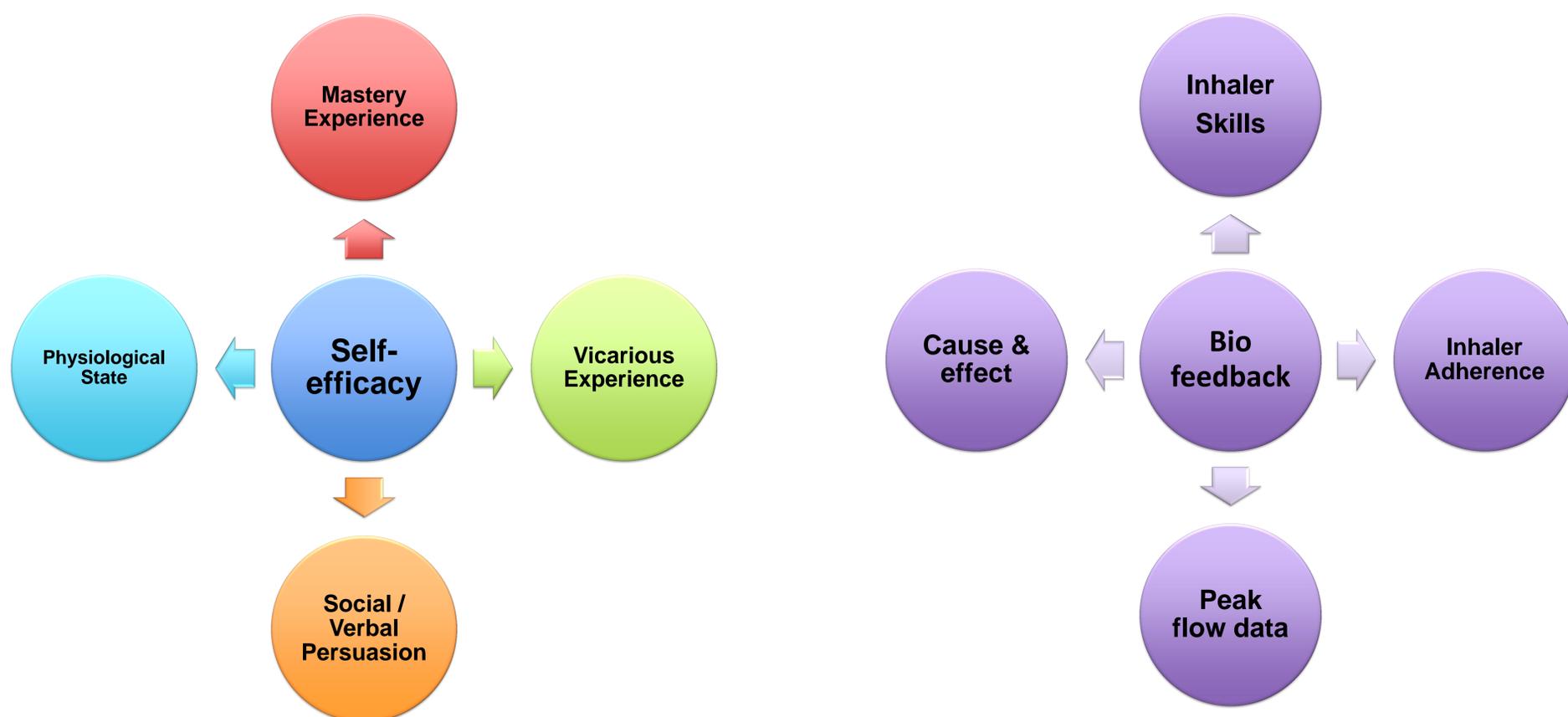
Asthma is a chronic disease characterized by recurrent attacks of breathlessness and wheezing, which vary in severity and frequency from person to person. It affects up to 334 million people worldwide and has been increasing in prevalence over the past three decades. Ireland has one of the highest rates of asthma in the world, it is estimated that 890,000 people will experience asthma at some point in their lives<sup>1</sup>.

Self-efficacy is a person's belief and confidence about their own capability to undertake certain behaviours that may lead to desired outcomes<sup>2</sup>. Self-efficacy is a modifiable, cognitive variable which has the largest influence on behaviour. There are many reported benefits in the literature from having higher levels of self-efficacy such as: increased adherence to treatment, effective self management, improved asthma control and improved quality of life<sup>3</sup>.

Bio feedback is an objective measurement given as visual feedback to patients about their asthma management and treatment use. There has been a wealth of research conducted into the effects of self efficacy on chronic disease, however there is limited research into the effects on self efficacy in adults with asthma. No research has been conducted into the impact of bio feedback on self efficacy using inhaler adherence technology.

## Sources of self-efficacy

## Elements of biofeedback



## MSc Proposal

**Hypothesis:** Self efficacy in asthma management is improved when biofeedback is incorporated into self management care strategies.

**Methodology:** Cross-sectional descriptive survey design using an asthma self efficacy scale.

**Sample Selection / Study Population:** All participants who have completed the INCA Sun Study will be invited to take part in the study.

INCA Sun study, participants are randomised into two groups. Group 1: Bio feedback group

Group 2: Non bio feedback group. Participants will be included from both groups of the INCA Sun study.

**Data Collection:** Once ethical approval has been granted and consent has been obtained from participants. The asthma self-efficacy scale will be utilised, participants will be asked to complete the instrument at one time point.

**Data analysis:** Stata software package will be used to analysis data collected. Data will be entered into an excel sheet, cleaned, entered into the Stata statistical software package. A stata code will be created. Data will be analysed using simple descriptive statistics. Inferential statistics will be employed to explore differences among the study groups.

### References:

1. IRISH THORACIC SOCIETY 2018. *Respiratory Health of the Nation Report*. [online] Available at: <https://irishthoracicsociety.com/respiratory-health-of-the-nation-2018/> [accessed 24<sup>th</sup> October 2019].
2. PETERS, M., POTTER, C. M., KELLY, L. & FITZPATRICK, R. 2019. Self-efficacy and health-related quality of life: a cross-sectional study of primary care patients with multi-morbidity. *Health and quality of life outcomes*, 17, 37-37.
3. LAVOIE, K. L., BOUCHARD, A., JOSEPH, M., CAMPBELL, T. S., FAVREAU, H. & BACON, S. L. 2008. Association of Asthma Self-efficacy to Asthma Control and Quality of Life. *Annals of Behavioral Medicine*, 36, 100-106.