

Table 3: Evaluation of Theoretical Models

| Study | Theoretical model(s) Mentioned ? | Efficacy of constructs evidenced in introduction? | Based on single theory? | Constructs explicitly inform intervention techniques? | Constructs measured? | Construct s/theory evaluated in discussion ? | Score |
|------------------------|---|--|--------------------------------|--|--|---|--------------|
| Saksvig et al. (2005) | Yes SCT Ecological model | No | No | No | Yes Significant Self- efficacy | Yes | 4/6 |
| Faro et al. (2005) | Yes: SCT Developme ntal theory | Yes | No | No | Yes: Self- efficacy not significant | No | 3/6 |
| Bradshaw et al. (2007) | No (However SCT constructs were used) | Yes | Unknow n | Yes Self-efficacy | Yes | Yes | 4/6 |

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|---------------------------|---|---|----|--|---|----|-----|
| Laatikainen et al. (2007) | Yes: SCT Self-regulation model | Yes (referenced in Uutela et al., 2008) | No | Yes: Goal setting (Action-outcome expectancies), motivating progress from intention to change, using educational sessions | Yes: (Reduced diabetes distress $p < .002$) | No | 4/6 |
| Davies et al. (2008) | Yes: SCT, Common sense theory, dual process theory, and self-regulatory model | Yes | No | Yes: Educational session develops self-responsibility through highlighting risk factors and choosing specific goals thus enhancing self-efficacy | Yes: Illness perceptions ($p = .001$, correlated with weight loss ($p = .008$)) | No | 4/6 |
| Dutton et al. (2008) | Yes: Trans-theoretical Model and SCT | Yes | No | Yes: Stage of change based counselling book addressing motivation, self-efficacy, goal-setting, social support, and problem-solving. | Yes: Intervention group in stages of change (OR=3.2, 95% CI=1.0, 10.3) Approximately 43% of | No | 4/6 |

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|-----------------------|--|-----|----|---|---|---|-----|
| | | | | | intervention participants demonstrate stage Action or Maintenance stage | | |
| Thoolen et al. (2008) | Yes: Self-regulation theory & proactive coping | Yes | No | Yes: Goal setting as part of a 5 step plan to improve dieting, medication and physical activity | Yes: goal attainment ($p = .001$), self-efficacy ($p = .005$) | Yes, support for constructs used in measures | 5/6 |
| Yates et al. (2009) | Yes: SCT, Common sense theory, dual process theory, and self-regulatory model | Yes | No | Yes Structured educational program targeting self-efficacy, overcoming barriers and self-regulation. Goal setting for increased walking levels to improve physical activity. | Walking self-efficacy ($p = 0.01$) | No | 4/6 |

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|------------------------|-------------------------------|-----|----|---|--|--|-----|
| Sacco et al. (2009) | Yes: SCT Control Theory | Yes | No | Yes: Diabetes knowledge and self-efficacy, social support and reinforcement targeted through counselling sessions. Weekly goal-setting. | Yes: Self-efficacy, ($p = .05$); Reinforcement for self-care behaviour, ($p = .001$); Awareness of self-care goals, ($p = .01$) | Yes: Self-efficacy enhanced by intervention and acts as mediator for depression, therefore should be further explored | 5/6 |
| Contento et al. (2010) | Yes: SCT SDT | Yes | No | Yes | Yes: Increased self-efficacy for all targeted behaviours except eating more fruits and vegetables ($p = .001$) | No | 5/6 |

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|------------------------|---------------------|-----|-----|--|---|---|-----|
| Wu et al. (2011) | Yes: SCT | Yes | Yes | Yes: Pamphlet encouraging goal setting, DVD and counselling sessions enhancing self-efficacy skills | Yes: Efficacy expectations ($p = .01$); Outcome expectations ($p = .01$); Self-care behaviours ($p = .01$) | Yes: Advocates combined use of self-efficacy and outcome expectation | 6/6 |
| Hartmann et al. (2012) | Yes: Mindfulness | Yes | Yes | Yes: Mindfulness-based stress reduction (MBSR) through Group meditation practices | Yes: Lower levels of depression ($d = .71$) and improved health status ($d = .54$) | No | 5/6 |

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|-----------------------|---|-----|----|--|--|-----------------------------------|-----|
| Glasgow et al. (2012) | Yes: SCT social-ecological theory | Yes | No | Yes: Internet based program with and without additional support, comprising behaviour addressing motivation techniques for goal setting and problem solving | Yes: Self-efficacy and d scale (both not significant) | No | 4/6 |
| Mohamed et al. (2013) | Yes: Empowerment and health belief model | No | No | Yes: Self-support and illness awareness developed through health education and counselling | Yes: Attitude, ($p = .0001$); | No | 3/6 |
| Miller et al. (2014) | Yes: Mindfulness SCT Theory of meaningful learning | Yes | No | Yes: Eating directed meditation and SCT component focussing on knowledge, outcome expectations, and self-efficacy | Yes: Depressive symptoms, outcome expectations, Eating Self-efficacy, (all $p = .0125$) | Yes: | 6/6 |
| | | | | | | Constructs of SCT and mindfulness | |

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|------------------------|--|---------------------|-----|---|---|----|-----|
| Jennings et al. (2014) | Yes: Theory of Planned Behaviour | Yes (In methods) | Yes | Yes: Attitude, perceived behavioural control and subjective norm | No | No | 3/6 |
| Heideman et al. (2015) | Yes: Health Action Process Approach | Yes | Yes | Yes: Two stage behavioural change program plus personal risk, outcome expectancies and self-efficacy components | Yes: Mostly not significant psychosocial results except diet and PA self-efficacy ($p = .006$ and $p = .008$ respectively) | No | 5/6 |
| Biddle et al. (2015) | Yes: SCT, Common sense theory, dual process theory, and self- | Yes | No | Yes: As Davies et al. (2008) and Yates et al. (2009). Leaflet on illness perceptions. Workshop on diabetes knowledge, goal setting, self-management and self-awareness, social | Yes: (not significant psychosocial measures) | No | 4/6 |

| | regulatory model | | support and self-efficacy | | | | |
|-----------------------|---------------------------------------|----|---------------------------|---|---|----|-----|
| | Yes: | No | Yes | Yes: | Yes: | No | |
| Ramadas et al. (2015) | Trans-theoretical Model (Abstract) | | | Dietary Stages of Change (DSOC) Dietary Knowledge, Attitude, and Behavior (DKAB) | Dietary Knowledge, Attitude, and Behavior score was strongly correlated with content satisfaction (r=0.826, p<0.001), acceptability (r=0.793, p<0.001) and usability of the website | | 4/6 |

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| | | | | | (r=0.724, p<0.001), and moderately correlated with frequency of log-in (r=0.501, p<0.05) and | | |
| Yates et al. (2016) | Yes SCT, Common sense theory, dual process theory, and self- regulatory model | Yes (In protocol) | No | Yes (Supplementary materials) And as Davies et al. (2008) and Yates et al. (2009) | No | No | 3/6 |
| Macedo et al. (2017) | Yes Behavioural change protocol | No | Yes | Yes | No | No | 3/6 |

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|-------------------------|--|----|----|---|--|----|-----|
| McCurley et al. (2017) | Yes: SCT SDT | No | No | Yes | No | No | 2/6 |
| Taggart et al. (2017) | Yes SCT, Common sense theory, dual process theory, and self- regulatory model | No | No | Yes: As Davies et al. (2008) and Yates et al. (2009). Leaflet on illness perceptions. Workshop on diabetes knowledge, goal setting, self- management and self- awareness, social support and self- efficacy | Yes: IPQ shift (P = 0.00) DIRQ (not significant) WHOQOL- BREF (Not significant) | No | 3/6 |
| Totals (Yes) | 22 | 17 | 6 | 21 | 19 | 6 | |