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Article

The GROWS Model: Extending the GROW Coaching Model to Support Behavioural Change

Sasikala Panchal & Professor Patricia Riddell

Abstract: Coaching models like the popular GROW model provide processes designed to increase the likelihood of change (Whitmore, 2009). Despite the use of such models, changing behaviour can still be difficult. One possible explanation for this is that important aspects of behavioural change are not captured by the GROW model. There has been substantial research into behavioural change in the domain of health initiatives, and this has given rise to Health Action Process Approach (HAPA) (Schwarzer, 2008). This model considers two phases of behavioural change; initiation (in which change is planned) and action (in which new actions are put in place). It is in this second phase that the HAPA model provides new processes that might benefit coaching for behavioural change. The authors adapted key components of the HAPA, in order to incorporate these into the GROW model. They tested this new model on four coaching clients to determine whether this model supports coachees to initiate and maintain behavioural change, and develop recovery strategies when obstacles are encountered. [Results suggest that clients found the GROWS model more effective since proactive elicitation of strategies to overcome potential obstacles and to recover from setbacks led to more successful initiation and completion of goals. All levels of self-efficacy tested contributed to this result.](#) The authors share a selection of the HAPA-based coaching questions that can be used to implement this new approach. It is hoped that coaches can use these to support their coachees to develop more sustainable behavioural change.

Key words: behavioural change, Health Process Action Approach (HAPA), GROW coaching model, GROWS coaching model, self-efficacy

Introduction

The GROW coaching model (Whitmore, 2009) is one the most widely used models in the coaching training and teaching programmes (e.g. van Nieuwerburgh, 2014). It is the default, go to model for most coaches in supporting coachees to bring about behavioural (and cognitive) change. The model allows a coach the flexibility to walk the coachee through a process of stages either sequentially or, to jump to those steps that best serve the coachee in the moment.

Despite the model's strong influence on the progression of coaching (Dembkowski & Eldridge, 2003) there are some shortcomings. This has led practitioners and academics to modify the model in an attempt to improve the probability of successful behavioural change. One example is the inclusion of additional steps into the process to engage the coachee on the 'topic' brought to coaching (Downey's 2003, 'T-GROW' Model (see van Nieuwerburgh, 2014). Others focus on adapting the coachees' existing 'habits' and 'tactics' to support behavioural change via the GROW(TH) model (developed by GROWTH Coaching International (see van Nieuwerburgh, 2014).

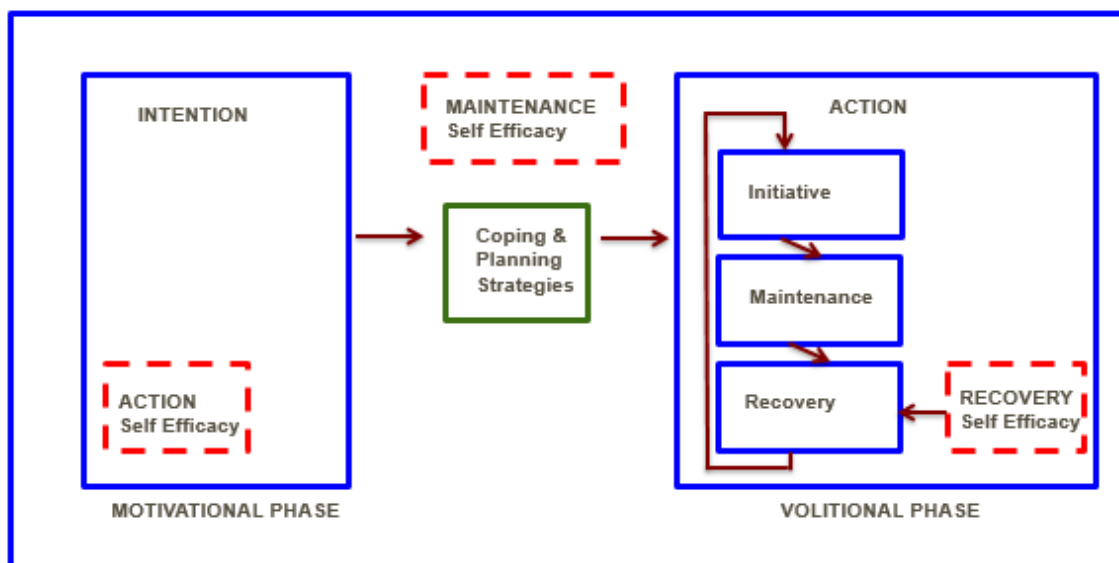
From the authors' experiences in coaching clients over several years, one thing that could be noted as missing from the GROW coaching model (Whitmore, 2009) is a process to take coachees from an *intention* to change, to *action(s)* manifesting in behavioural change. Very few adaptations of the GROW coaching model (Whitmore, 2009) to date appear to be capable of bridging this gap. To consider ways in which this might be achieved, the authors have looked beyond the coaching profession and towards the medical world where advances in behavioural change have moved ahead of coaching. This has resulted in consideration of a medical model which has been demonstrated as successful in creating behavioural change in patient populations (Schwarzer, 2008).

The Health Action Process Approach (HAPA, Schwarzer, 2008) as shown in Figure 1 was developed to understand how people change behaviours, specifically to create better processes for people who have difficulties in changing their behaviours. The model has been

used to address, for example, smoking cessation (Scholz, Nagy, Gohner, Luszczynska & Kliefel, 2009), dieting (Zhou, Knoll & Schwarzer, 2013), predicting physical activity intentions and behaviours in schizophrenia patients, (Arbour-Nicitopoulous, Duncan, Remington, Cairney & Faulkner 2017), weight control in obese populations (Hattar, Pal & Hagger, 2016), enhancing vaccination intentions (Payaprom, Yupares, Alabaster & Tantipong, 2011), and improving dental hygiene practise (Schwarzer, 2016).

The HAPA (Schwarzer, 2008) is not confined to its application in the medical profession in supporting behavioural change. The HAPA (Schwarzer, 2008) has been found in studies conducted to change bicycle helmet use to improve cyclist safety (Karl, Smith, Piedt, Turcotte & Pike, 2017). An extension of the HAPA (Schwarzer, 2008) has also been found to support changing eating behaviours by augmenting greater fruit and vegetable consumption (Keller, Motter, S., Motter, M., & Schwarzer, R., 2018) and developing parental supervision in terms of improving dental hygiene behaviour in children (Hamilton, Cornish, Kirkpatrick, Kroon, & Schwarzer, 2017). The approach has generated success in diverse conditions by carefully considering the steps involved in behavioural change especially in relation to self-efficacy (Bandura, 1977).

Figure 1 The Health Action Process Approach (HAPA)



The central premise of the model is underpinned by the processes through which people learn and develop their capabilities throughout life. One lifelong strategy is to learn through role modelling by observing significant others including mentors, teachers, or work colleagues. This form of learning was first outlined by Bandura who demonstrated that children learn through observing both the behaviour of significant others, and the consequences of that behaviour (Social Learning Theory, Bandura, 1977). Bandura (1977) also demonstrated that how we adapt and learn depends on our beliefs in our own capabilities – or our self-efficacy. Self-efficacy is defined as the overall belief in our competence to complete new tasks. It has been shown to determine willingness to initiate new actions by affecting our levels of motivation, commitment, competency and our ability to summon resources both internal and external, to overcome challenges to behavioural change (Bandura, 1977; Wood & Bandura, 1989).

The HAPA model (Schwarzer, 2008) addresses the challenge of self-efficacy by breaking down the steps in moving from our intention to change to the action(s) required to change. Figure 1 summarises how the HAPA model breaks behavioural change into two stages: initiation of change and maintenance of new behaviours. It pro-actively focuses on developing strategies which increase self-efficacy for maintaining new behaviours, by overcoming obstacles and recovering from set-backs. Obstacles are all too common factors that can prevent success in moving from intending to make a behavioural change, through starting the behavioural change process, to developing strategies to getting back on track if and/or when things go wrong.

This led the authors to build on the success experienced with the HAPA in the medical world (Schwarzer, 2008) and to determine what aspects of this model could be integrated into the GROW coaching model (Whitmore, 2009) to support sustainable behavioural change. We've called this new model, the GROWS model.

Methodology

Developing GROWS Coaching Questions

The most effective and simplest way of extending the GROW coaching model (Whitmore, 2009) was to develop HAPA-based coaching questions aligned with the phases indicated in

the HAPA model (Figure 1). Questions were designed to encourage reflection on initiating new behaviours, maintaining new behaviours and assessing the participants' perceived self-belief, motivation, commitment and competency in developing the new behaviours. Additional, HAPA-based questions (a selection of which are shown in Table 1) were also introduced to encourage the participant to proactively think of obstacles or setbacks that could get in the way and how these might be overcome. (Refer to Appendix 1 for supplementary questions that were used in the pilot study.)

Table 1 GROWS coaching questions

Questions for Coaching session	
1	What will you do to initiate the new behaviour?
2	What will you do to maintain the new behaviour?
3	What obstacles might you encounter?
4	What will you do to overcome the obstacles or set-backs?
5	On a scale of nought to ten how confident are you in your ability to commit to the actions you've agreed too? Why did you choose this number?
Questions for the Reflection session	
6	On a scale of nought to ten how successful were you in initiating the actions you agreed to in the previous session? Why did you choose this number?
7	On a scale of nought to ten how successful were you in maintaining the actions you agreed to in the previous session? Why did you choose this number?
8	Did you suffer any obstacles? If yes, ask, what (if, any) recovery strategies did you put into action to overcome them?
9	On a scale of nought to ten how would you rate your confidence in your ability to change behaviour? Why did you choose this number? (NB: note and contrast the answer reported in question 5)
10	What are you learning about yourself and how you approach behavioural change that you can use in the future?

We considered the most appropriate stage to implement the HAPA-based coaching questions and concluded that this fitted well in the 'WILL' stage of the GROW model (Whitmore, 2009).

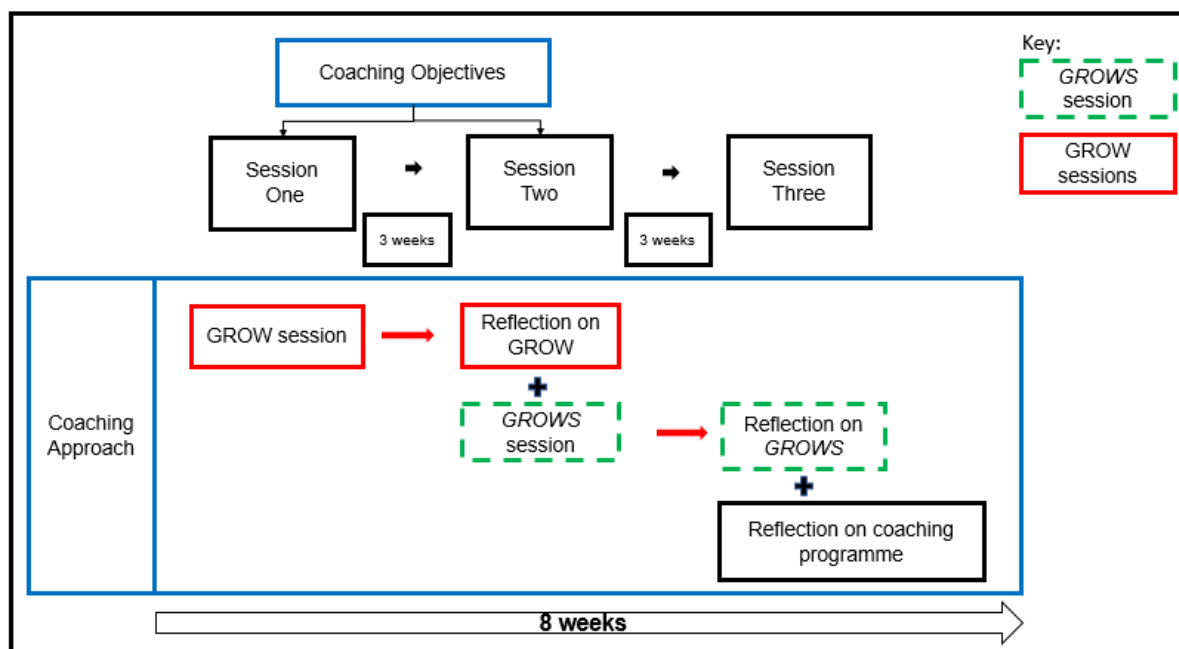
It is at this stage that the coachee is engaged with developing actions to support actualising their desired coaching outcomes. It is also the stage at which the coachee summons the will and resources to commit to action(s) to deliver upon their desired coaching goal.

To compare the effects of coaching using the GROW model (Whitmore, 2009) with coaching using the extended GROWS model, a pilot study was conducted in which participants were invited to attend a series of coaching sessions, as shown in Figure 2. The first session formed the baseline and was based on the GROW model without extension (Whitmore, 2009). In a second session three weeks later, the effects of this coaching were evaluated through qualitative questioning designed to allow participants to reflect on their experience. This session was also used to conduct the second coaching session using the extended GROWS model.

At a third session three weeks later, the extended GROWS model was evaluated using qualitative questions designed for reflection on their experience with this model. During the reflection stage participants were also asked to evaluate what they had learnt from their experience of changing behaviours that they could integrate into future practise.

The pilot study was implemented during three coaching sessions with four participants. Each participant was asked to select a new coaching objective as input into session one (GROW) and session two (GROWS).

Figure 2 The GROWS coaching programme



Results of Extending the GROW Coaching Model [Pilot Study](#)

The results of this study provide many lessons that we feel might be useful to other coaches who are interested in further developing their coaching practise. We base this discussion on differences in the qualitative valuations that participants made about each of the coaching processes they experienced.

We start the discussion with participants’ feedback and reflections on their experiences of being coached during each of the GROW and GROWS coaching sessions. Thereafter the discussion focuses on individual components of the GROWS coaching model in more detail.

Table 2 Participants reflections on the GROW and GROWS coaching sessions

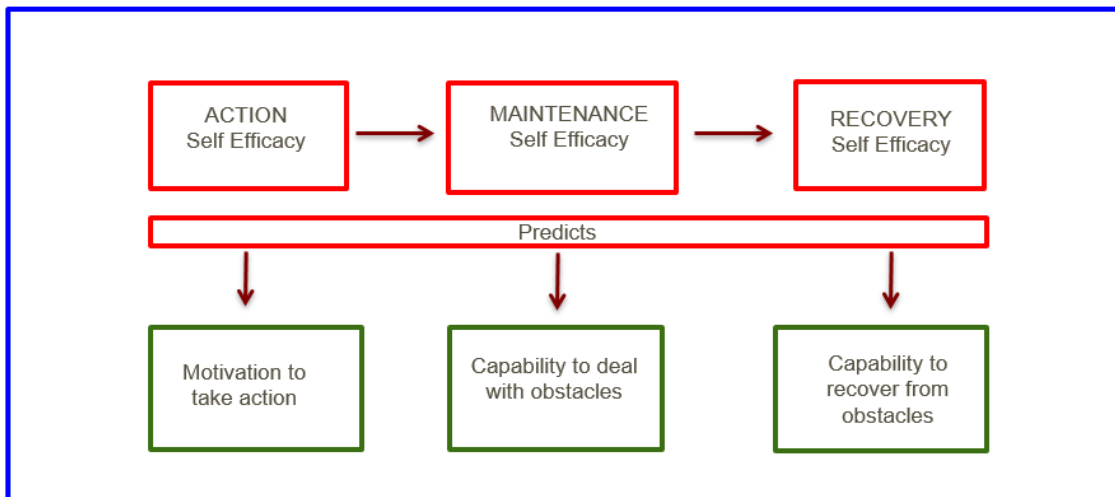
Participant	GROW Reflections	GROWS Reflections
1	<i>“Not as in-depth ... [however the] session flowed well for me”</i>	<i>Helped to identify alternative strategies ... Better understanding of the obstacles”</i>
2	<i>“rushed to get to options versus exploring the thinking behind it”</i>	<i>“Introduced new ways of thinking”</i>

3		<p><i>“More focused on what I wanted to achieve ...</i></p> <p><i>awareness of the impact of me and doing things differently”</i></p>
4	<p><i>“Nothing of value to add”</i></p>	<p><i>“Really helped me to think things through”</i></p>

Table 2 shows statements from participants about each of the coaching models tested. In each case, the data suggests that the GROWS coaching model (Whitmore, 2009) offered the participants a greater opportunity to break down the stages of behavioural change over that offered in the GROW model. For example, participant 1 stated that breaking down the stages of behavioural change into initiation, maintenance and recovery offered them the opportunity to “identify alternative strategies” and “better understand the obstacles”. Additionally, participants 2 and 4 reflected on their ability to “introduce new thinking” when using the GROWS model and stated that this increased the clarity to “think things through” as they developed actions in support of their coaching objectives. In comparison, Participant 2 reported the GROW coaching session as less effective, stating that in the GROW model they felt “rushed to get to options versus exploring the thinking behind it”.

To further explore why the GROWS model was seen to be more effective, different phases of the GROWS model were considered in more detail. The GROWS coaching questions were designed using the self-efficacy constructs integrated within the HAPA model (Schwarzer, 2008); i.e. action, maintenance and recovery self-efficacy (refer to Figure 3). By asking questions for each phase of the model, the authors aimed to improve participants’ ability to breakdown and identify the stages of behavioural change. The authors predicted that by asking participants to proactively plan what to do when things got in the way of achieving behavioural change could impact on how successful the coachees were in achieving their coaching outcomes.

Figure 3 HAPA phase-specific self-efficacy constructs



Source: Adapted from Schwarzer,(2008)

Table 3 Participants reflections on HAPA-based coaching questions

Research question	Participant	Qualitative data
Did adding HAPA-based questions to the GROW model have any impact on the quality of thinking that goes into creating behavioural change?	1	[The GROWS session] “was harder ... the questions were harder ... more in-depth and took more effort and resources to achieve ... [as a result] more ideas occurred”
	2	[The GROWS session] “different ways of thinking were opened up to allow more thinking pathways ... challenged assumptions”

Participants were first asked to reflect on whether the additional questions about components of the HAPA model impacted on their quality of thinking. Participant 1 noted that the questions in the GROWS model were “harder” and “took more effort and resources” and that generated “more ideas” (Table 3). Participant 2 stated that the GROWS session afforded time to explore different perspectives and challenge assumptions before committing to action (Table 3). This suggests that the HAPA-based questions provided more opportunity

to explore the proposed behavioural change. It appears to have provided time to proactively imagine the future and create actions to bring about the desired behavioural change.

Table 4 Action Planning Self-efficacy

Research question	Participant	Qualitative data
Does adding greater focus on action planning affect the quality of thinking and actions generated?	2	<i>"I feel like this plan is more tangible because I'll walk away with something. At the end of the last session [GROW] maybe it was a bit too vague as to what I was going to do ... breaking it [behaviour] down is really key for me"</i>
	3	<i>"I was able to think things through ... more logically ... there was time to think on what to do"</i>
	4	<i>"I took a more thoughtful approach ... more measured approach ... it supported my way of thinking"</i>

Participants were then asked what impact the question about self-efficacy in action planning had on their thinking. Participant 2 stated that the quality of the action plan was more "tangible" in the GROWS model by way of "breaking it [behaviour] down" for them. Participant 3 stated there was more "time to think" on their actions. Participant 4 stated alignment of the process with their "way of thinking". In all cases, focusing on action planning self-efficacy in the GROWS session appeared to evoke more time to think and helped to create elaborated action plans to support their desired behavioural change.

Table 5 Surfacing Obstacles

Research question	Participant	Qualitative data
Does pro-actively raising awareness of obstacles support participants in	1	<i>"obstacles were outside of [their] control" "I needed to become more resourceful and understand the situation"</i>

creating strategies that support behavioural change?	3	“I was more focused ... I was able to remove the emotion ... helped me to think things through ... taking a step back and not responding ... I’m able to remove myself and my emotion [from the situation]”
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Participants were asked to reflect on the questions in the GROWS session which focused on obstacles and whether proactively surfacing these would raise awareness and shift the focus towards creating strategies to overcome them. In doing so the authors wanted to demonstrate the impact of consciously and proactively raising awareness of what would get in the way of the coachee achieving behavioural change. It was predicted that participants would access their own internal sources of self-efficacy (capabilities, competencies and motivation) to effect change over their environment through self-determined solutions and strategies to overcome the obstacles.

When questioned about the obstacles, Participant 1 stated that the “*obstacle was outside* [of their influence and] *control* “. In this case the participant devised strategies to be “*more resourceful and understand the situation*” and re-direct their efforts and resources to work around the named obstacle i.e. the people involved (Table 5). Proactively surfacing obstacles and distinguishing those that are within and, outside of this participants’ control appeared to influence what actions they might put in place to support behavioural change.

Participant 3 noted that they themselves were the obstacle (Table 5). They recognised that their emotional reaction was preventing them from reaching their desired outcome. They reported that the GROWS coaching session enabled them to surface and name what the obstacle was (i.e. their emotions) and what they could consciously do to exert control (i.e. regulate their emotional reaction) to affect a more positive outcome. This participant valued the recognition that emotional regulation was a key driver of behavioural change. In developing this new insight, they were able to remove themselves and their emotions from the situation and positively effect behavioural change.

Table 6 Recovery Planning

Research question	Participant	Qualitative data
Does raising awareness of obstacles and planning for recovery support behavioural change?	1	<i>"I was determined to overcome them [the external obstacles e.g. people] ... I worked around them ... I was persistent ... I spent considerable resource [time]"</i> .
	2	<i>"I realised I was the barrier ... I need to be more motivated and committed"</i>
	3	<i>"I learnt how to identify where the emotion came from and how to take a handle of it ... how beneficial it was to do that"</i>
	4	<i>"I thought about it ... I looked back to what I did in the past. I found a way around it [obstacle] last time ... I'll find a way around it next time"</i>

Participants were then asked questions to develop strategies to recover from any setbacks they might encounter. The recovery strategies, in most cases, resulted in a step-by-step plan of the 'what', the 'when' and 'how' which could be actioned if or when, lapses in behaviour materialised.

All four participants developed recovery strategies during the *GROWS* coaching session. When questioned if they had executed the recovery plans all participants responded with a negative i.e. none of the participants reported needing to exercise the recovery plan. Rather, participants stated having proactively raised awareness of potential obstacles had an impact on their desired coaching goal. For instance, Participant 1 noted that they were *"determined to overcome them [the obstacles]"*. Whilst Participant 3 identified emotion was the obstacle and that they *"learnt how to identify where the emotion came from and how to take a handle of it"*. Similarly, Participant 2 stated the need to be more *"motivated and committed"* in planning for recovery after establishing themselves as the obstacle. This suggests that the benefit in creating a recovery plan might be, not in implementing it, but in proactively

identifying the obstacle and then developing strategies based on prior experiences and the desire to effect the desired behavioural change.

In addition, Participant 1 reported the need to develop alternative recovery strategies in the moment due to a change within the environment in which the new behaviour was being actioned. New obstacles (not previously considered) appeared and therefore a new recovery plan was created. Participant 1 reflected advantages in previously differentiating the obstacles and the control they had to exercise over them based on what they “*did in the past*”. Having previously and proactively reflected on setbacks in the coaching session enabled Participant 1 to mobilise internal resources and capabilities to exercise control and maintain actions and behaviours to reach their desired behavioural change.

Table 7 Initiation and Maintenance of behavioural change

Research question	Participant	Qualitative data
Does reflecting on specific stages involved in behavioural change support participants to create change? i.e. initiation of behavioural change	2	<i>“getting a clear understanding [of the goal] and getting this right at the beginning was important to initiate the right actions ... behaviour ... seeing tangible evidence of it ... knowing I’d achieved it”</i>
Does reflecting on specific stages involved in behavioural change support participants to create change? i.e. maintenance of behavioural change	1	<i>“would have benefitted from more time”</i>
	3	<i>“I could see the value in doing [that action] on a regular basis so I’m going to schedule that into my diary ...”</i>
	4	<i>“too early to say ... I need more time to monitor the changes”</i>

A reflective stage was integrated into both GROW and GROWS coaching sessions (Figure 2). The purpose of this was to provide participants with the opportunity to reflect on their experiences of both coaching sessions and highlight any differences in their progress towards their coaching objectives. Participants were asked to consider whether reflecting on the initiation and maintenance of new behaviours increased their future approach to behavioural change.

Participant 2 stated a *“clear understanding [of the goal] ... at the beginning”* was important in order to initiate the *“right actions ... behaviours”* to support their desired behavioural change. On reflection, Participant 2 had been able to identify *“tangible evidence”* of behavioural change taking place by *“knowing I’d achieved it”*.

In relation to maintenance of behavioural change a common theme echoed by Participant 1 and 4 was the need for more time in order to evidence behavioural change and this is acknowledged as a limitation of the pilot study. Participant 3 identified the value and benefit they experienced from their action(s) which led them to set an intention to install this as a regular behaviour. It appears that reflecting on how successful the initiation and execution of the new behaviour had enabled Participant 3 to develop a strategy to continue to maintain the new behaviour in the future.

During the last of the three coaching sessions (Figure 2), participants were given the opportunity to reflect on their progress and what they had learnt about how they approach behavioural change. The authors predicted that learning from these insights might afford participants the insight necessary to leverage internal resources (self-confidence, competency and motivation) in support of future behavioural change.

The data describing participant reflections on self-efficacy is shown in Table 8. This demonstrates that the reflection sessions proved to be beneficial for some of the participants. Participants 1 and 2 noted an increase in their confidence score in relation to achieving their goal after the GROWS coaching session. In contrast, participants 3 and 4 did not report a change in motivation between the two coaching sessions. It should be noted, however, that

all participants were highly motivated going into both sessions and this would make finding an increase in motivation harder.

Table 8 Participants reflections on Perceived Self-efficacy

Research question	Participant	Qualitative data
Does reflecting on behavioural change improve self-efficacy in participants (i.e. competence, motivation, confidence)?	1	<i>“it was an eight [previously] because I didn’t feel confident I could do it [before] ... I would make that a ten now ... [after] carrying out the actions and being successful ... I’m feeling confident after reviewing my actions ...”</i>
	2	<i>“my confidence, motivation and determination has increased... in hindsight I know I can do it ...”</i>
	3	<i>“no real change for me ... ”</i>
	4	<i>“it was an eight out of ten .. it’s still the same rating, it has been successful .. but I did not see any noticeable change in confidence or self-belief”</i>

Conclusion

The study confirmed that the GROW coaching model is a highly flexible and robust coaching model (Bossos, Riddell & Sartain, 2015; Whitmore, 2009, 2017). In selecting the GROW coaching model (Whitmore, 2009) it afforded the study enough flexibility to seamlessly integrate a unique behavioural change model from the medical world with proven empirical effectiveness (Schwarzer, 2016).

The study demonstrated that the HAPA is a highly versatile framework, with its inherent ability to break down the stages involved in behavioural change into distinct phases i.e. initiation, maintenance and recovery (Sniehotta, 2007; Schwarzer, 2008, 2016). This made the

process of designing and integrating the HAPA-based coaching into the GROW model (Whitmore, 2009) very simple and efficient.

The pilot study demonstrated that all the participants experienced some improvement in behavioural change (and/or cognition or emotional regulation) when being coached using the GROWS model as compared to the GROW model (Whitmore, 2009). This ranged from proactively surfacing obstacles and/or set-backs that could prevent behavioural change to the subsequent development of recovery plans to address relapses in initiating new behaviours. Additionally, raising awareness of obstacles gave participant the opportunity to differentiate obstacles as internal (i.e. themselves) versus external (i.e. other people). This resulted in creating greater awareness of what they could do with this newly acquired knowledge to support action planning, initiation and maintenance of behavioural change in the future.

The pilot study highlighted the explicit nature of each of the self-efficacy constructs introduced by the HAPA (Schwarzer, 2008) into the GROWS model. In each case, evidence was presented to suggest that including additional self-efficacy questions increased the value of the coaching conversation. The combined impact of these questions was an increase in participants' efficaciousness and their ability to influence their own motivation, commitment and confidence to effect behavioural change.

The results of this study suggest that the GROWS model provides coaches with a focused and directive framework that guides a coachee through the stages of behavioural change in a simple step by step process. The model allows coachees to imagine the desired behavioural change, map corresponding actions to each step of the process i.e. how to initiate the new behaviour, proactively identify obstacles and create recovery strategies and determine actions to maintain the desired behavioural change. This therefore suggests that coaches who are looking to further develop their coaching practise and enable more robust behavioural change in their coachees might want to follow the GROWS model as shown in Figure 2 and select HAPA-based questions listed in Table 1 to supplement their coaching practise (and supplementary questions in Appendix 1).

The data presented here provides evidence to support the theory that the GROWS model can deepen the introspective challenge a coach can bring to the coaching relationship by taking an interrogative approach to questioning the coachee on each of the stages involved in behavioural change. This has been formulated as a step-wise approach to coaching that challenges the coachees' assumptions, unconscious limitations and self-belief that can all too often get in the way of achieving sustainable behavioural change. In doing so the GROWS model affords the coach the ability to support the coachee to identify the stage(s) of behavioural change that they find most difficult and consequently to target strategies to proactively overcome these in order to be more successful.

Limitations of the Pilot Study and Future Recommendations

While the pilot study demonstrated that all participants benefitted from the extended GROWS coaching session in some way, there were a few limitations that restricted the pilot study. For example, the research was limited to a period of three months. Since the ability to maintain and sustain behavioural change takes time (Michie et al. 2011), a recommendation would be to extend the coaching programme from anywhere between six to 12 months.

Participants reported the need for more time to provide evidence of maintaining the new behaviours and monitoring potential recovery strategies. Another advantage to extending the study would be to afford participants the ability to continually reflect on their actions, learn about their unique approach to behavioural change and in doing so, increase self-efficacy and build resilience. Paterson & Chapman, (2013:133) state that reflection should be practised regularly as a way of 'learning and changing behaviours'.

It is important to recognise that both the original GROW and the extended GROWS models can only affect behaviour that is able to be brought to conscious awareness. Many behaviours are unconscious and therefore much less tractable to change.

The pilot study was conducted with four participants chosen through a purposive sampling approach which generated meaningful data. In future, maintaining the same purposive sampling approach is recommended as well as increasing the sample size until full saturation

is reached. A longitudinal study of this type would afford tracking changes in behaviour from initiation through to maintenance. It is anticipated that these additions would provide evidence as to what extent maintaining behavioural change could result in the formation of new habits.

The HAPA (Schwarzer, 2008) introduced the importance and impact of the coachees' self-efficacy in creating behavioural change. In the pilot study self-efficacy was reported by participants on a scale of 0-10 which resulted in subjective measures. The integration of more robust and reproducible measure of self-efficacy, for example, the 'General Self-Efficacy scale' (GSE) (Scholz et al. (2002:242) is recommended. This would allow for more effective and comparable measurements of changes in perceived self-efficacy across and between, participants as they progress through the coaching programme. It is anticipated that capturing baseline self-efficacy measurements would enable some indication of whether participants would start to benefit more from this type of tailored coaching approach.

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Appendix 1 Supplementary GROWS coaching questions

1	What actions are you willing to commit to?
2	Of those actions that you are willing to commit to, what are you going to focus on during the next 3 weeks?
3	What resources and support do you need?
3	What obstacles (if any) might you encounter?
4	Knowing what you know now what will you do differently if/when you suffer a setback or an obstacle gets in your way?
5	How will you know you have been successful?
6	What will you do first?
7	Did you encounter any obstacles?
8	On a scale of nought to ten how much effort did you put into recovery strategies when you experienced obstacles? Why did you choose this number?
9	If you were able to successfully complete your actions what did you do to secure your success?
10	What (if any) changes have you noticed in how you went about making behavioural change happen?

References

- Arbour-Nicitopoulos, K. P., Duncan, M. J., Remington, G., Cairney, J., & Faulkner, G. E. (2017). The Utility of the Health Action Process Approach Model for Predicting Physical Activity Intentions and Behavior in Schizophrenia. *Frontiers in Psychiatry, 8*, 135. <http://doi.org/10.3389/fpsyt.2017.00135> Accessed on Dec 16th 2017 at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5543284/>
- Bandura, A. (1997). *Self-Efficacy, The Exercise of Control*. New York: W.H. Freeman & Company.
- Bossons, P., Riddell, P. & Sartain, D. (2015). *The Neuroscience of Leadership Coaching, Why the tools and techniques of leadership coaching work*. London: Bloomsbury Publishing Plc.
- Dembkowski, S. & Eldridge, F. (2003). BEYOND GROW: A new coaching model. *International Journal of Mentoring and Coaching, 1*, (1), 1-7.
- Hamilton K, Cornish, S, Kirkpatrick, A, Kroon, J., & Ralf, E, & Schwarzer, R. (2017) Parental supervision for their children's tooth brushing: Mediating effects of planning, self-efficacy, and action control. *British Journal of Health Psychology 23*(5), 387-406.
- Hattar, A. Pal, S. & Hagger, M.S. (2016). Predicting physical activity-related outcomes in overweight and obese adults: A health action process approach. *Applied Psychology, Health and Well-Being, 8*, 127-151.
- Karl, F.M., Smith, S., Piedt, S, Turcotte, K., & Pike, I. (2017). Applying the health action process approach to bicycle helmet use and evaluating a social marketing campaign. *Injury Prevention, 24*(4), [http:// dx. doi. org/ 10. 1136/injuryprev- 2017- 042399](http://dx.doi.org/10.1136/injuryprev-2017-042399)
- Keller, J., Motter, S., Motter, M. & Schwarzer, R. (2018) Augmenting fruit and vegetable consumption by an online intervention: Psychological mechanisms. *Appetite, 120*, 348-355.

- Michie, S., van Stralen, M. & West, R. (2011) The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science*, 6, 42.
- Payaprom, Y., & Yupares, P. B., Alabaster, E. & Tantipong, H. (2011). Using the Health Action Process Approach and implementation intentions to increase flu vaccine uptake in high risk thai individuals: a controlled before-after-trial. doi: 10.1037/a0023580 [accessed on 14th Apr 2018]
- Scholz, U., Gutiérrez-Doña, B., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychological Assessment*, 18(3), 242-251.
- Scholz, U., Nagy, G., Gohner, W., Luszczynska, A. & Kliegel, M. (2009). Changes in self-regulatory cognitions as predictors of changes in smoking and nutrition behaviour. *Psychological Health*, 24, 545-561.
- Schwarzer, R. (2008). Modelling health behavior change: how to predict and modify the adoption and maintenance of health behaviors. *Applied Psychology: An International Review*. 57(1), 1-29
- Schwarzer, R. (2016). Health Action Process Approach (HAPA) as a theoretical framework to understand behaviour change. *Actualidades en Psicología*. 30, (121), 119-130. <http://dx.doi.org/10.15517/ap.v30i121.23458> [Accessed 14th Feb 2018]
- Sniehotta, F. F. (2007). An interview with Ralf Schwarzer. *The European Health Psychologist*. 9, 55- 58
- van Nieuwerburgh, C. (2014). *An Introduction to Coaching Skills, A Practical Guide*, London: Sage Publications Ltd

Whitmore, J. (2009). *Coaching for Performance, GROWing Human Potential and Purpose, The Principles and Practise of Coaching and Leadership*, 4th Ed. London: Nicholas Brealey Publishing

Whitmore, J. (2017). *Coaching for Performance, The principles and practises of coaching and leadership*. 5th Ed. London: Nicholas Brealey Publishing

Wood, R. E. & Bandura, A. (1989), Impact of conceptions of ability on self-regulatory mechanisms, and complex decision-making, *Journal of Personality and Social Psychology*, Vol. 56, (3), 407-415

Zhou, G., Knoll, N. & Schwarzer, R. (2013) Proactive coping moderates the dietary intention-planning-behavior path. *Appetite*, 70, 127-133.