1004
Measuring Learners’ Confidence in Their Abilities

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What factors determine good performance?
There is more to improving performance than the acquisition of knowledge and skill

**Self-efficacy is…**

a person’s _confidence_ in their ability to achieve a particular outcome through a given behavior

_(Bandura, 2004)_

linked to behavioral outcomes

_(Bandura & Locke, 2003)_
How can increased confidence lead to better performance?
A person’s efficacy beliefs influence their...

- Perseverance when faced with obstacles
- Resilience to adversity
- Choice of courses of action
- Expected outcomes
- Challenges and goals people set for themselves and their commitment to them
Theoretical model of self-efficacy’s direct and indirect impact on self-regulated action (performance) (Bandura, 2012)

- **Self-Efficacy**
  - **Outcome Expectations**
    - Physical
    - Social
    - Self-evaluative
  - **Sociostructural Factors**
    - Facilitators
    - Barriers
  - **Perceived Environmental Context**
  - **Goals**
  - **Behavior**

“incentive motivators”
Evidence shows a strong link between self-efficacy and...

Skill acquisition
(Mitchell, Hopper, Daniels, George-Falvy, & James, 1994)

Idea Generation
(Wood, Bandura, Bailey, 1990)

Managerial performance
(Gist, 1989)

Acclimatization to new organizational settings
(Saks, 1995)

Performance in high stakes, highly demanding tasks
(Eden & Zuk, 1995)
Is confidence in your ability to achieve a specific goal generalizable?
There is no “one size fits all” measure of self-efficacy

“…human behavior is richly contextualized and conditionally manifested…”
(pg. 319 Bandura 2006)

Measuring a person’s perceived confidence in their ability to attain a particular goal depends on the goal and the activities needed to attain it, therefore…

…it is necessary to tailor self-efficacy assessments to the unique context of performance
1. A good scale starts with a good “conceptual analysis” of learning domain

Analyses should focus on behavioral factors that are under conscious control of learners, and…

"...factors that, in fact, determine the quality of functioning in the domain of interest.”

(pg.310 Bandura 2006)

Early questioning can help understand what makes it difficult to perform specific activities regularly
2. Diagnosticity of the tool depends on the variability elicited from response items

Gradations of challenge help encourage variability

- Challenges/impediments inherent in the task or the task environment can be integrated into response items
- Adds variability to your measure
- Helps avoid a ceiling effect

I am confident I can avoid eating chocolate chip cookies
  …when they are stored on the highest shelf of my kitchen
  …when they are sitting on a plate on my kitchen counter

I am confident I can declare myself the leader and lead a code blue
  …when I am the senior nurse in the room
  …when a senior nurse is present
  …when a physician is present
3. Use a response scale that increases variability and sensitivity to changes in performance

(Pajares, Hartley, & Valiante, 2001)

Learners should rate their confidence as of **now**, not some time in the future.
4. When building the measure, minimize response bias

- Ensure anonymity to reduce social evaluative concerns
  - code the tools/responses
  - use non-descript titles such as "Appraisal Inventory"

- Explain the importance of accurate answers
- Anticipate potential concerns of respondents

5. Manage expectations around length and redundancy of items

- Including gradation of challenge may seem redundant to some, but can be more important that additional items
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Including gradation of challenge may seem redundant to some, but can be more important than additional items
6. Test your measure on a small group

Test Your Measure

- Pretest the items on your measure
  - Throw out or rewrite ambiguous items

- Check the level of difficulty of your measure
  - Are respondents circling the highest level of efficacy for any or all items

7. Determine how to track responses pre/post (if necessary)

Determine how to track responses

- Changes in perceived efficacy should be measured pre/post from the same
  - Can be a potential limitation of this approach
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Guidelines for developing measures that help link self-efficacy to performance
(drawn from Bandura 2006)

1. Conduct conceptual analysis of target domain
2. Integrate gradations of challenge
3. Select appropriate (10-point) response scale
4. Minimize response bias and balance perceived redundancy and length
5. Test your measure
6. Determine how to track responses
Now, Let’s Try It!
Rapid Conceptual Analysis

1. Break into small groups (2-4) with those around you
2. Pick one person in the group to be the subject matter expert, it can relate to their profession or a hobby at which they are particularly skilled
3. Interview that person to understand the factors that are critical to successful performance
   • What are some of the key skills, behaviors or tasks for that activity
   • What differentiates novices from experts
   • What challenges make the performance of that activity particularly difficult
7 Minutes
Try Building Self-Efficacy Items

• Create 3 to 4 items related to the factors that impact performance or that are related to a desired behavior in your SMEs domain

• Try and have at least two items that have a gradation of challenge

• Remember to limit each item to a single construct
  – Hint: did you use “and”
10 Minutes
How did it go?
Developing a scale to evaluate training to support the relocation of a NICU unit

Unit relocated to a new physical configuration and retaining “support” from others was a primary concern

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<td>I can respond to another nurse when they need assistance</td>
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<td>I can ask for help from another team member when I need it</td>
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Developing a scale to evaluate training to support the relocation of a Cardiac unit

Conceptual analysis of that specific situation uncovered items that may not have been included otherwise

I am confident …

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<td>I can maintain my current level of teamwork with the other colleagues in my unit during non-emergent situations</td>
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<td>I can efficiently return patients to the OR in emergent situations</td>
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Administration as a part of the live training to ensure pre/post
Developing a scale to evaluate new simulation training for environmental services workers

Changing the “culture of cleanliness” was a critical component of this training and the larger organizational initiative.

6. I am confident that I can tell a nurse when *I think there might be* something wrong in a patient’s room

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Changes in procedure were going to put more pressure on nurses to lead a code.

A scale to evaluate the code team’s response to a code in the ED

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Gradations of challenge based on external environment.
Assessment of self-efficacy can help show the impact of training on future performance

When…

…built on an appropriate theoretical foundation

…applied to the appropriate tasks

…designed and administered based on the appropriate guidelines

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References


