

International collaboration in promoting self-management of chronic disease

Jan McDowell PhD

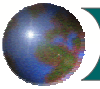
with

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Scope of presentation

- International collaborative research program
- Preliminary results - Australian arm of program



International Partners in Self-management and Empowerment (IPSE) Research

Australia

Queensland University of Technology

Europe

University of Gent, Belgium
University of Basel, Switzerland
University of Utrecht, The Netherlands
University of Warwick, UK

North America

Pace University, New York
University of Pittsburgh, Pennsylvania

Vision for IPSE

- To develop and trial interventions aimed at prevention, health promotion, and improved treatment and care management of chronic disease

First IPSE Project

- To undertake a collaborative program of research that aims to improve self-management of type 2 diabetes by enhancing self-efficacy

Self-efficacy

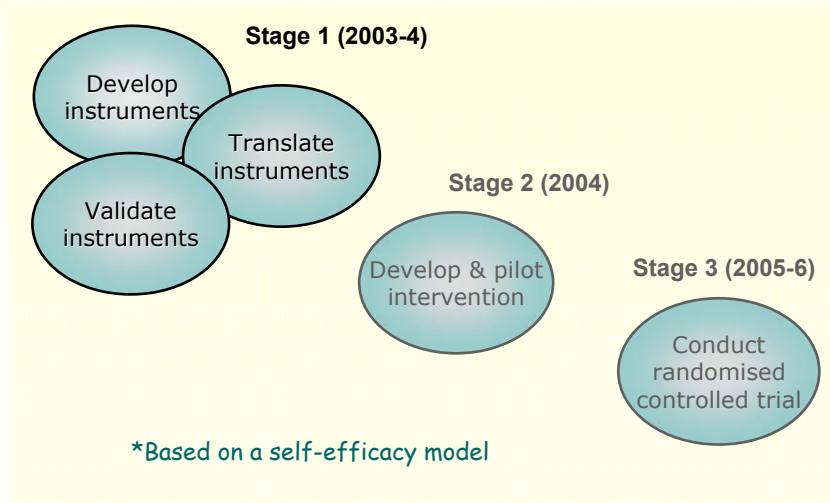


Source: <http://rugbyheaven.smh.com.au/photogalleries/index.html>

"refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations"

Bandura, 1995, p. 2

IPSE Research Program*



Stage 1.1 - Develop instruments

- Diabetes Management Self-Efficacy Scale (DMSES) measures 'Efficacy-expectations' towards
 - Diet
 - Exercise
 - Blood glucose
 - Medications
 - Foot care
- Perceived Therapeutic Efficacy Scale (PTES) measures 'Outcome-expectations'
 - Medications
 - Health professionals
 - Overall management

Stage 1.2-Translate instruments

- Face validity
 - Diabetes educators = 10
 - Patients = 4

- Modification of instruments
 - Assessed feedback
 - Referred back to IPSE group
 - Appropriate changes made to questionnaires

I am confident that I am able to:

DMSES

- | | |
|--|--|
| 1. check my blood sugar if necessary | 11. do more physical activity if the doctor advises me to |
| 2. correct my blood sugar when the sugar level is too high (e.g. eat different food) | 12. adjust my eating plan when doing more physical activity |
| 3. correct my blood sugar when the sugar level is too low (e.g. eat different food) | 13. follow a healthy eating plan when I am away from home |
| 4. choose foods that are best for my health | 14. choose different foods and maintain my eating plan when I am away from home |
| 5. choose different foods and maintain a healthy eating plan | 15. follow a healthy eating plan when I am on holidays |
| 6. keep my weight under control | 16. choose different foods and maintain a healthy eating plan when I am eating out or at a party |
| 7. examine my feet (e.g. for cuts or blisters) | 17. maintain my eating plan when I am feeling stressed or anxious |
| 8. do enough physical activity (e.g. walking the dog; yoga; gardening; stretching exercises) | 18. visit my doctor once a year to monitor my diabetes |
| 9. to maintain my eating plan when I am ill | 19. take my medication as prescribed |
| 10. follow a healthy eating plan most of the time | 20. maintain my medication when I am ill |

Response options: 0 (Cannot do at all) to 10 (Certainly can do)

1. My level of confidence in the ability of my diabetes **medication** to control my blood sugar is:
2. My level of confidence in the ability of my diabetes **medication** to prevent episodes of high blood sugar is:
3. My level of confidence in the ability of my diabetes **medication** to limit the severity of complications (e.g. eye or foot problems) is:
4. My level of confidence in the ability of my diabetes **medication** to prevent me getting (more) complications is:
5. My level of confidence in my ability to control my diabetes by maintaining my **medication** dose is:
6. My level of confidence in the need to take my **medication** each day exactly as prescribed to control my diabetes is:
7. My overall level of confidence in the value of the diabetes **medication** that I am prescribed is:
8. My level of confidence in the ability of **medication** in general to control my diabetes is:
9. My level of confidence in my **health professionals' advice** about my diabetes treatment is:
10. My overall level of confidence in my ability to **manage** my diabetes is:

Response options: 0 (No confidence) to 10 (highest confidence)

Stage 1.3-Validate instruments

- Research question
 - Are the IPSE instruments valid & reliable in Australians with type 2 diabetes?

Validation study-Australia

- Convenience samples
 - Pilot ($N = 12$); Main ($N = 200$)
 - Adults with type 2 diabetes
 - Self-administer oral diabetes medication
- Recruitment
 - Magazine advertisement & article
 - Brochure
 - Community clinics
 - Pharmacies
 - General practices

RESEARCH UPDATE
Confidence & Self-efficacy
By Jan McDowell - Behavioral Scientist, Queensland University of Technology



We often think of diabetes research as searching for a cure, or developing new medications. However, there are many types of research, including research about the way that people's behaviour affects their confidence in managing diabetes. A team from the Queensland University of Technology is conducting a research study to find practical ways to help people with diabetes increase their confidence towards successfully managing their diabetes.

Jan McDowell explains about the role of confidence in diabetes management:

According to the dictionary, confidence is "a sureness or trust" in yourself that you can carry out a particular task. Confidence is important for everyone, but it is especially important for people with diabetes who carry out vital management tasks on a regular basis.

Take exercise, for example. Sometimes, particularly when it is cold or raining, the thought of getting out of a warm bed to go for a walk or go to the gym seems all too hard. On those days you know that you should do the exercise if you want to lose weight and improve your fitness, but you doubt your confidence or trust in yourself to be able to do this. The underlying question that you ask yourself is "Can I do this?"

According to psychologists, this is not an unusual question, particularly for people who need to carry out specific tasks on a regular basis if they are to remain healthy. Perhaps those of you who have diabetes ask yourself "Can I do this?" when you are feeling negative about the tasks that you have to do daily to manage your illness. When you think about these things you are mentally measuring your **self-efficacy beliefs** by judging how confident you are to:

- eat a healthy diet
- exercise
- inject your insulin or take tablets as prescribed by your doctor
- check your blood glucose levels
- check your feet for cuts or blisters

Self-efficacy beliefs influence the amount of confidence that you have in your ability to organise and carry out whatever needs to be done to manage a particular situation. This can be difficult. For example, you might be reasonably confident that you can follow the recommendations about diet, exercise, medications, blood glucose testing and checking feet when you are at home... but what happens when you go to a party or on holidays? Are you so confident that you will be able to follow the recommendations in those situations?

Self-efficacy, or confidence, towards an activity can be built up over time. Have you ever watched someone on television perhaps, who spoke with authority about a particular topic, and admired the way he/she believed that they could do the particular thing that they wanted to do? Cathy Freeman is a good example. Cathy was determined to win a gold medal at the Olympics in her home country, and she did so. Cathy achieved success because her self-efficacy towards running was very high at that point in time. It is unlikely that this occurred by chance. It is likely that Cathy had high self-efficacy because she was very confident that she could run the distance as she had done so previously; she had trained with other athletes and was confident that she would be able to change her running style when necessary to improve her time. She trusted people such as her coach and family members when they told her that she could win that race, and she was confident that she would be able to control her mental and physical energy so that she went into the race fully focused on achieving what she set out to do.

Researchers believe that improving self-efficacy can lead to success in any activity, including diabetes management.

A research team at the Queensland University of Technology in Brisbane is very interested in investigating self-efficacy with people who have diabetes.

If you would like to be involved in this research and you:


- are 18 years of age or older
- have been diagnosed with Type 2 diabetes
- are taking tablets to manage your diabetes and
- are happy to fill in a short questionnaire that will be sent to you by mail,

then the team would love to hear from you. You can either call Jan McDowell on (07) 3864 3822, or write to her at the Centre for Health Research (Nursing), Queensland University of Technology, Victoria Park Road, KELVIN GROVE, 4059, or email j.mcdowell@qut.edu.au.

By participating in this research project you will be helping the team to find practical ways to assist people like yourselves to increase their confidence towards successfully managing diabetes. Increased self-efficacy will mean that tasks, like testing blood glucose levels and exercising etc, won't be so difficult.

Recruitment Brochure

DO
YOU
HAVE
TYPE 2
DIABETES
?



Validation study (cont)

○ Procedure

- Potential participants contact us
- Screened
- Questionnaires mailed, completed & returned
- 15% (main study) resent at 4 weeks



Validation study (cont)

○ Instruments

- DMSES
- PTES
- Generalized Self-Efficacy Scale (GSES)
- Socio-demographics

Results: Pilot study (N= 12)

Gender (% Male)	50.0
Age-Median (min-max) years	64 (39-75)
Employment status (%)	
Working	33.3
Not working	16.7
Retired	50.0
Time since diagnosis (%)	
< 1 year	8.3
1-15 years	75.0
> 15 years	16.7
Co-morbidity	
Yes	58.3
No	41.7

Results: Pilot study (cont)

○ DMSES

- Median **total** score (Min-Max) = 170 (116-196)
- Median **item** scores ranged from 7.5–10
- Lower limit of range
 - *I am able to keep my weight under control* (Raw score range:2-10)
 - *I am able to maintain my eating plan when ill* (Raw score range:5-10)
 - *I am able to maintain my eating plan when I am feeling stressed or anxious* (Raw score range:4-10)

Results: Pilot study (cont)

○ PTES

- Median **total** score (Min-Max) = 87 (63-100)
- Median **item** scores ranged from 8-10
- Lower limit of range
 - *My level of confidence in the ability of my diabetes medication to:*
 - *prevent episodes of high blood sugar is:* (Raw score range:7-10)
 - *prevent me getting (more) complications is:* (Raw score range:3-10)
 - *My level of confidence in the ability of my medication in general to control my diabetes is:* (Raw score range:6-10)

Main study

- Recruiting continues...
- Psychometric analyses
 - Internal consistency
 - Cronbach's Alpha; Average & total inter-item correlations
 - Temporal stability
 - Bland-Altman plots & test-retest correlation coefficient
 - Convergent validity
 - Bland-Altman plots & correlation co-efficients
 - Factor structure
 - Principal components analysis



Collaborative IPSE outcomes

- Data from Stage 1 will be:
 - compared across sites
 - pooled, & further psychometric analysis undertaken
- Outcomes will inform planning & development of Stages 2 & 3 of the international research program