

# The impact of group art therapy on self-efficacy in children with chronic illness



The University of Dublin



Natalia Griem, Aimee O'Neill, Charlotte Wilson  
School of Psychology, Trinity College Dublin

## 1. Background

**Self-efficacy (SE):** is defined as “beliefs in one’s capabilities to organize and execute the courses of actions required to produce given attainments” (Bandura, 1997, p. 3). It is about how a person deals with the successes and challenges encountered on the path to achieving set attainments (Maddux & Gosselin, 2012). SE increases outcome predictability. It is constructed through complex self-persuasion based on mental processing of five sources of efficacy (Bandura, 1992).

**SE and health:** Low SE is associated with low self-esteem, pessimism about development and attainments (Bandura, 1995), negative attitudes towards illness (Wagner, Smith, & Ferguson, 2012), and greater vulnerability to depression and stress (Holman & Lorig, 1992). SE mediates a patient’s response to, and treatment of, their chronic illness (Holman & Lorig, 1992). Greater SE for coping with the consequences of chronic illness helps develop useful self-management skills (Bandura, 2004; Emerson et al., 2018). Increased SE may help chronically ill children feel accepted without compromising on self-care and medical adherence (Lambert & Keogh, 2015).

**Art therapy and chronic illness:** Art therapy has shown to aid paediatric patients with chronic illness, yet it is largely underutilised (Bitonte & De Santo, 2014). The effect of art therapy on psychosocial factors in children with a chronic illness has been studied, such as with asthma (Beebe, Gelfand, & Bender, 2010) and cystic fibrosis (Farrell, 2000). However, to date no such study exists with multi-diagnostic groups.

**Art therapy and SE:** A few studies have examined the effect of art therapy on SE in diverse populations (e.g. foster children, multiple sclerosis, panic disorder). However, no randomized controlled trial (RCT) has investigated the impact of art therapy on SE in paediatric patients with a chronic illness.

## 2. Objectives

- To understand how, and in what ways, perceived SE for illness management in children with chronic illness is impacted by the group art therapy intervention
- To explore the relationship between SE and other constructs, such as quality of life, well-being, attitude toward illness, social functioning and coping strategies
  - Is SE a predictor of these variables?
  - Is SE a mediator of or moderator between social functioning and these other variables?
- To assess the psychometric properties of the Paediatric Rating of Chronic Illness Self-Efficacy (PRCISE) measure

## 3. Methodology

**Participants:** The larger study, of which the current study is a part, will have 60 participants, 30 in the intervention group and 30 in the waitlist control (WLC) group.

**Inclusion criteria:** 9 to 12 years old, chronic illness diagnosis at least 6 months ago (diabetes, epilepsy, cystic fibrosis, asthma or endocrine disorders), outpatient of the National Children’s Hospital in Tallaght, not in an acute phase of illness and not utilising other psychosocial services.

**Sampling technique:** A combination of convenience and random sampling.

**Design:** This study is a mixed methods RCT. There are three intervention and three WLC groups, each with 10 participants. The TAFFI Kids Group is an 8-week group intervention combining art therapy directives with positive psychology, narrative and mindfulness-based approaches for paediatric patients across multi-diagnostic presentations. The weekly art therapy sessions are 105 minutes and take place in the Rua Red Art Centre in Tallaght.

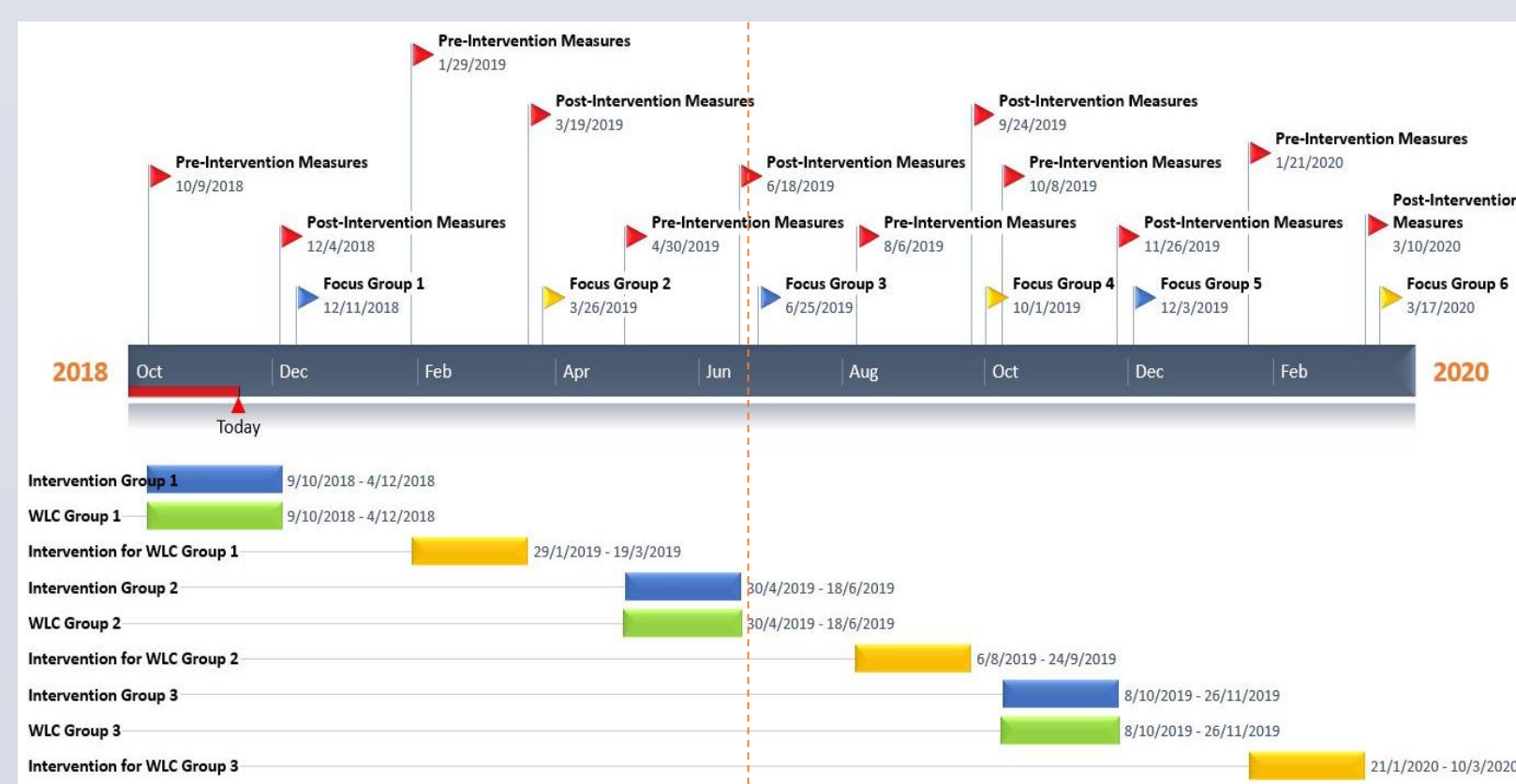


Figure 1. Timeline showing this study’s mixed method RCT design

Post-intervention, participants also complete questions about the acceptability of the PRCISE measure and describe a personal learning experience and the sources of this learning.

**Main quantitative measure:** Paediatric Rating of Chronic Illness Self-Efficacy (PRCISE).

**Additional quantitative measures:** Pediatric Health-Related Quality of Life; EPOCH Measure of Adolescent Well-Being; Child Attitude Toward Illness Scale; WHO-5 Wellbeing Index; Living with Chronic Illness – Youth Version; and KidCope.

**Focus group:** The 30-minute focus group aims to evaluate participants’ experience of the intervention by asking what they liked and disliked, what was challenging, what they learned and whether they would recommend the group for other children with a chronic illness.

**Methods of analysis:**

**Objective 1:** will be analysed using paired samples and independent samples t-test to investigate whether SE changed significantly within participants, and between the intervention and WLC group, respectively. The qualitative data from the focus groups and the additional questions about a personal learning experience will be analysed using descriptive-interpretive thematic analysis to get an indication for if, and through what sources, SE was impacted by the intervention.

**Objective 2:** will be explored using simple and multiple linear regressions.

**Objective 3:** will be addressed by calculating Pearson correlation coefficients for various combinations of related constructs to assess construct validity, and to evaluate test-retest reliability and internal consistency of the PRCISE measure. Data on the acceptability of the PRCISE measure will be analysed thematically.

## 4. Preliminary Results

### 4.1 Quantitative results

**Demographics:** Of the 13 participants, 8 were male and 5 were female. The mean age of participants was 10.4 (SD=0.72).

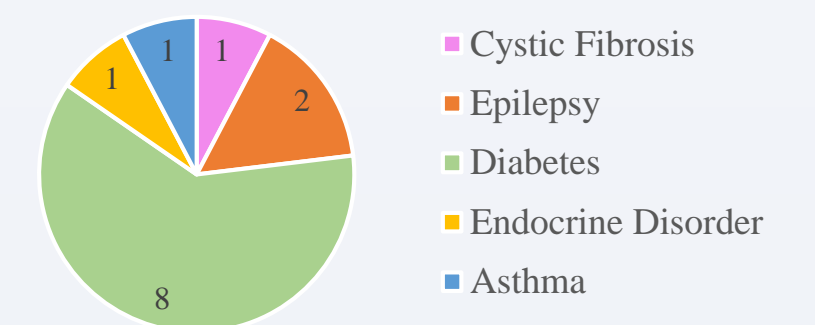


Figure 2. Frequency of chronic illnesses

**Within-subject change:** A paired-samples t-test found no significant difference between pre-intervention SE (M=8.06, SD=1.02) and post-intervention SE (M=7.90, SD=1.26),  $t(12) = .54$ ,  $p = .599$ . A Pearson product-moment correlation indicates there was a significant moderate positive correlation between pre- and post-intervention SE,  $r = .59$ ,  $n = 13$ ,  $p = .034$ .

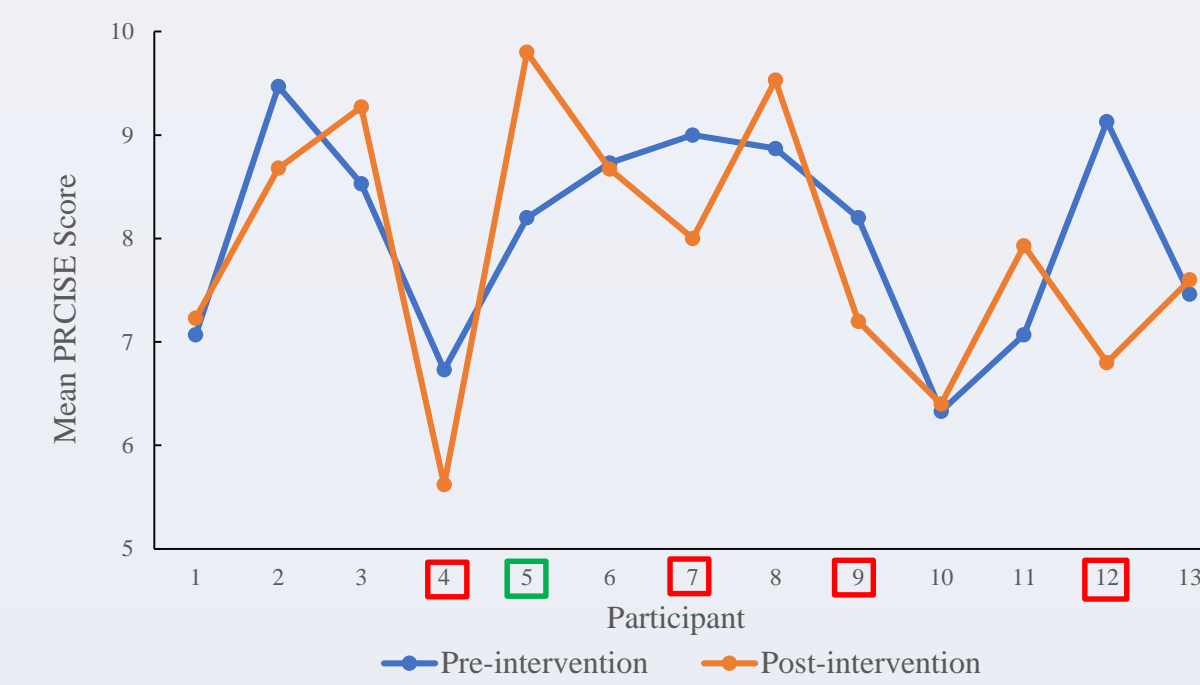


Figure 3. Mean SE score per participant at pre- and post-intervention (box indicates change of  $\geq 1$ )

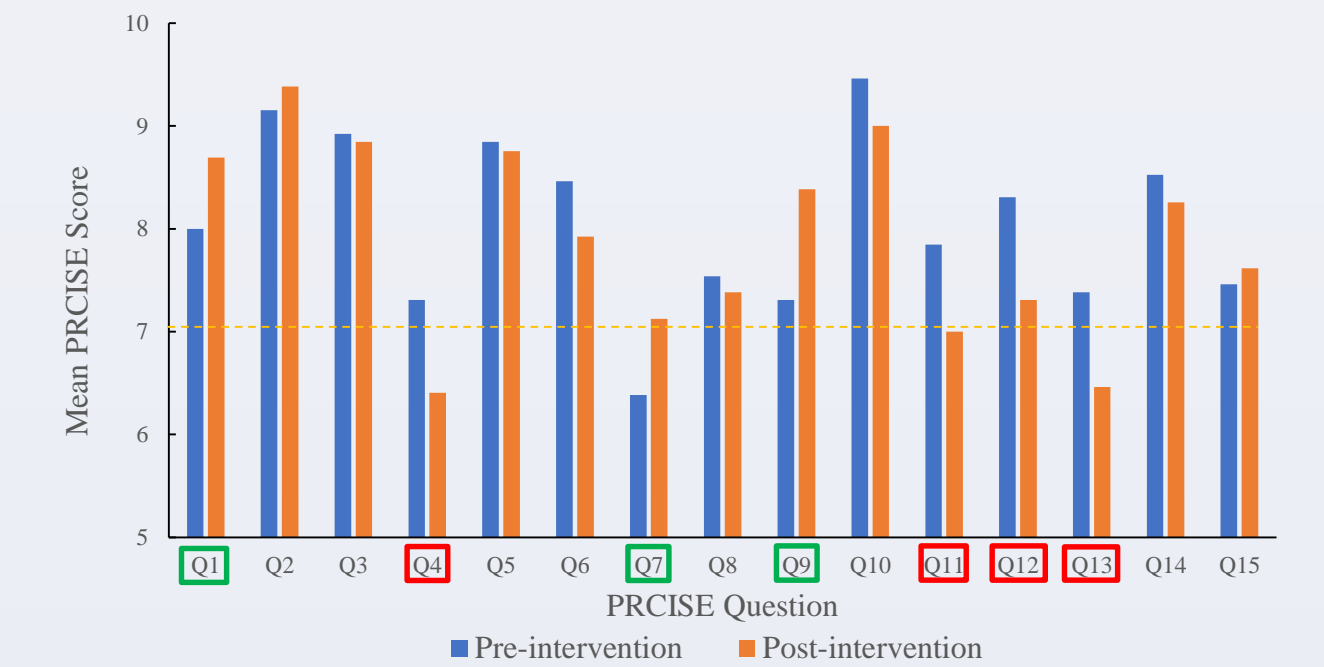


Figure 4. Mean SE score per question at pre- and post-intervention (box indicates change  $> \geq 0.5$ )

**Between-subject change:** An independent samples t-test found no significant difference in the mean change in SE from pre- to post-intervention between the intervention group (M=.09, SD=.99) and the WLC group (M=.37, SD=1.28),  $t(11) = -.43$ ,  $p = .679$ .

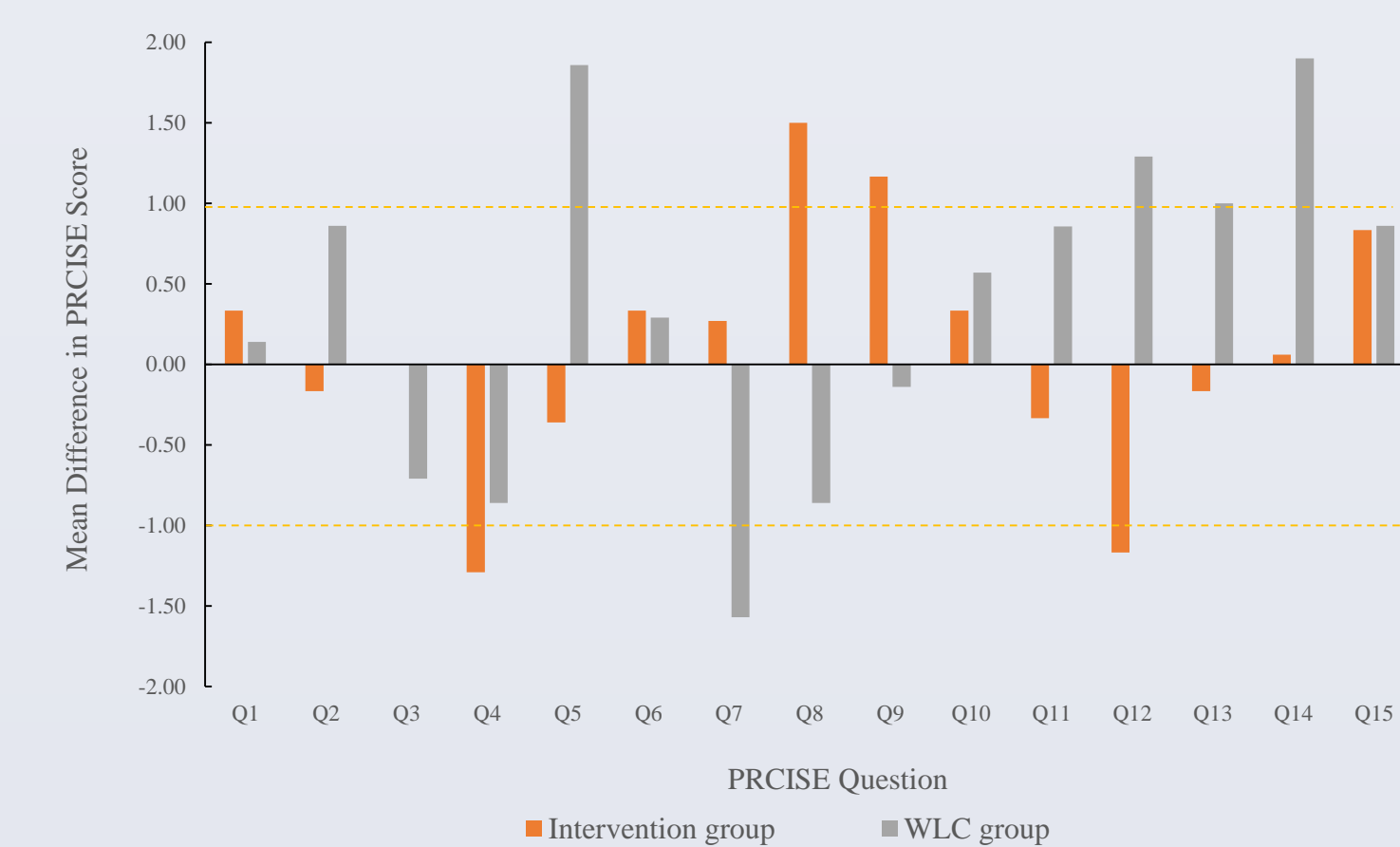


Figure 5. Mean difference in SE score from pre- to post-intervention per question between groups

**Sources of SE:** The strongest source of SE was physiological symptoms (M=4.1, SD=0.73), followed by self-mastery (M=3.6, SD=1) and imagery (M=3.5, SD=0.93).

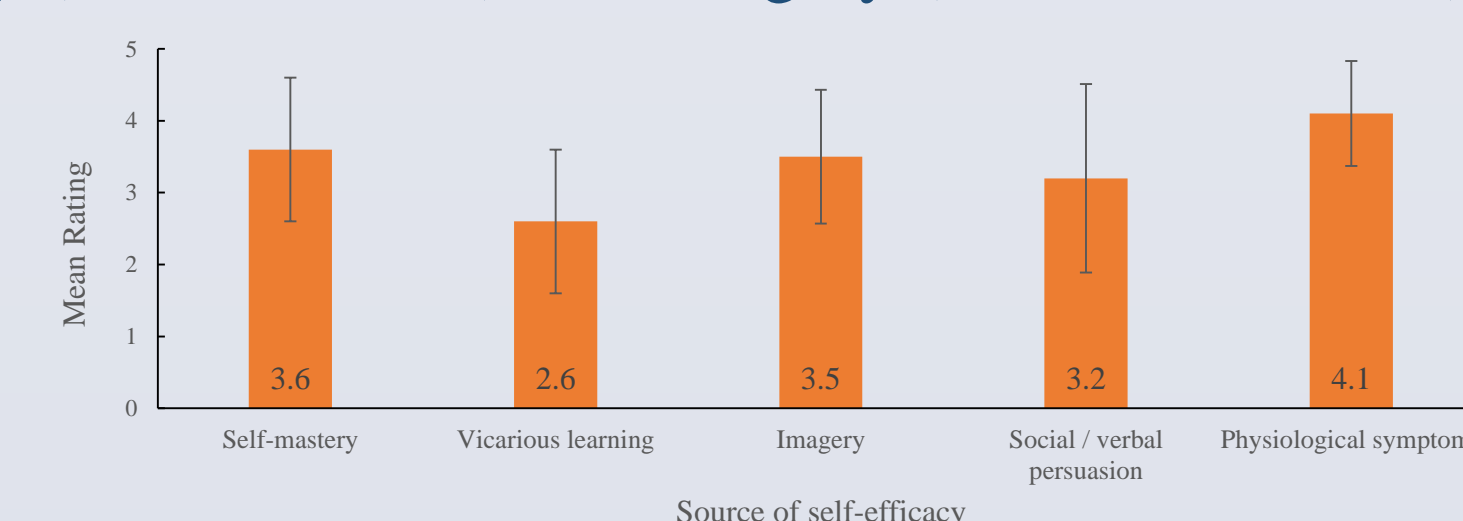


Figure 6. Sources of SE (error bars represent SD)

### 4.2 Qualitative results

**Personal learning experience:** The themes of what participants learned from the intervention include improved art skills, improved ability to express feelings, heightened awareness that they are not the only child with a chronic illness, and making friends.

“I learned...

...that I can express my feelings through art” ...that I’m not alone and learned to do better art”  
...about different illnesses” ...how to make new friends”

**Acceptability of PRCISE:** Eleven participants found the measure “easy”, with 1 participant finding it “a little hard”. Seven participants said the measure was relevant to them, 5 said it was “sort of” relevant and 1 said “no not really”. Ten participants said there were no hard questions, and 3 participants each found one question hard (questions 7, 12 and 15). Finally, 11 participants said the number of question asked was “fine” or “just right”, whereas 2 said it was “too long”.

## 5. Tentative Conclusions

- So far, the data does not support the prediction that the group art therapy intervention increases perceived self-efficacy in paediatric patients with a chronic illness.
- Participants had various learning experiences, with the strongest source of self-efficacy being physiological symptoms, which may be explained by their heightened bodily awareness.
- Based on the feedback given by participants, the PRCISE measure has good acceptability.

## References

- Bandura, A. (1992). Exercise of personal agency through the self-efficacy mechanism. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action* (pp. 3-38). Washington, DC: Hemisphere Publishing Corporation.
- Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. In A. Bandura (Ed.), *Self-efficacy in Changing Societies* (pp. 1-45). Cambridge University Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior*, 31(2), 143-164. doi:10.1177/1090198104263660
- Beebe, A., Gelfand, E. W., & Bender, B. (2010). Asthma and lower airway disease: A randomized trial to test the effectiveness of art therapy for children with asthma. *The Journal of Allergy and Clinical Immunology*, 126(2), 263-266. doi:10.1016/j.jaci.2010.03.019
- Bitonte, R. A., & De Santo, M. (2014). Art therapy: An underutilized, yet effective tool. *Mental Illness*, 6(1), 18-19.
- Emerson, N., Morrell, H., Mahtani, N., Sanderson, L., Neece, C., Boyd, K., & Distelberg, B. (2018). Preliminary validation of a self-efficacy scale for pediatric chronic illness. *Child Care, Health and Development*, 44(3), 485-493. doi:10.1111/cch.12551
- Holman, H. R., & Lorig, K. R. (1992). Perceived self-efficacy in self-management of chronic disease. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action* (pp. 305-324). Washington, DC: Hemisphere Publishing Corporation.
- Jerant, A., Moore, M., Lorig, K., & Franks, P. (2008). Perceived control moderated the self-efficacy-enhancing effects of a chronic illness self-management intervention. *Chronic Illness*, 4(3), 173-182. doi:10.1177/1742395308089057
- Lambert, V., & Keogh, D. (2015). Striving to live a normal life: A review of children and young people’s experience of feeling different when living with a long term condition. *Journal of Pediatric Nursing*, 30, 63-77. doi:10.1016/j.pedn.2014.09.016
- Maddux, J. E., & Gosselin, J. (2012). Self-efficacy. In M. Leary & J. Tangney (Eds.), *Handbook of Self and Identity* (2nd ed., pp. 198-224). NY: The Guilford Press.
- Wagner, J. L., Smith, G., & Ferguson, P. (2012). Self-efficacy for seizure management and youth depressive symptoms: Caregiver and youth perspectives. *Seizure: European Journal of Epilepsy*, 21, 334-339. doi:10.1016/j.seizure.2012.02.009

## Contact

Natalia Griem  
griemn@tcd.ie

Aimee O’Neill  
oneila31@tcd.ie

Charlotte Wilson  
cewilson@tcd.ie