Practical Health Psychology

Translating behavioural research to practice

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Preface

Hello, and welcome to Practical Health Psychology.

Research findings from health psychology and the behavioural sciences can offer people working in the prevention and health sectors many valuable insights and recommendations for improving real-world practice. Unfortunately, the research articles that produce these insights are often lengthy, technical and difficult to understand, thereby obscuring the key practical takeaways. Furthermore, such articles are generally published only in English, and might not be available to the general public due to paywalls or geographical restrictions. The Practical Health Psychology Blog has started to overcome these issues, providing free, easy to read, multi-language evidence-based posts to inform practice and policy.

Since 2016, the Practical Health Psychology Blog (www.practicalhealthpsychology.com) has published many short topical blog posts and evidence summaries, in which leading scientists in health psychology and the behavioral sciences describe the state-of-the-art of their topic area, and give short practical recommendations for how to apply these findings in daily practice. These posts cover a wide range of topics, and come from leading scientists representing a broad range of nationalities, seniorities, and backgrounds. We would like to thank all contributors to the blog over the years, for helping to make their research evidence more salient and easily accessible to healthcare professionals, intervention developers and academics worldwide.

The Practical Health Psychology Blog is currently translated into 28 languages and actively disseminated across 45 countries. This work is carried out by an amazing team of National Editors who translate blog posts into their local languages and disseminate posts to relevant networks of practitioners and policymakers. We would like to sincerely thank all current and past National Editors for their time, enthusiasm, expertise and service to the community. Thank you for ensuring accurate translations, adding your country specific viewpoint and disseminating the posts widely to your networks. This blog would not be possible without your work.

This e-book, Practical Health Psychology Volume 1, contains all posts published by the blog since its inception through the end of 2020. We hope that it will make the contents of the blog even more accessible for readers, and help open another channel of dissemination. We would like to thank the European Health Psychology Society for covering the cost of this publication and making this eBook open access, as well as for its ongoing support, sponsorship and belief in the mission of the Practical Health Psychology Blog.

Finally, thank you to our readers. If you have not done it yet, you can subscribe online: www.practicalhealthpsychology.com, add us on Facebook and follow us on Twitter.

That's it. Hope you like it.

Follow us on social media →

This book would have not been possible without several people contributing to the Practical Health Psychology Blog.

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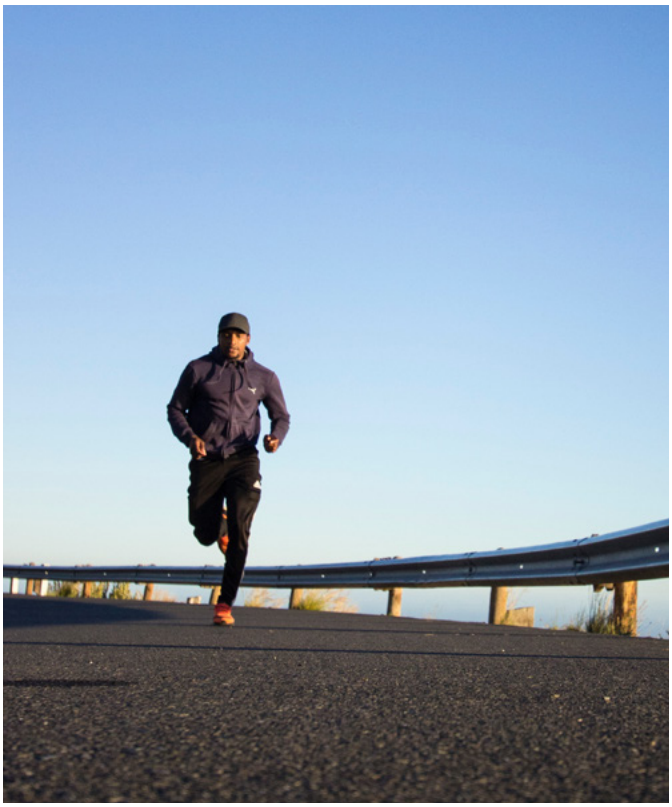
Using Health Psychology in your everyday practice

Karen Morgan, Perdana University Royal College of Surgeons in Ireland Medical School, Kuala Lumpur, **Malaysia and Robbert Sanderman,** University of Groningen and Health and Technology University of Twente, The Netherlands.



What is practical about health psychology?

Health psychology is a young, dynamic and rapidly growing discipline of psychology. Health psychologists focus on applying psychological theory and research to:

- promoting and maintaining health and preventing illness,
- understanding how people react to, cope with and recover from illness,
- personalizing treatments and interventions,
- improving health care systems and health policy.

Health psychology asks: What drives health-related behaviours, and how can these behaviours be changed? It also examines how emotions and beliefs are linked with these behaviours and their consequences. Health psychologists, therefore, work across many different environments and groups of people. These include patients, carers and families, individuals in the community, health care professionals, and healthcare systems and institutions. As a result, some basic concepts from the field of health psychology are relevant for anyone working with patients or promoting behavioural changes in practice.

Promoting and maintaining health and preventing illness

While the burden of chronic illness is rapidly increasing worldwide, much of this is preventable. Epidemiological research has demonstrated that primary prevention (e.g., reducing risk factors for cardiovascular disease) is more effective than secondary prevention for reducing deaths from cardiovascular disease. Health psychology has a huge contribution to make in terms of reducing risk factors for illness in populations by identifying specific behaviours (e.g., smoking, poor diet, lack of physical activity, attending medical screening) and targeting them for change.

Health psychology focuses on the psychological mechanisms (e.g., knowledge, attitudes, cognitions) and social influences that may be hindering change and leading to sustained unhealthy behaviour patterns. A better understanding of these processes helps identifying optimal ways to support people to break out of such unhealthy routines and, for example, stop smoking or increase fruit consumption. The development and use of eHealth applications has steadily increased in this area, and the delivery of behaviour change techniques via Apps and devices provides a very interesting opportunity for health psychology.

Understanding how people react to, cope with and recover from illness

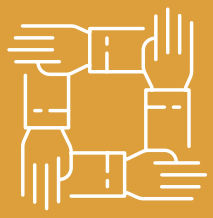
Illness has psychological effects that can impact recovery. Individuals may experience stress, anxiety or depression, or struggle with what the illness may mean for their identity. Health psychologists try to better understand how to best support individuals dealing with illness, while also examining the complex links between cognitions, coping, outcomes and important health behaviours (e.g., medication adherence in different populations). Health psychologists critically consider the definition and measurement of key illness behaviours, for example: How can adherence to medication be measured? What is an 'acceptable' level of adherence? Theories and models are used to explain and predict illness-related behaviours and outcomes, and form the basis for designing interventions to make positive changes in behaviours. Health psychologists also try to find out how and for whom these interventions are most effective.

Personalizing treatments and interventions

We want to find out how for example a change in goal-setting or social skills may lead to better outcomes, e.g., improved self-management or generating social support; such a finding implies a mediation effect. These findings are important because it will enable us to improve our interventions since it opens the black box of the intervention and shows which ingredients effectively work and have an effect on the outcome when we are able to change them. In addition, it is also very important to know what works best for whom. Suppose a Cognitive Behavioural or Mindfulness intervention helps cancer patients to cope with the implications of the disease, we will see that some individuals do not respond to the treatment they were given. Research techniques enable us to find out whether patients with certain characteristics (like gender, age, or a personality characteristic) respond better or worse to one of these treatments. This is very helpful in determining which treatment works best for whom – a personalized treatment.

Improving health care sys tems and health policy

The ways in which doctors, nurses and other healthcare professionals interact with a patient can have a significant impact on the patient's response to illness and treatment. As well as working with patients, carers and families, health psychologists may work with health care professionals. Health psychology has an important role to play in the education of healthcare professionals by promoting patient-centered care that facilitates increased self-management, allowing individuals to have control over their health and helping them make better choices. This includes examining the communication style of healthcare professionals and finding ways to better match the style with patients' needs in order to improve healthcare outcomes. So, for example in various countries Health Psychology Departments at Academic Hospitals train medical students in the above.



Reaching out to Health Psychologists

If you are dealing in your work with issues described above and you like to be informed about the latest developments in this area, we suggest to keep an eye on our Health Psychology Practical Blog. In addition, if you need practical help, do not hesitate to get in contact with a Health Psychology Department in your own country and to see whether they can help. Could be anything from answering a quick question to collaboration in for example a health promotion project.

How to maintain health behaviours long term?

By **Dominika Kwasnicka,** SWPS University, Poland and University of Melbourne, Australia

The ultimate goal of **health promotion programmes** is to promote long-lasting change and health care professionals can play a role and help patients to improve their health outcomes and maintaining behaviour change. We know that health behaviour change is difficult to initiate and it can be **even more challenging** to maintain in the long term. One big question in health psychology is why maintenance is so difficult.

To answer this question our group looked into theories that explain how people change and subsequently maintain positive health changes such as quitting smoking and becoming more active. We identified 100 theories that explain how people change their behaviour and maintain those changes. The good news for people who promote health is that **100 theories** can be summarised to five key themes that need to be addressed in order to achieve this long-lasting change.

1. Maintained motivation is important when we start a new health behaviour, such as joining the gym, starting jogging, eating healthily or avoiding fast food or excessive alcohol consumption. Not surprisingly, our motivation is also crucial for establishing long-lasting behaviour change. **Motivation fluctuates over time** and in order to maintain new health behaviours, we need to come up with effective strategies to maintain new health behaviour even when motivation drops. It can be done for instance with **planning** what you can do when you face potential barriers. For example, by setting a plan that "when there is pouring rain outside, I will then exercise at home instead of going to the gym or for a jog".

2. Self-regulation involves keeping an eye on what you do. **Monitoring** your behaviour is important for identifying whether your current behaviour needs to change and so that you can actively change it, if change is needed. For example, in order to know if your level of **physical activity is an issue**, you need to be aware of how active you are every day. You can use a mobile phone app to see how many steps you do each day or you can note down how many minutes you are active every day, noting the intensity of the activity. **The World Health Organisation guidelines** say that we need approximately 30 minutes of moderate intensity physical activity each day, and if you realise that you are far off these guidelines, then you need to **plan** how to change it, in order to maintain regular activity, i.e. by specifying when, where and how you will make those changes.

3. Resources including psychological and physical, are important for health behaviour change maintenance. For example, it is difficult to stay healthy (exercise, eat well) when you feel sluggish, when you are stressed, low on energy or if you hardly slept the night before. Plentiful psychological resources are needed to maintain health behaviours, that means feeling full of energy, rested, and not stressed. Physical resources are important too; we need to build an infrastructure around us to live healthily. For example, we cannot eat well if we do not have easy access to healthy foods and we cannot take medicines, if we simply cannot access them. Psychological and physical resources ensure that we can maintain healthy lifestyles.

4. Habits – everyone is talking about habits and ordinary people understand them **slightly differently** than psychologists. For a health psychologist, **habit associations** develop when in response to a specific situation, someone consistently does something that achieves desirable outcomes. Bad habits such as smoking or eating late at night are difficult to change, as they can become our default options that come naturally and without thinking. In order to maintain health behaviour change, we need to break bad habits and shape good ones and psychology gives us some **great actionable solutions** on how to do that. New positive habits usually **take time to form** and old ones take time to fade out. A popular behaviour change technique to develop habit is to monitor the cues (what causes the particular behaviour) and to respond with the same behaviour to the same cues in the same context.

5. Finally, our environment, place where we are and people who surround us, needs to be supportive for us to maintain positive health behaviours. When we change our behaviour, we often need to change our environment or **restructure it.** People around us are an important part of our **environment**. Family, friends and people who we spend time with have an impact on how healthy we are. They can help us improve by providing encouragement or being our role models, yet they can also have a negative impact by nagging us to smoke cigarettes and drink alcoholic drinks with them. We do not recommend that you stop spending time with your friends who are inactive, drink alcohol, smoke and eat unhealthy food. We do encourage you **to share your health plans** and make an active decision to not be pressured by others. For example, saying no to that third cake serving.

How do you inspire your patients not only to change what they do but also to maintain new health behaviours long term?

Practical recommendations

- **Stay motivated – easier said than done.** Ask your patient why they want to change and maintain new health behaviour, mention previous success or other people who struggled but succeeded.

- **Monitor** – encourage your patients to self-regulate and keep an eye on what they do, e.g., monitoring and regulating sleep, activity, diet, substance use.

- **Everyone needs resources** – ensure that your patients have what they need to succeed in terms of psychological and physical resources, e.g., by getting enough sleep and stocking up on healthy food supplies.

- **Work on habits** – having good habits is the single best predictor of long-lasting health behaviour change. In order to develop good habits, your patient can form an 'if-then' plan linking cues with actions, e.g., when I see my walking shoes by the door, I will go for a walk.

- **Environment needs to be supportive** – your patient needs to be embedded in a supportive environment with access to resources and people who provide support. It is good to check with the patient if the place where he/she lives and works is supportive for their behaviour change, if it is not, how could it improve? Also your patient could reach out to family and friends for support in long-lasting behaviour change.

Helping pregnant women quit smoking: sharing best practice from the UK

By **Felix Naughton,** University of East Anglia, UK

Between 25-50% of female smokers quit smoking after they discover they are pregnant. But why do the remainder continue to smoke throughout their pregnancy?

Do they not know that smoking during pregnancy is harmful?

They usually do. **One of our UK studies**, that included pregnant women both motivated and unmotivated to quit, found 99% agreed to some degree with the statement 'smoking during pregnancy can cause serious harm to my baby' with around 75% agreeing very much or extremely. Yet less than 10% of them were abstinent 12 weeks later. While **making a quit attempt is more likely** among those with strong 'harm beliefs' about smoking in pregnancy, it does **not appear to increase the chances of success.**

Summary: Beliefs about the harms of smoking in pregnancy play only a minor role.

Are they unmotivated to quit?

In some cases this is true. Early on in pregnancy **our work** suggests just under half of women report intending to

quit in the next 30 days and a similar proportion make a quit attempt. As the pregnancy continues, motivation to quit appears to decline. Surprisingly, being motivated **does not improve the chances** of success for a quit attempt. **The same is found among non-pregnant smokers.** Furthermore, **reviews of randomised controlled** trials evaluating motivational interviewing interventions, a counselling approach in part aiming to help people enhance their motivation for behaviour change, find this approach is not effective for cessation in pregnancy.

Summary: Motivation increases the chances of a woman making a quit attempt but on its own it is not enough to get them through to abstinence.

Are they not interested in getting help to quit?

Again, this is true in some cases, but not all. We found around half of pregnant women want help to quit smoking when in early pregnancy. Unlike motivation, interest levels in support remained into late pregnancy. However, only around one-in-ten reported accessing routine smoking cessation support at any time during their pregnancy. Those who did, reported having a higher interest in doing so early in their pregnancy. Speaking to a health professional about quitting was strongly associated with an interest in accessing support, so this may be a straightforward way to increase access to help.

Summary: Speaking to a pregnant woman about quitting may increase her interest in support, which in turn could increase her chance of accessing it.

Are there no effective ways of helping pregnant women?

Fortunately there are. Studies have shown that behavioural support, structured advice and help to manage the behavioural aspects of smoking and quitting (though not motivational interviewing), **whether delivered one-to-one** or in **self-help form, either printed** or **digital** resources, can help pregnant women quit smoking. Adding nicotine replacement therapy (NRT) to behavioural support for women with moderate or high nicotine dependency is **likely to increase the effectiveness of support**. However, the evidence is quite weak, most likely because many trials report poor adherence to NRT. This is partly due to concerns that nicotine is harmful to the baby. However, **a review** looking at the highest quality studies which includes tens of thousands of women and babies found there is no evidence of harm

from using NRT in pregnancy. Based on this, women can be reassured that any risks of using NRT are low, relative to continued tobacco use. A less well known factor is that pregnant women **break down nicotine** in their body twice as quickly compared to when not pregnant, due to increased metabolism. This means pregnant women will need more NRT than usual for it to reduce cravings and withdrawal. Typically though, women and health practitioners usually **favour using less NRT than usual.**

Other forms of nicotine delivery, such as e-cigarettes, may well be as effective during pregnancy as they are outside of pregnancy, but we don't currently have the evidence to support their recommendation. Harms from e-cigarettes are likely to be significantly less than from tobacco. If pregnant women want to use e-cigarettes to help them stop smoking then advice in the UK is to **support them to do this**. Another effective approach is to provide financial incentives for achieving abstinence, when provided alongside behavioural support. The **evidence** indicates that incentives are the most effective approach we know.

Summary: Behavioural support, particularly when combined with nicotine replacement therapy for those demonstrating nicotine dependence and/or with financial incentives, are effective.

Who is in most need of support?

There are **lots of factors** associated with quitting smoking in pregnancy, such as lower education or income. But factors of more practical importance are having a partner that smokes and having moderate or high nicotine dependence – these are significant barriers to quitting for many women. Other factors are having depression and experiencing higher stress during pregnancy.

Summary: Women with any or all of these characteristics will likely need intensive and multi-component support.

Practical recommendations

- Provide women who smoke in pregnancy with information about the risks of smoking for them and their baby and offer all women, regardless of their motivation to quit, support to quit smoking. For those who decline, continue to offer support throughout their pregnancy.
- Provide structured behavioural support, whether one-to-one or self-help, delivered in print or digitally, to those accepting support. But not motivational interviewing.
- The effectiveness of behavioural support will likely be increased with the offer of nicotine replacement therapy (NRT) for women demonstrating moderate to high nicotine dependence. However, women should be supported to use it effectively to maximise adherence and address any unfounded concerns about its use during pregnancy. If women want to use e-cigarettes to quit then this may help them and should be considered as a harm minimisation approach.
- If NRT is being offered then encourage women to use two forms ('combination therapy' e.g. patches and gum) to maximise nicotine substitution to reduce cravings and withdrawal symptoms.
- If resources allow, offer financial incentives for abstinence, dependent on providing verification, e.g., a breath test using a carbon monoxide (CO) monitor.

Conflict of interest statement: Dr Felix Naughton has no ties or financial involvement with any manufacturer of nicotine replacement therapy or e-cigarettes.

Improving the delivery of brief alcohol advice in primary care: views from both sides of the consultation table

By **Amy O'Donnell,** Newcastle University, UK

Levels of drinking have fallen recently in some parts of Europe, particularly amongst **young people**. However, excessive alcohol consumption remains a major risk factor for poor health and early death. Providing simple brief advice to those identified as heavy drinkers **can help reduce the amount of alcohol people consume,** especially when delivered by primary care clinicians such as general practitioners (GPs) or nurses. **Alcohol brief advice** involves a short, evidence-based, structured conversation that aims to motivate and support a patient to consider a change in their drinking behaviour to reduce their risk of harm. We still haven't fully identified the key ingredients of these conversations, but providing personalised feedback on a patient's alcohol consumption, and encouraging them to self-monitor their drinking, seem to be **particularly effective parts of the package.**

However, getting evidence-based treatments and interventions into routine healthcare is a slow and tricky business. Some estimates suggest it takes **17 years** on average for research findings to make their way into

everyday clinical practice. After three decades of research, 70+ randomised controlled trials, and numerous reviews of published studies, brief alcohol advice is still not routinely delivered in global primary healthcare systems. To understand why brief alcohol advice has not been fully integrated to primary care, we need to consider **many different perspectives** on the problem, including the views of those who provide healthcare (clinicians), and those who use it (patients).

So, what do the people involved in delivering and receiving alcohol brief advice in primary care tell us about the challenges they face?

Some **common issues raised by GPs and nurses** include not having enough time, training, or financial resources to deliver alcohol advice to their patients. However, providing extra payments to GPs for alcohol work is not necessarily an effective implementation strategy. One recent study found that introducing **financial incentives** for alcohol advice in English primary care had almost no impact on delivery rates. Other research suggests that clinicians' attitudes and beliefs about the relevance, sensitivity, and overall value of discussing alcohol in routine patient consultations could play a bigger part in influencing their practice. For example, some GPs doubt that their patients will be receptive to advice about changing their drinking behaviour, particularly very heavy drinkers. This is partly due to a lack of confidence in the effectiveness of psychological therapies for excessive alcohol consumption, but also because GPs are concerned that they might offend patients by raising the topic of drinking in the first place.

Less research has explored patients' perspectives on these issues. Studies report that most people think it is acceptable for GPs or nurses to ask about their alcohol consumption, and view such lifestyle advice as a valuable part of healthcare, particularly for those with underlying and/or alcohol-related health conditions. Like some doctors, however, patients are less sure that heavy drinkers would be open to talking about their alcohol consumption with clinicians, **at least not truthfully.** Yet the bigger challenge is that many patients show limited awareness about their own level of drinking. This is partly because calculating how much alcohol is actually in that glass of wine or gin and tonic is pretty difficult, and it can be easy to lose track when you are pouring drinks without standardised measures at home.

But it is also because for many of us, alcohol consumption isn't viewed in terms of how much it increases our risk of particular conditions and diseases (i.e., the way that clinicians, public health practitioners or epidemiologists see drinking), but rather in terms of the central role it plays in fun, pleasure and celebration. This means that some patients might be reluctant to recognise either that they are drinking too much, and/or question why their healthcare provider is asking them to cut down. Linked to this issue, patients tell us they already carry out a **range of strategies** to limit their drinking, but see these as based on 'life lessons' learned from their own families, friends, and social groups. So again, some patients see limited benefit in the advice that GPs or nurses might offer about drinking, which can seem disconnected from real life.

Practical recommendations

So how can we use all these views, perceptions, and experiences to improve the implementation of alcohol brief advice in primary healthcare?

- First, rest assured that it is OK to ask about drinking. There is little evidence patients will take offence if you ask about their drinking habits.
- Be sure to ask questions about 'how' and 'why' patients actually drink, rather than simply 'how much'. This will boost the relevance and meaning of any advice you give, by acknowledging the social and cultural values that shape patients' drinking.
- Next, based on what patients tell you about the situations in which they are most likely to drink heavily, help them to develop preventive strategies specifically targeted to those critical moments of risk. Where possible, build these strategies around the types of tactics that many patients already see as feasible and effective. For example, by limiting drinking in particular settings, such as at home, or with particular social groups, such as children.
- Finally, given that clinical time is always limited, focus on delivering brief alcohol advice to patients who present with conditions where there is a recognised link with heavy drinking, such as high blood pressure, mental ill-health, or gastric problems. This will help to target the use of precious resources, and may also be more acceptable and engaging for patients themselves.

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Staying well while staying at home

By **Federica Picariello** and **Rona Moss-Morris,** King's College London, the UK.

Within weeks around the world, daily life dramatically changed, and uncertainty seized our future in the wake of the COVID-19 pandemic. Beyond the immediate and urgent need to slow down the spread of COVID-19 through rapid and **widespread behavioural change** (i.e., self-isolation, social distancing, and quarantine), the impact on mental and physical wellbeing needs to be considered to allow early intervention and mitigate the longer-term consequences.

A rapid review showed the negative psychological impact of quarantine, with evidence of long-lasting effects. Factors like longer quarantine duration, fear of becoming infected and preoccupation with physical symptoms indicating infection, frustration, boredom, stigma, and practical issues were identified as important contributors to the negative psychological effects of quarantine. **A Position Paper** has outlined the mental health research priorities, including accurately assessing the impact and mitigating these consequences under pandemic conditions. This position paper also indicated the importance of providing support for individuals to build optimal structures to maintain their wellbeing, which is likely to also facilitate adherence to behavioural advice required in response to COVID-19.

Anticipating this, we – **the Health Psychology Section (IoPPN)** at King's College London – held **a public engagement** event on how to maintain health and wellbeing during the COVID-19 pandemic using health psychology theory and evidence. Here we will focus on four key areas for physical and mental wellbeing that were highlighted: 1) establishing new healthy routines at home, 2) achieving a helpful balance in symptom monitoring, 3) identifying new ways of connecting and leisure activities, and 4) managing uncertainty.

1) Establishing new healthy routines at home

The measures in place to halt the outbreak of COVID-19 bring profound changes to normal routines and it can be challenging to adjust to a new daily schedule and keep track of time when typical time anchors and external pressures are no longer present. These changes are also an opportunity to create new healthy routines, key to staying physically and mentally well during the pandemic. There are clear recommendations for **physical activity**, **sedentary behaviour**, **sleep**, **nutrition**, **and al-**

cohol consumption. A recent review of effective techniques aimed at promoting healthy eating and physical activity identified that self-monitoring combined with one or more techniques like goal setting as key behaviour change methods. For goals, being specific about the 'what' and the 'when' is also important. For example, it is harder to stick to a goal 'I will have three alcohol-free days' than to one that says 'I will refrain from alcohol on Monday, Tuesday and Thursday.'

2) Achieving a helpful balance in symptom monitoring

Monitoring symptoms and responding by self-isolating if experiencing a new and continuous cough and fever is another measure that has been adopted in response to the pandemic. It is very natural in the current circumstances to become worried about somatic sensations and engage in continuous scanning of the body for symptoms. However, approximately 80% of people will experience one or more symptoms in any given month and respiratory physical symptoms are common. Everyday physical symptoms can be related to our bodies' flight-or-fight response to stress. Therefore, whilst some anxiety is helpful as it motivates people to follow the measures in place, too much anxiety can increase symptoms and stop us from getting on with daily tasks. Being aware of thoughts and emotions and moving our attention from symptoms to other activities can help as can relabeling or reinterpreting symptoms (e.g., my breathlessness could be because of stress). Relaxation exercises can also help anxiety if symptoms are exacerbated by stress. It is a difficult balance as clearly it is also important to physically isolate if you have actual COVID-19 symptoms and seek medical attention if they become more serious.

3) Identifying new ways of connecting and leisure activities

The term social distancing to describe the lockdown is perhaps unfortunate, as we need to maintain a physical distance whilst trying to find ways to remain connected socially. Social isolation and loneliness are related to increased mortality and hospitalisations. Therefore, staying in touch with friends and family remotely while staying at home, spending time with members of the household, and leisure activities were reported as important coping strategies during the quarantine.

4) Managing uncertainty

Worry about the future and uncertainty about when life will go back to normal are common. Emotions, both positive and negative, are part of normal life. Worry, fear, and anxiety in response to the current circumstances are in fact fitting. Dr Russ Harris, a world-renowned acceptance and commitment therapy (ACT) clinician, has put together some very helpful resources for strategies to better manage the current uncertainty. For example, bring to your mind a thought you've been struggling with (e.g., "I can't see my family because of lockdown"), focus on this thought for 30 seconds. Next, put this thought inside the phrase "I am having the thought that..." and focus on this for 30 seconds. Finally, put your thought inside the phrase "I am noticing I am having the thought that..." and focus on this for 30 seconds. With every step, you may notice more distance from the thought.

Practical recommendations

- Help people to re-establish or develop new helpful routines at home, by encouraging self-monitoring of physical activity, sedentary behaviour, sleep-wake cycle, nutrition, and consumption of alcohol and using SMART goals (Specific, Measurable, Achievable, Realistic, and Timely) to make changes.
- Normalise negative emotions, like anger, guilt, frustration, fear, anxiety, and sadness; as fitting responses to a challenging and uncertain situation.
- Explain that it is essential to prioritise some activities which are enjoyable and relaxing, not just work and chores. This can mean learning something new or rediscovering a hobby that they would not normally have time for. During this time at home, we may need to be creative about what these activities can be, particularly for screen-free time.

Additional helpful tips can be found here.

Stop being an ostrich! The benefits of helping people to monitor their progress

By **Thomas L. Webb,** Department of Psychology, The University of Sheffield, the UK

How are you getting on with your goal to reduce the amount of sugar that you eat and lose 10kg? Chances are that you don't really know – or even want to know. In situations like these, people tend to behave like ostriches and bury their heads in the sand, intentionally avoiding or rejecting information that would help them to monitor their goal progress. Research on this **"ostrich problem"** suggests that people often do not keep track of their progress (e.g., step on weighing scales, read the packets of food that they buy), in part, because doing so can make them feel bad about themselves – e.g., they realise that they weigh more than hoped and that they still consume too much sugar. However, theory and evidence suggest that keeping track of progress helps people to identify discrepancies between their current and desired states that warrant action. The implication is that avoiding monitoring makes it difficult to identify the need to act and the most appropriate way to do so. The ostrich problem therefore represents an opportunity for healthcare professionals (and others) to help people to monitor their progress and capitalise on the benefits of so doing. Perhaps not surprisingly then, we found good evidence that **prompting people to monitor their progress helps people to achieve goals** across a range of domains.

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Monitoring involves taking stock of the current situation (e.g., how much sugar has been consumed that day, when, and where) and comparing this to some goal or reference value (e.g., a maximum of 6 teaspoons of sugar per day). This can be done in a diary or simply on a piece of paper, but there are also now digital tools available that can help people to monitor their progress – indeed, people are even starting to talk about a movement called **"the quantified self"**. For example, our phones **automatically record** how many steps we have taken, our watches tell us **how long and how well** we have slept, and people can use apps to **scan the barcodes on food packaging** to find out their nutritional properties. Many of these devices even ask us to set a goal and then compare our progress toward this goal.

Using these tools to monitor progress can help people to identify when and how best to take action. For example, scanning the barcodes on food packaging could help a person who is trying to reduce their sugar consumption to realise how much sugar is in a glass of orange juice or a bowl of cornflakes, and help them identify (and switch to) lower-sugar alternatives. Monitoring can therefore form the basis of interventions designed to help people to achieve a range of health goals. Furthermore, there is evidence that monitoring is even more effective if it is combined with techniques that help people to **set appropriate** goals against which to monitor progress and take the action if and when monitoring identifies that it is needed (e.g., **if-then planning**).

Given that people may be defensive about the information that they receive (e.g., suggest that the information does not reflect their typical behaviour, or that the monitoring device must be inaccurate), psychological techniques like **self-affirmation** (encouraging people to affirm valued aspects of themselves) may also help people to accurately appraise the information and its implications.

Practical recommendations

Monitoring progress often simply involves identifying a method for monitoring behaviour and/or outcomes (e.g., an app or diary) and committing to using it. However, as described above, people often bury their heads in the sand and do not monitor their progress. You may therefore be able to:

- **Help people identify what to monitor.** For example, if they are trying to lose weight, consider whether it would be best to monitor behaviours like physical activity, or dietary intake; outcomes like weight or waist circumference; or a combination of both? **Our research** suggests that people should be encouraged to monitor whatever it is that they most want to change: be it outcomes, behaviours or both.

- **Help people objectively reflect on the information obtained through monitoring. Evidence suggests that self-affirmation strategies may prevent people from becoming defensive about the information that they receive.** If you suspect that an individual might react defensively to their monitored behaviour or outcomes, then encouraging them to affirm valued aspects of the self (e.g., that they are a kind and considerate person) before monitoring their progress may help them to accept the information.

- **Support people in making the changes that monitoring suggests might be needed.** Identifying the need to act and being motivated to do so are only the first steps in making a change. As people may need help to **translate their good intentions into action,** prompt them to form **if-then plans** that specify when, where, and how they will act. For example, someone who identifies that they are eating too much sugar might form the plan "If I am having breakfast, then I will have porridge oats, rather than cornflakes".

Insights from behavioural science for the COVID-19 pandemic

By **Shane Timmons,** Economic and Social Research Institute, Ireland

Governments worldwide have mobilised to try to control the spread of the novel coronavirus, but the **behaviour of individuals will be vital** to their success. We – **the Behavioural Research Unit** at the Economic and Social Research Institute in Dublin – are working with Ireland's Department of Health to inform their response to the COVID-19 pandemic. As part of this work, we've **reviewed over 100 scientific papers** and have begun **testing ways to best communicate** with the public, with lessons relevant for health psychology practitioners. In our review, we focus on literature relevant for three areas that have formed the basis for public health messaging in multiple countries: hand hygiene, face touching and isolation. We also address broader literatures on how to motivate helpful behaviour and communicate effectively in a crisis.

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Hand hygiene

Ways to improve hand hygiene in healthcare settings are well researched. There is strong evidence that **education and awareness are not enough,** but simple changes to the environment can be highly effective. Drawing attention to alcohol-based hand sanitisers, for example by placing them in common pathways and using brightly coloured signs, dramatically **increases their use**, much more than **increasing the number** of dispensers. Signalling that their use is an expected norm can have further benefits. Direct but polite questions – for example, asking "have you used the hand sanitiser?" as patients or visitors arrive – are a simple way to communicate these norms. Building these habits now and maintaining them once wider restrictions relax is important.

Face touching

In contrast to hand hygiene research, we found no tests of interventions to reduce face touching. Awareness is unlikely to be effective: making people self-conscious about face touching may even **increase the rate** at which they do so. In the absence of established interventions, practitioners can rely on more general models of behaviour change, such as the **Behaviour Change Wheel, Intervention Mapping,** or the **EAST Framework.** We and **others** have recommended testing ways to replace face touching with alternatives (e.g., using a sleeve or tissue), rather than simply discouraging it.

Isolation

Self-isolation by individuals with symptoms or who have been in close contact with infected persons **will save lives,** but can have negative psychological effects. Social isolation and loneliness have effects on wellbeing comparable to well-known **risk factors** such as smoking. A **review of 24 studies** on people who were quarantined during previous infectious disease outbreaks highlighted risks beyond the isolation period, including increased incidences of depression up to three years later. Healthcare workers may be particularly at risk, as negative psychological effects of isolation can be compounded by concerns about failing to support co-workers or their patients during the outbreak. Authorities should provide additional mental health services that can be accessed remotely, particularly for vulnerable groups.

Helping individuals to plan for self-isolation could help **The World Health Organisations** and many national health services, such as the **UK's NHS,** have recommendations to help cope, which include keeping in contact with others via phone or online, exercising if you feel well enough and maintaining a **routine**.

Motivating Helpful Behaviour

The consequences of contracting COVID-19 are not equal across individuals. Older people and people with underlying conditions face much greater risks than younger and healthier people. Yet the wellbeing of those most at risk depends not only on their own behaviour but also on the **behaviour of others.** There is good evidence for strategies that promote co-operation when actions that benefit the individual may not necessarily benefit the wider group. **Effective communication** is vital. Promoting **group identity** using language like "we are in this together" will make public-spirited action more likely, as will polite **disapproval** of unhelpful behaviour (e.g.,

panic buying). Experiments show that highlighting the **sacrifices of others** encourages helping. And a rapidly growing body of evidence directly testing COVID-19 communications shows that highlighting **the risks to others** and **prosocial appeals** to avoid "spreading" the virus are likely to be more effective than simply providing advice or messages on how to avoid "getting" the virus.

Communicating Crisis Information

The psychology of risk communication highlights **additional principles** that will likely be useful for practitioners communicating with patients and clients about the COVID-19 pandemic. Speed, honesty and credibility are important. **More generally,** practitioners can acknowledge their own uncertainty and empathy for the difficulties people will face during the crisis, while stressing the usefulness of individual actions in order to **balance the anxiety people will hold with optimism.**

Fighting the spread of COVID-19 requires contributions from multiple sciences. Theory and methods from **behavioural science** can play their part. Rapid pre-testing of behavioural science recommendations through high quality experiments will be important to maximise their benefit.

Practical recommendations

- Improve hand hygiene by combining awareness campaigns with sanitisers that stand out and polite signals that their use is an expected norm.
- Discouraging face touching is unlikely to be enough – alter the physical and social environments to change behaviour, for example by creating new norms for replacement behaviours such as face touching with a sleeve or having tissues readily available.
- Helping people engage with social networks remotely and maintain a routine are likely to help address the negative psychological effects of isolation, but additional mental health supports are needed.
- Emphasise the collective nature of the problem we face and highlight the risks to those most vulnerable to promote helpful behaviour – but don't let unhelpful behaviour go unchecked.
- Balance the anxiety people will hold with optimism over the effectiveness of individual actions in addressing the spread of COVID-19.

The importance of assessing clients' coping strategies

By **Nadia Garnefski and Vivian Kraaij,** Department of Clinical Psychology, Leiden University, The Netherlands

"Rob has just heard that he has HIV (negative event). He thinks that he is the one to blame for this (self-blame) and he avoids seeing his friends (withdrawal). The situation makes him sad. When sitting at home, he cannot stop thinking about his feelings (rumination) and believes that what has happened to him is a complete disaster (catastrophizing). Because he feels sad, he has little energy. As a result, he withdraws even more. This makes him even sadder. In this way, Rob is drawn into a downward spiral."

People experience a range of strong emotions in response to negative life events. To deal with these emotions people may use various cognitive and behavioral strategies. This process is also called coping. **Lazarus defines coping** as an individual's efforts to manage the psychological stress associated with conditions of harm, threat or challenge. In the example of Rob, above, the negative event was hearing the news that he was infected with the HIV virus. Many other examples of stressful events might occur, ranging from single events such as death, divorce or job loss, to more enduring stressful life circumstances such as bullying, high work load or relationship problems. Thus, coping relates to managing all kinds of stressful life conditions.

Coping strategies can be divided into cognitions (what you think) and behaviors (what you do). An example of a cognitive coping strategy (thought) is self-blame. People who use this coping strategy blame themselves for what they have experienced (Rob blamed himself for having been infected by the HIV virus). Other examples of cognitive strategies are rumination and catastrophizing. Rumination means that one keeps thinking over and over about the emotions, feelings and thoughts that are associated with the negative experience. Catastrophizing refers to explicitly focusing on the disastrous aspects of the experience. Rob applied both these strategies. More examples of cognitive strategies are: blaming others, acceptance, refocusing on other more pleasant matters, planning which steps to take, positive reappraisal or attaching a positive meaning to the event, and putting the event into perspective (by comparing it to other, worse events). In total, **nine cognitive coping strategies are distinguished in the literature.** An example of a behavioral coping strategy is withdrawal, which refers to drawing yourself back from situations and social contacts, which happened to Rob. Other behavioral coping strategies are seeking distraction, actively taking steps to handle the experience, seeking social support, and ignoring, which refers to behaving like nothing has happened. In total, **five behavioral strategies are distinguished.**

Two instruments have been developed and validated for the assessment of cognitive and behavioral coping, respectively the Cognitive Emotion Regulation Questionnaire (CERQ) and the Behavioral Emotion regulation Questionnaire (BERQ). The CERQ has been translated and validated in numerous languages. The BERQ is being translated in various languages at present.

Research that investigated the role of cognitive and behavioral coping strategies (by using the CERQ and the BERQ) has identified helpful and less helpful coping strategies. With regard to cognitive strategies: rumination, catastrophizing, and self-blame can be considered as less helpful and positive reappraisal, putting into perspective and positive refocusing as more helpful. With regard to behavioral strategies: withdrawal and ignoring can be considered as less helpful, and actively approaching, seeking distraction, and seeking social support as more helpful. These are general conclusions, in specific situations with specific stressors, other observations may be true.

Knowledge about clients' specific cognitive and behavioral coping strategies may help to understand the vicious circle of people's psychological problems and might provide clues for changing maladaptive patterns into more adaptive ones.

> *"Rob has started with therapy. The therapist assessed Rob's cognitive and behavioural coping strategies and found that he scored high on self-blame, rumination, catastrophizing and withdrawal. He explains to Rob that these strategies are not helpful and can even worsen his depression, by bringing him into a downward spiral. They start working on breaking through the withdrawal and changing the negative thought patterns by using techniques from Cognitive Behavioural Therapy. After a couple of sessions, Rob started seeing his friends again and now feels a lot better."*

Practical recommendations

- Always assess clients' coping strategies next to their psychopathology. This may provide important information for the focus of therapy.
- Provide psychoeducation about the fact that people's cognitive and behavioural coping strategies may be part of a downward spiral towards depression.
- General techniques from Cognitive Behavioral Therapy may be used to change maladaptive cognitive and behavioral coping strategies, such as behavioral activation and challenging negative thoughts.

Are your clients being defensive? If so, self-affirmation may help.

Peter Harris and Ian Hadden, The Self-Affirmation Research Group, School of Psychology, University of Sussex, UK

Have you ever been reluctant to face up to something you'd rather ignore? Maybe your fondness for something bad for you that you eat too often or your tendency to avoid health check-ups? Well, you're not alone. Most of us think we are generally quite sensible and competent people. So, being told that something we do is not really sensible or competent can be quite challenging. As a result, we can be pretty skilled at resisting messages we'd prefer not to **hear**.

Unfortunately, resisting messages about risks to our health – such as the effects of being overweight or of smoking or of not adhering to a medication regimen – can have serious consequences for both quality and **length of life**. So, how can you as a health practitioner help clients take on board health messages that they'd prefer to ignore? A technique known as self-affirmation might help.

A self-affirmation is an act that helps someone reassure themselves that they are a **good and competent person.** This reduces their need to protect themselves from a health message that implies they are not, which helps them to treat the message more objectively and to focus on its relevance and implications for them personally. This, in turn, may encourage them to take steps to address it. You find out more about the theory underlying self-affirmation **here**.

Almost anything qualifies as a self-affirmation, including reminders of one's good deeds, special talents, character strengths, or important social relationships. Currently the most-researched technique for inducing self-affirmation is a ***values affirmation*** in which people answer questions or write about their most important values, such as being generous or honest.

The evidence that self-affirmation can work comes from experimental **studies**. Participants who have been prompted to self-affirm (often on only one occasion) tend to believe health messages more and feel readier to change compared to those who have not. Self-affirmations have also resulted in changes in behaviour several **months later**. Benefits of self-affirmation have been found for a wide range of health behaviours including alcohol consumption, cigarette smoking, unsafe sex, the consumption of mercury in oily fish, doping in sport, fruit and vegetable consumption, physical activity, dental flossing, and sun protection. Some studies have found that the effects can even be strongest among those who are hardest to engage, such as people who **drink** or **smoke** most or are keen to **tan**.

Work has mainly been prevention research in young, non-patient samples, but there have been some studies with patient groups too. For example, haemodialysis patients who were asked to recall past acts of kindness showed improved **phosphate control** and greater adherence to **fluid intake** guidance over the following 12 months than those who were not. Hypertensive African American patients showed improved **medication adherence** after receiving an intervention that included a self-affirmation component.

So how might you use self-affirmation in practice? Let's consider a consultation in which you want to deliver a health message that might challenge your client e.g., about the harmful effects of their smoking or of not taking their medication as prescribed. If you have 5-15 minutes available and literacy is not an issue, you could try a simple values affirmation exercise at the start of the consultation. You could ask your client to write or talk privately about their most important value and why it is important to them, or to complete some scales designed to remind them of their values. Once they have done this, you could then deliver the health message about the risks of smoking or non-adherence.

If time or literacy are issues, a brief **kindness questionnaire** has been widely used to induce self-affirmation. Some other brief techniques have also been recently developed. These include attempts to reduce the values affirmation to a **few key sentences**, to use **value questionnaires** , to **integrate the affirmation** with the message, or to help people form the **intention to self-affirm** when threatened. However, at best these have been used in only a few studies so far and we know little about how well they work.

You can find some of these manipulations on the resources page of our Self-Affirmation Research Group (SARG) Website at the University of Sussex. (They are in English.) We are happy to advise on these and or other self-affirmation techniques you might be considering.

Practical recommendations

- **When should I consider using self-affirmation?**

  Consider using self-affirmation when you need to give a client an important message about their health that you think they might be inclined to ignore or reject. In these cases, self-affirmation may increase the likelihood that they will accept the message and take appropriate action.

- **How can I best use self-affirmation in practice?**

  It may be best to use self-affirmation when working one-to-one or in small groups and with time at your disposal. In these cases, you could precede delivery of a health message by one of the values affirmation methods that have been tried and tested before. See the resources page on the **SARG website** for examples in English of materials that you could use.

  Discuss with your client whether they'd prefer to do the affirmation privately or with you present. Try to encourage them to choose to do the self-affirmation exercise rather than requiring them to do it. There is some evidence that freedom to choose may be important in helping the intervention to work.

- **What should I be cautious of?**

  Make sure your health message is persuasive. Self-affirmation should encourage your clients to be more open-minded, which means they are more likely to accept a strong message, but may also be more likely to reject a weak message.
  Use self-affirmation with those clients you are confident will otherwise resist your message. There is some evidence that self-affirmation may not work or even be counterproductive if participants are not being defensive in the first place.

If in doubt, seek advice – we are here to help.

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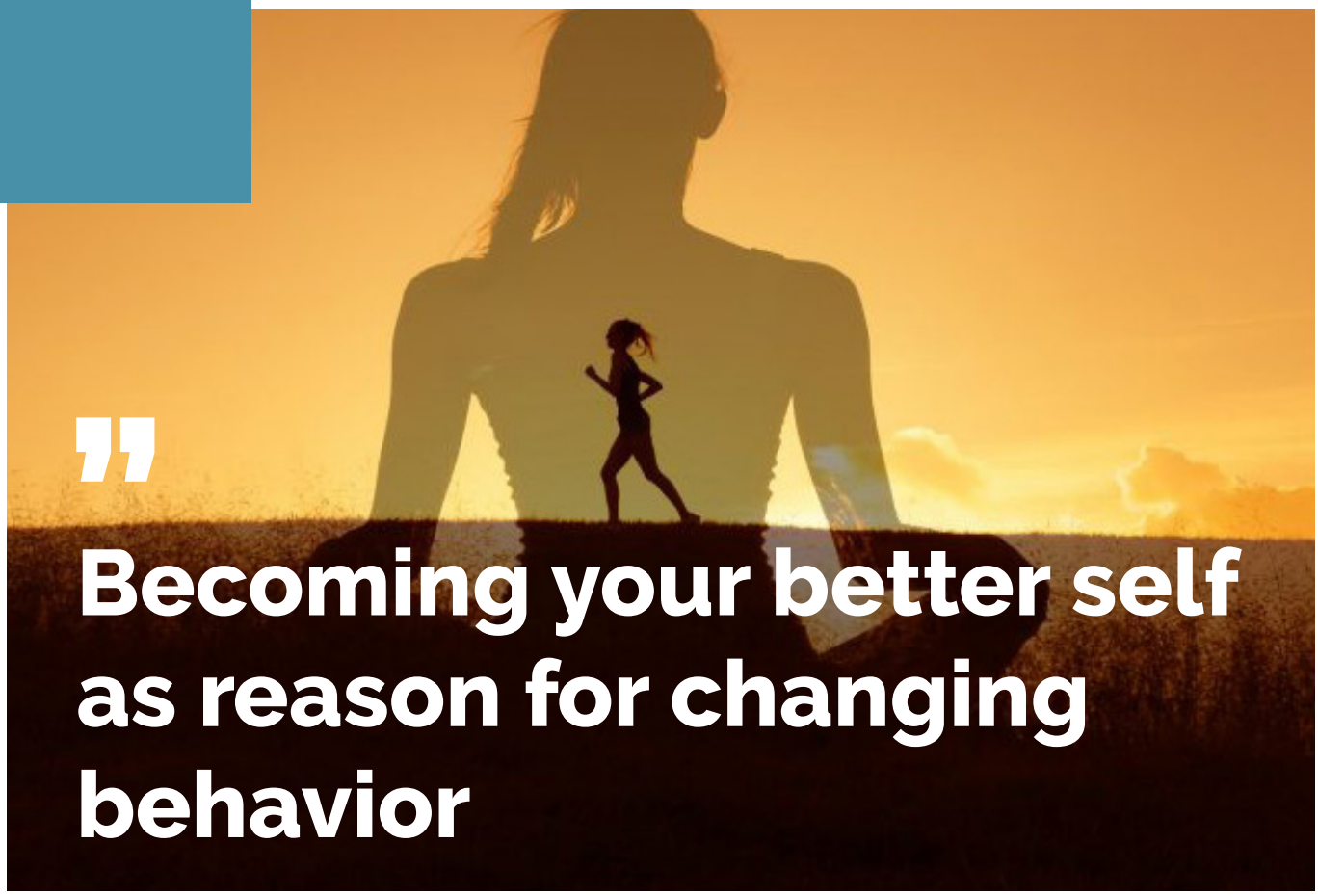


Becoming your better self as reason for changing behavior

By **Winifred Gebhardt,** Leiden University, The Netherlands

About nine years ago, I became a vegetarian overnight. In a novel I was reading, the main character explained how he could not eat anything "in which at some time a heart had been beating". Like a thunderbolt these few words sunk in. I realized that this was exactly how I felt. I stopped eating meat and fish instantly, and I have not had any problem sticking to this new diet ever since. The new behavior perfectly fitted the "person I am".
Conversely, in the past I used to jog regularly and could easily run seven kilometers. However, I never regarded myself as a "sporty person", and whenever a barrier occurred such as being ill, I lapsed into being a couch potato. I now no longer try to "be sporty" but do try to walk whenever I can during the day. I consider myself an "active person".

Our actions reflect our self

My behavior of "not eating animals" matches my self-perception. Being and behaving as a vegetarian gives me a positive view of my "self" as a caring, considerate person, who loves animals. Every time I talk about this choice, or decline a dish with meat, my "self" **gets affirmed.**

Knowing that we perceive what we do as part of who we are and want to feel good about ourselves, is an extremely useful starting point for health interventions. For example, looking for how positive self-views derived from our unhealthy behavior (e.g., drinking quite a bit of wine during dinner since I consider myself someone who enjoys the good life), can be served by other, less harmful or even healthy, behavior (e.g., drinking a non--alcohol alternative that still reflects a relaxed lifestyle). Key to change then is making what we do relevant to the type of person we consider ourselves to really be. This so-called **integrated motivation to change is, according to Self-Determination theory**, the closest we can get to pure intrinsic motivation, in which we perform a behavior because of the joy of it.

Part of our self lives in the future

We humans are excellent time-travelers, and **spend almost half of our time fantasizing** about the future. In it, we generate a multitude of possibilities for ourselves in this future; options that have been called **"Possible Selves"**. **They direct our imagery**, and increase our openness to goal-related opportunities. For instance, a future self-image as being a 'quitter' or 'nonsmoker' greatly increases quit-intentions, quit-attempts, and also quit-success. Smokers thus need to be able to picture themselves as "future nonsmokers" before they can actually quit. My colleague Eline Meijer and I, currently conduct studies in which smokers imagine the type of person they will become if they quit smoking, and if they continue to smoke. Participants write about these images and provide pictures /photos that they associate with them. The intervention generates images such as: If I quit I will become "a strong, clever woman with character" or "a more balanced, carefree father and lover", and conversely: If I will continue to smoke I will become "a coughing, panting and miserable old women" or "an anti-social, stinking, weak man in pain". A first striking finding is that most of the provided pictures/photos are symbolic in nature, and do not contain smoking people or products. Written associations with the pictures include: "carefree", "complete" and "decisive" versus "junky", "depressive", and "hopeless". We still have to investigate whether the intervention changes behavior, but we suspect that having these 'self-images' readily accessible when needed, e.g., during cravings, helps to stay on track. Evidence for the effectiveness of imagined future self interventions already exists for other **health behaviors such as exercising.**

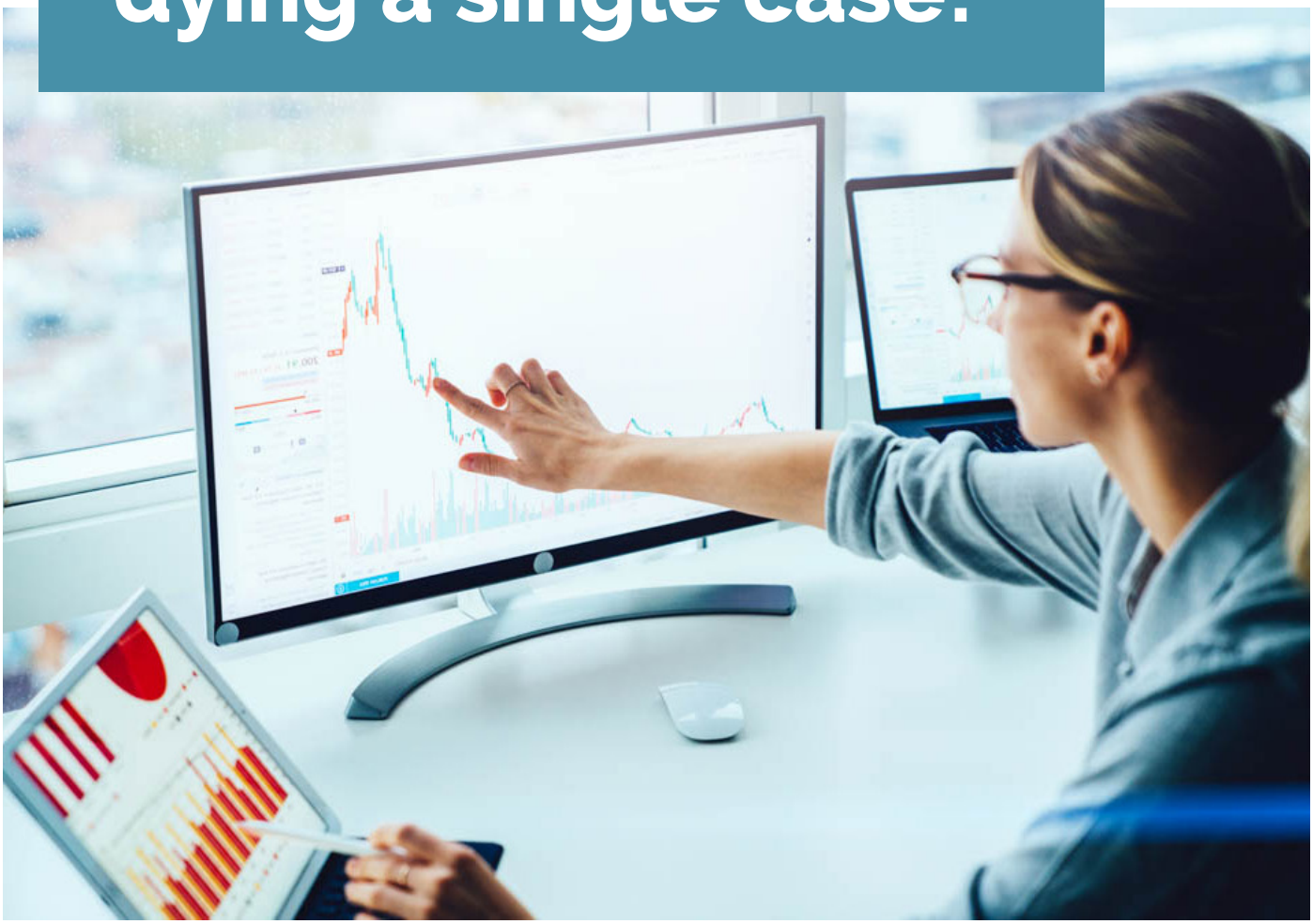
We thrive in groups where we feel we belong

In daily life, resisting cravings or temptations may be particularly difficult in social situations. As a quitter, you may fear social rejection once you no longer behave in line with your friends and relatives. You may also miss out on appreciated shared activities. Quite a lot of our self--perceptions are based on the social groups we belong to. For example, **most people who smoke or use drugs affiliate with people who also use the same substance.** Using substances is a key norm behavior that defines "being part of the group". This in turn, is associated with all sorts of other valued qualities. For example, **youngsters after rehab**, may experience that their 'cannabis using' friends are still the people who "fit them best", even now they are clean. Non-using others are easily seen as less supportive of their personal values, are more boring, or lack their own "wits, loyalty and level of maturity". This illustrates that the challenge of how to remain a valued member of the own social group should be on top of our agenda when trying to support healthy lifestyles.
Thus, to establish lasting change, we need people to develop positive selfrepresentations in which they can see their future self perform the new healthy behavior that is both in line with their own important values, as well as with their social environment.

Practical recommendations

- **Behavior has direct importance to the experience and image of oneself.** Encourage people to creatively think about who they can become, for example by making mood boards of both their ideal and feared future selves.
- **Find ways in which self-views** that are linked to the new behavior can be retrieved at critical moments such as craving or temptations. For example, stick the self-generated mood boards to the start screen of a PC or smartphone, as reminder cues of why one truly wishes to change.
- **Help people incorporate their new behavior** within the social context they value, for example by practicing acceptable ways of diverting from the group norm. For example, when offered alcohol, this could involve a polite "I really appreciate it, but no thanks (I have had my share for today)", or include the shared bond: "Wow, you are always looking out for me, such a good friend you are. How are you holding up lately?".

N-of-1 studies: What can we learn by studying a single case?



By **Marie Johnston and Derek Johnston,** University of Aberdeen, Scotland

Practitioners frequently want the answer to a problem which concerns one person, one health care team, one hospital or one region etc. For example, it may be important to know how often an obese man snacks, when and where he snacks and if stress makes it worse. Or you may wish to find out how often members of the healthcare team omit hand hygiene, if it is worse when they are under-staffed and if ward adverts improve it. Or you may be investigating sources of clinical errors to check if they are more common on some wards or for some grades of staff. Or, at a policy level, it might be valuable to investigate whether a new regulation, such as a smoking ban in public places has affected smoking rates.

You might try to answer these questions by asking people what they think or remember but it would be better to ask or observe at the critical times and places to avoid problems of bias and forgetting. Recent technological advances such as digital monitoring using smartphones make it easier to track what is going on in real time and an n-of-1 study might allow you to answer your question.

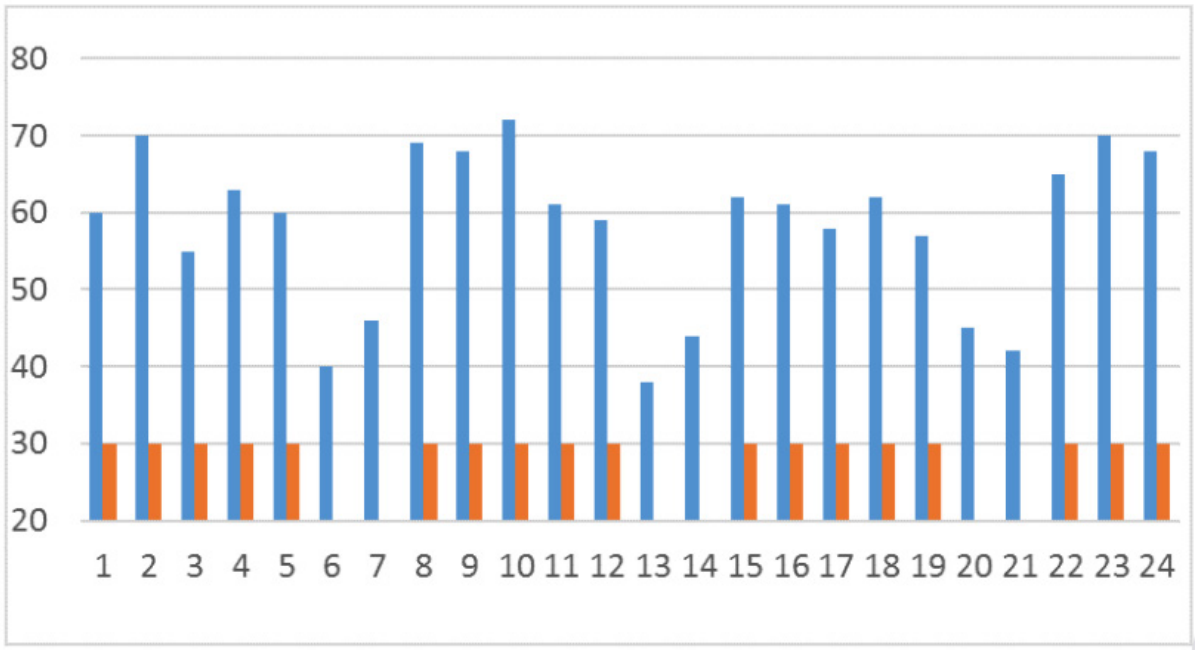
N-of-1 studies are possible when the problem can be **assessed repeatedly** to look at change over time. Then one can describe the problem and examine whether it is better or worse under some conditions. Or one may introduce a new intervention or treatment and assess whether it is having the proposed effect.

The simplest evaluation of the data collected is the observation of trends on a graph as in the illustrations below. This is an essential step in any n-of-1 analysis and can be sufficient. Additionally, there are **methods of statistical analyses** for n-of-1 studies.More complex methods continue to be developed (e.g., **methods for assessing dynamic change**).

Using n-of-1 studies to assess the problem

A study may be undertaken to assess the severity or frequency or pattern of a problem over time. In Figure 1, anxiety ratings vary over time but it is possible to detect a pattern. When attendance at work is also recorded, the pattern observed shows a difference between weekends and the five work days and might indicate that the person is anxious at work but not at home. Such information could prove helpful in choosing the optimal treatment method for **the patient**. For example tracking mood and time of day in **a dying woman** showed patterns that were used to ameliorate depressed mood.
The information collected in these n-of-1 studies may go beyond describing the problem and help to explain what is observed. In some cases the practitioner may have a theory about what influences the observed problem and it may be possible to test **how well the theory explains observed phenomena.** In the case of the dying woman, tracking her thoughts and activities confirmed the theory that her mood was influenced by thoughts and the critical thoughts were associated with early morning activities

Figure 1: Using N-of-1 study to describe a problem: shows anxiety ratings in blue and work days in red over 24 days



Using n-of-1 studies to assess whether an event or occurrence has improved or worsened the problem

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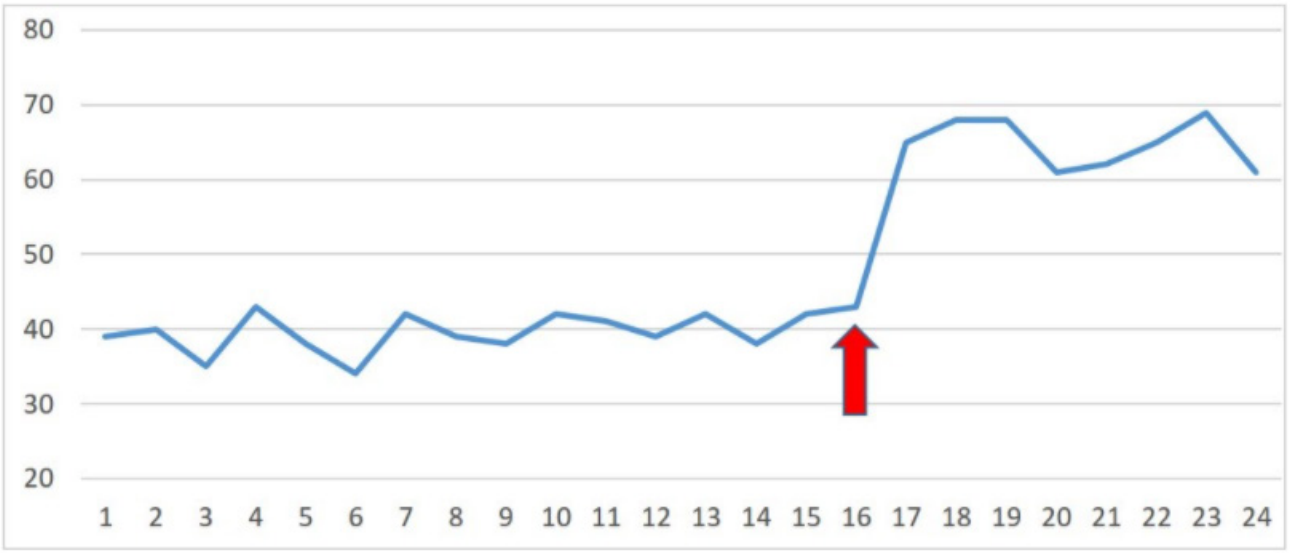
Problems may be improved or worsened by the occurrence of naturally occurring or planned events such as family death or wedding, a media broadcast of health information, a factory closing, or even weather. In the hypothetical illustration in figure 2, consultations about a medical condition (such as 'flu) were much increased in the week following a TV broadcast on the topic suggesting that this increase was not due to an impending epidemic and also that in future, health services might anticipate such increases in consultations when medical conditions make news headlines. An n-of-1 analysis of English hospital episode statistics showed the effect of a sporting event – there was an increase in hospital admissions for cardiac events associated with an important football match during the 1998 world cup.

Figure 2: Using n-of-1 studies to assess the effect of an event: there are approximately 40 consultations per day about flu until the TV broadcast (shown by the blue arrow) appears to cause an increase in consultation rates



Using n-of-1 studies to assess whether an intervention or treatment is having the desired effect

N-of-1 methods may be used in **the development of new interventions**, including clinical and policy interventions. In the hypothetical example in figure 3, an obese patient is snacking approximately 7 times per day; following the intervention indicated by the red arrow (possibly self-monitoring of snacking), snacking quickly reduces to 2 times per day.

Similar methods can be used to study a nation's **smoking** and assess the impact of policy changes such as the smoking ban in public places, e.g., **how national policy affects smoking.**

A good example of the practical use of N-of-1 methods to evaluate the effect of an intervention was reported by practitioners in a hospital district. They assessed the problem of delay in reporting adverse events for the period from 2001 to 2006 and found that, while delay varied, it was problematic for their patient safety programme and did not show signs of improvement over time. In 2007 and 2008 a program to recognise good performance was introduced which led to reduction in the delays for subsequent years and shows **how such recognition improved timely reporting.**

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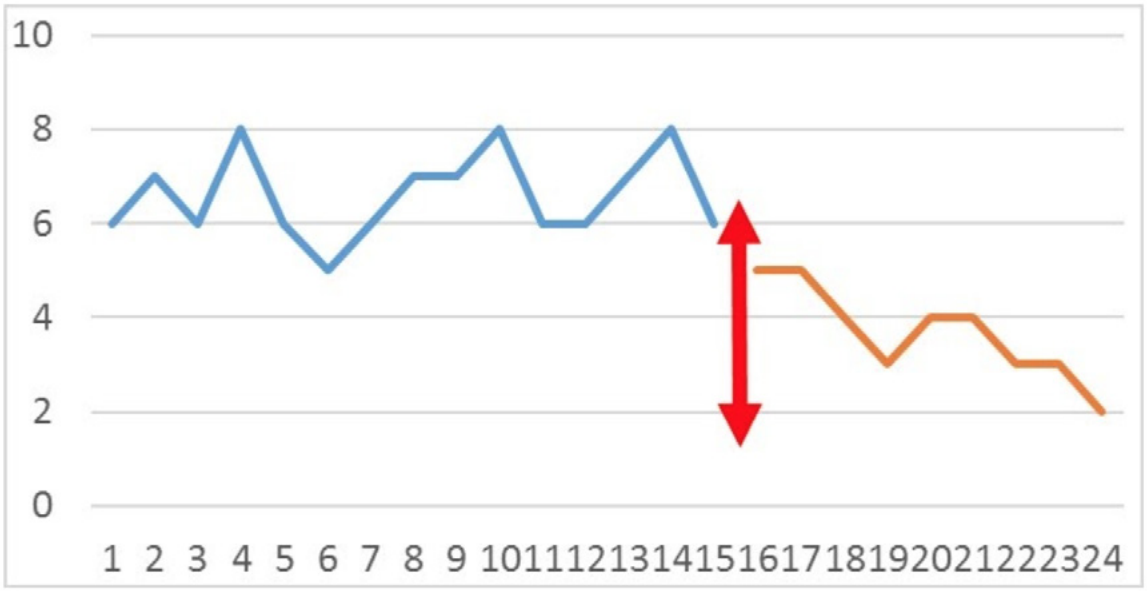
Figure 3: Using n-of-1 studies to assess the effect of intervention:the first 15 days shows the frequency of snacking self-monitoring starting at day 16 (shown by the red arrow) results in reduced snacking



Challenges

Data collection can be challenging. Frequent repeated measurements can be burdensome and may result in missing data. The current rapid developments of affordable digital and mobile technologies including smartphones, wearables and sensors make data collection easier and more reliable.

Practical recommendations

- Use an n-of-1 study in practical situations
- to describe and assess a problem,
- to assess the effects of an intervention or an event.
- Assess a problem or something important that can be assessed repeatedly over time.
- Interpret the data using descriptive methods such as graphs or using statistical methods.
- **Free smartphone apps** for collecting self-report data are available.

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Physical activity in older age: how much is enough?

By **Anne Tiedemann,**
The University of Sydney, Australia

"Lack of activity destroys the good condition of every human being while movement and methodical physical exercise save it and preserve it"... Plato, 400 BC.

It's long been known that making physical activity a regular habit is important for health and wellbeing. But health promotion messages often target children and young people, with less focus on the importance of physical activity in people aged 65 years and over. However, older age is a crucial time for making activity part of every day.

The WHO Global recommendations on physical activity for health recommend that people aged 65+ years should do at least 150 minutes of moderate-intensity physical activity, or at least 75 minutes of vigorous-intensity physical activity, or an equivalent combination of moderate- and vigorous-intensity activity throughout the week. It also recommends that older adults perform

physical activity to enhance balance and prevent falls on 3 or more days per week, and take part in muscle--strengthening activities at least twice weekly. Despite clear recommendations about the amount of physical activity associated with health gains, around one third of the world's population is physically inactive, with **older people** being the most inactive.

It's important to note that doing something is better than nothing, even if people can't quite manage the amount recommended by guidelines. Physical activity can include a range of activity types, from structured exercise classes, to active transport, to gardening and home maintenance. Starting small and building up the amount and intensity of activity and choosing something enjoyable are the best ways to start. For those who are already participating in more vigorous activities such as running, rowing, or cycling, ageing is no reason to stop if a person's health allows it.

Falls are also a common issue in older age, with around 1 in 3 people aged 65 + falling each year. Falls often have lasting, devastating consequences for an older person and their family, and can result in an older person moving into residential aged care. Falls are not inevitable, and can be prevented with regular **exercise that challenges balance**, such as tandem walking or repeated sit-to-stand exercises.

Older people face particular barriers to being more physically active – these can be financial, physical, social or practical. Some **older adults** find electronic gadgets that track daily physical activity useful for reminding and motivating them to be more active.

Some people require a more supported approach to stay on track and reach their physical activity goals. Health coaching is a person-centred approach that commonly includes motivational interviewing techniques and solution-focused goal setting as strategies for promoting behaviour change. A recent **systematic review** of the effect of health coaching on physical activity among people aged 60+ demonstrated significant improvements in physical activity with this approach.

Goal setting is another strategy that promotes physical activity behaviour change. Goals encourage people to create a sense of urgency and motivation to invest time and energy to make the desired change. To maximise effectiveness, goals should be **self-directed** and meet **S.M.A.R.T criteria**: Specific, Measurable, Attainable, Relevant and Timely.

The social benefits of physical activity participation are often particularly important to older people. There are many options for people who prefer to exercise in organised groups. Many local councils organise free walking groups – these are a way of keeping active in a fun and sociable way. Or for a bit more of a challenge, **Parkrun** is a free, weekly 5km timed running (or walking) event in more than 1,700 locations across the globe.

At any age the message around physical activity is simple- be as active as you can, in as many ways as possible, as often as you can. Doing something is better than doing nothing, and every little bit counts towards better health.

Practical recommendations

- Make physical activity a part of every prevention/ treatment plan in order to maximise health and wellbeing.
- Help patients to see movement as an opportunity to boost health rather than an inconvenience, for example suggest taking the stairs rather than the lift or walking to the shops rather than driving, where possible.
- Older adults who are new to physical activity should be encouraged to choose something they enjoy and start with small amounts and build up the duration and intensity over time.
- **Exercise** performed in a standing position that specifically challenges balance is the most effective for reducing the risk of falls in older age.
- Recommend **goal setting**, activity trackers and/or health coaching to assist older people to increase and maintain physical activity participation.

Raising weight in a consultation

By **Jane Ogden,** University of Surrey, UK

Weight is a tricky problem to talk about in a consultation. Some patients may be sick of hearing the words 'You could lose some weight' every time they visit the clinic: regardless of whether they have come in because of a sore throat, a cervical smear or a potential heart problem. They may have experienced a lifetime of feeling stigmatised by the medical profession and think that **all anyone ever sees is their body size**. While this is so for some individuals, others may have never considered their weight as an issue, and could be insulted or surprised if it is raised. Some people may simply not want to hear the message and block out whatever is said, thinking for example 'what do you know – you're thin / fat / too young / too old' or 'science is always wrong.' Raising the issue of weight therefore requires careful management of 'when,' 'how' and 'what' is said to an overweight person.

When ...

People spend much of their lives with their fingers in their ears and have a fabulous capacity not to hear what is said. The first trick to getting messages heard is timing, and for weight, it is often best to attach it to a **'teachable moment.'** These can be new symptoms, such as breathlessness or joint pain; a diagnosis of a condition such as

diabetes or raised blood pressure; the mention of a life event such as a forthcoming 'significant age' or retirement; or some aspect of life that has become difficult, such as walking upstairs, carrying children or tying shoelaces. These **teachable moments** can make people 'take their fingers out of their ears,' so when a patient offers up their teachable moment, grab it and raise the issue of weight.

How ...

But the next part isn't easy! Should you say 'fat,' 'weight,' 'overweight' or even 'obesity'? Should you be tentative and ask 'Is it OK we have a chat about your weight?' Or should you be more direct by stating 'You need to lose weight.'? The jury is out, but my reading of the evidence in **'The psychology of Dieting'** is as follows: health professionals are often more scared of the topic than patients. Health professionals should raise the issue even if they want to shy away from it. The word 'obesity' may shock, but a bit of a shock (not too much) may be helpful. Every patient is different; every health professional is different; and every consultation is a dynamic between two different people. So it comes down to a judgement at the right time and matching your approach to what you think would suit this particular patient right now. As long as what you say is said with warmth and empathy then it should be OK. **For example,** "Are you aware that being overweight can raise your blood pressure" can be a useful approach as it links weight to a specific health problem. Or 'Losing weight could help your back problem" is a helpful start, as it makes weight loss the solution. Then once the conversation has been started, listen carefully to what follows, and **adjust what you say to match it.** This will help build a relationship that can work into the future, so they come back and further discussions can take place. A good place to find out more about this is within the **research** on **'healthy conversations'** and **'Making every contact count.'**

What...

But then what? After the initial opening, what happens next determines how successful the person will be in losing weight. The next steps should help the patient **realise their weight is a problem**; help them believe that **weight is related to what they do** (i.e. behaviours and not genetics, hormones, medication, or the government – whatever the truth is or whatever they think); empower the person to change what they do; have them like you enough to trust you and want to come back; and eventually help them to feel ready to make a change.
Losing weight is a long game. It is right to raise the issue of weight. But it should be done 'when', 'how' and 'what' in ways to make sure the long game is played out, rather than ending before it has even begun.

Practical recommendations

- When, how and what to say are key
- Chose your time carefully – try to bring up the topic of weight at a 'teachable moment'
- Match your words to the patient's own language, and don't be scared to raise the issue of weight
- Encourage patients to see the role of their own behaviour in their weight problem – but with compassion and without blame

Self-efficacy: The "can-do" belief that lets people change their lifestyles

By **Ralf Schwarzer,**
Freie Universität Berlin, Germany and SWPS University of Social Sciences and Humanities, Poland

Changing behavior may often be desirable but difficult to do. For example, quitting smoking, eating healthily and sticking to a physical exercise regimen all require motivation, effort, and persistence. While many psychological factors play a role in behavior change, **self-efficacy** is one of the most important.

What is self-efficacy, and what does it do?

Have you ever found it difficult to refrain from drinking alcohol when dining out? Although you may believe that not drinking is the right thing to do, you may find it hard to control. This feeling of difficulty indicates low self-efficacy to abstain from alcohol. Self-efficacy is the amount of personal control that we expect to have over a behavior in difficult situations. It is an optimistic belief in our own capability to tackle new or demanding challenges. If we hold a strong belief that we can master an upcoming task (i.e. have high self-efficacy), then we are likely to work towards it. If we feel confident that we can overcome an upcoming threat or challenge (e.g., an exam), then we are more likely to approach than to avoid this threat. On the contrary, if we have self-doubts (i.e. low self-efficacy), we might hesitate to act. Thus, self-efficacy guides behavioral changes and supports optimal functioning.

What does the research on health behavior change tell us?

Reviews indicate that high self-efficacy predicts engagement with several important health behaviors, including cigarette smoking cessation, weight control, contraception, alcohol abuse, **fruit and vegetable intake, dental flossing,** and exercise behavior. Additionally, intervention studies indicate that increasing self-efficacy leads to improvements in behavior (e.g. **dietary behaviors** and physical activity). Taken together, these findings indicate that individuals need a certain amount of self-efficacy in order to undertake important health behaviors and achieve desired outcomes (e.g. **weight** loss).

As self-efficacy is clearly important when guiding people to behavior change, two key questions remain: How can we tell if someone has high or low self-efficacy? And what can we do to increase self-efficacy when it is low?

How can we assess the level of self-efficacy?

The most common way is to ask individuals to endorse certain statements. A suggested rule for the behavior--specific assessment of self-efficacy is: "I am confident that I can … (perform an action), even if … (a barrier)." An example of a self-efficacy statement is: "I am confident that I can skip desserts even if my family continues to eat them." Self-efficacy scales have been developed for the measurement of all kinds of health behaviors. Some brief scales to assess self-efficacy for diet, exercise, sunscreen use, dental flossing, hand hygiene, and alcohol intake can be found **here** and **here**. When assessing self-efficacy, it is important to note that low self-efficacy for one behavior does not imply low self-efficacy for a different behavior. Self-efficacy should therefore be assessed in relation to a specific behavior.

How can we increase self-efficacy?

Most interventions to improve self-efficacy pertain to **four sources of information** that form a hierarchy. First, on top of this hierarchy, self-efficacy beliefs can improve through personal accomplishment. To foster these mastery experiences, you can guide clients to perform small steps that are likely be achieved successfully. You can then provide positive feedback to reinforce this mastery experience, and encourage the person to master subsequent more challenging steps as well. Such graded tasks can be useful in clinical settings such as in physiotherapy (e.g., gradual progression of balance and strength exercises), or cognitive behavior therapy for phobias.

The second source of self-efficacy is vicarious experience, or observing others. When individuals witness other people (similar to themselves) successfully master a difficult situation, social comparison and imitation of the behavior can strengthen self-efficacy beliefs. Imagine you are in the process of smoking cessation but your partner cannot manage to quit due to low self-efficacy. Then try to increase your partner's self-efficacy by moving through small steps, disclosing your own barriers and coping attempts, demonstrating how you overcome craving situations, expressing your optimistic beliefs, etc. Thus, as a self-efficacious and self-disclosing coping model you can make a difference: you can enhance self-efficacy in someone else when you communicate openly how you cope with cravings and how you master a variety of challenging situations where temptations seem to be overwhelming.

Third, and less powerfully, self-efficacy beliefs can also be changed through verbal persuasion. For example, you could reassure your clients that they can adhere to a demanding new dietary regimen, due to their competence and ability to plan. Or, you could tell the person that they have what it takes to succeed in anything they put their efforts into. These types of persuasion can strengthen self-efficacy for successfully managing the task at hand.

The fourth source, the perception and interpretation of physiological arousal, is less relevant in health behavior interventions. However, one could target this source of self-efficacy by preparing clients for potential physiological discomfort when initiating new health behaviors (cravings during smoking quit attempts, muscle aches after exercise etc.), which can help to reduce early relapses.

In conclusion, self-efficacy is a meaningful and changeable belief that is important for initiating and maintaining healthy behaviors. When self-efficacy is low, taking steps to increase it can help people to change their behaviors.

Practical recommendations

- **Assess self-efficacy.** When discussing a possible health behavior change with a patient or client, assess their self-efficacy for the possible change. This can be done using a questionnaire or by asking about their confidence for enacting the new behavior in specific difficult situations.
- **Intervene to increase self-efficacy.** If an individual has low self-efficacy, try target one of these sources of self-efficacy with your behavior change intervention:
  - **Encourage mastery experiences.** Work with the person to help them structure their efforts to change so that they can achieve small successes with the new behavior early and often.
  - **Identify vicarious experiences.** Use tailored testimonials or help the person to identify role models (similar to themselves) who have had success with the new behavior.
  - **Persuade.** Let the person know that you believe in their abilities and that they have what it takes to change.

Telling stories about caring for others

By **Irina Todorova,** Health Psychology Research Center in Sofia, Bulgaria

Taking care of aging loved ones, who are perhaps in frail health, can be a complicated and confusing experience that is both gratifying and frustrating. Medical science is helping people live longer, healthier lives, and in some cases can slow down the cognitive decline that frequently come with age. The way that families care for older members, as well as the meaning of aging, dementia and caregiving varies across **cultural contexts.** Most people are aging at home as members of their communities, which has psychosocial benefits for the older person as well as for the different generations of family members. At the same time, caring for people with declining health is accompanied with physical effort, psychological strain, grief related to ongoing loss and possibly financial difficulties for the caregiver.

Narrative health psychology aims to understand people's lived experiences and meanings within their everyday contexts through storytelling, especially for making sense of health and illness and related identity changes. Through narratives, people can make sense of unexpected **"biographical disruptions"** and create connections between past, present and future, as well as continuity in the changed self and relationships. Through linking separate events into a flowing story, people create explanations of what has happened, what it means, and who one now has become. As we have also seen in our **research on caregiving**, narratives allow caregivers to make sense of how their relationship with their loved one is being redefined with time. Narrative health psychology emphasizes that stories have **multiple levels,** such as personal, social, and cultural, which can illuminate health disparities. Narratives of patients, their formal and informal caregivers are being highlighted also in **medicine**, including medical practice and medical education.

Caring for the caregiver: Researchers and practitioners have been interested in how caregivers can be supported. Evaluation studies have shown that different approaches can be helpful, and they can be summarized in the following groups:

- **Education and training** – increasing knowledge about aging and dementia, its stages and symptoms;
- **Social support** – provided by peers in support groups or on-line formats; and by family and friends;
- **Respite** – social networks or organizations can provide respite from care to alleviate caregiver fatigue;
- **Health promoting behaviors** for the caregivers, such as physical activity, stress reduction practices and activities.

We must also emphasize the importance of advocating for policies to support informal caregivers, patients and their families. For example, the Massachusetts Legislature, in response to input from families and health professionals and advocated for by the local Alzheimer's Association chapter, very recently passed the **Mass Alzheimer's and Dementia Act**. This legislation will support training of health providers to diagnose and provide care for dementia patients and families; provide adequate notification of the diagnosis; and ensure adequate acute care and protection from abuse.

Narrative health practice: Narrative practices are person- centered, dialogical and embedded in the cultural and structural contexts in which caring is taking place. **Caregivers' narrative practice** helps in their own meaning making, and also increases their "narrative competence" – to listen and be attuned to the stories and experiences of the person they care for.

One conclusion from **meta-analyses of interventions** to promote caregiver well-being is that these are most effective when both the caregivers and the patients are involved. There are several examples of storytelling programs introduced in residential care/nursing homes (e.g., **'life story work'** and 'reminiscence work'). Though most of these focus on the older people, some of them are organized as collaborative and joint storytelling practices, which include family and informal caregivers. Caregiving can be a taxing situation for informal caregivers, and it is lived through stories which weave together fatigue and grief, and which serve to deepen relationships with loved ones. Helping caregivers to embrace their own stories can contribute to attaining a renewed sense of meaning and purpose.

From a narrative practice perspective, we offer the following suggestions for practitioners to implement, and which caregivers could themselves take into consideration in their daily acts of caregiving.

Practical recommendations

- Encourage (informal) caregivers to share their stories of caregiving and the changing relationship with their loved one. Ask open-ended questions ("tell be about a time when…") and listen with empathy, and encourage caregivers to talk to friends or to join peer support groups where stories are shared.
- Encourage caregivers to take up journal writing, and to read and reflect on literature and poetry. Reflecting on these stories is a helpful way for caregivers to make sense of what is happening in their lives, and this can benefit health **in a number of different ways.**
- Acknowledge that caregivers' stories are relational, and propose that caregivers and the persons they care for dedicate time to talk together about their shared past and present. Give caregivers ideas about how to evoke and connect memories with the cared for person (for example through looking at old photographs, objects that embody joint memories, making memory boxes and collages).
- These storytelling practices take time to implement and may not resonate with all caregivers. They should therefore be discussed sensitively and tentatively. As the stories can evoke multiple emotions, storytelling practices can also be done in brief sittings.

Motivation and the first steps toward physical activity

By **Keegan Knittle,** University of Helsinki, Finland

Here's a familiar story from primary care: an individual who would clearly benefit from more physical activity comes into the clinic. We discuss their physical (in)activity, and in the end, the person says they just aren't motivated to change. What's a clinician supposed to do? How can we motivate this person to at least consider changing their behavior for the better? Or better yet, how can we help them to form good intentions for being active?

In consultations with "unmotivated" individuals, clinicians commonly start by offering information about the benefits of physical activity. They might also advise the person to become more active, but in doing so, may forget to account for the individual's own exercise preferences. While these informational and advice-giving efforts are well-intentioned, they aren't likely to produce any real changes. In fact, **if 26 inactive people receive physical activity advice**, chances are that only one of them will subsequently reach recommended levels of physical activity.

Other clinicians take their advice giving a step further, and impel people to change by saying things likes "you have to change" or "you need to become more active NOW." These more forceful approaches to physical activity promotion can actually backfire, and serve to increase the person's resistance to change. In extreme circumstances, a clinician might even try to **scare the person into changing**, by listing the adverse health consequences of not changing. Efforts to scare people into changing **are usually ineffective**, unless the individual sees herself as capable of making a change. So the question remains: What is the best way to motivate people to increase their physical activity?

In 2018, **our group** published a large **meta-analysis** which tried to answer this question. We first looked at more than 100 different physical activity promotion interventions, and identified the behavior change techniques each one contained. Then, we tried to identify which behavior change techniques led to increases in motivation for physical activity. The results revealed two main groups of behavior change techniques that seem to increase motivation.

The first group consisted of **self-regulation techniques.** In our analyses, self-regulation techniques (i.e., self-monitoring of physical activity levels, getting feedback on performance, setting physical activity goals, making **action plans** and using problem solving strategies to overcome barriers to physical activity) all had effects on motivation. In addition, interventions which used self-monitoring coupled with at least one other self--regulation technique increased motivation more than other interventions. Previous studies have shown that self-regulation techniques are very important in changing behaviors (e.g., **physical activity, diet, smoking**) and our study showed that they are very important in increasing motivation as well. Therefore, getting people to try out some self-regulation techniques can help them to both become more active and feel more motivated.

The second group consisted of behavior change techniques related to participation in exercise classes, including instruction on how to perform physical activity, demonstrations, and opportunities to practice new modes of physical activity. Interventions which used this set of techniques, and interventions which were delivered in person or to groups of people, led to increases in motivation for physical activity. This could be due to the social support received from trainers, or from the opportunities for social comparison (and having fun) provided by other participants in the class. While it might seem daunting for an inactive individual to jump into a group exercise class right away, there is a good chance that doing so would increase their motivation for being active.

In conclusion, there are no 100% successful ways to motivate someone to become physically active, but our research suggests that fostering self-regulation and participation in exercise classes might be a good start. So the next time you are faced with a client or patient who would benefit from moving a little more, try out some of the practical tips below. They might not work for all individuals, but at least they will give you a couple more tools to use in your efforts to motivate others. Happy motivating!

Practical recommendations

- **Monitor.** Ask individuals to track their physical activity levels using **an app, an activity tracker,** or **a paper diary**. Offer them a printout which lists a few options for self-monitoring that you yourself would recommend.
- **Review.** Have the individual review their self-monitoring to see whether they are as active as they thought, and to identify times when physical activity might fit into their schedule.
- **Set a goal and make plans.** Have the individual set an activity goal that is realistic in light of what they currently do (from steps 1 and 2 above), and to make a plan of when, where and how they will achieve it.
- **Just do it.** Offer the individual a list of various physical activity classes, adult sports leagues or parks in the area, and help them to choose the opportunities for activity that are most interesting for them. Also, acknowledge that getting started is very difficult, but that doing so can help them to feel more motivated.
- **Focus on motivation.** Let the person know that it is normal to feel unmotivated, and that research evidence suggests that these strategies can help them become more active and boost their motivation at the same time.

Positive psychology interventions at work

By **Alexandra Michel,** Federal Institute for Occupational Health and Safety, Germany and Annekatrin Hoppe, Humboldt Universität, Germany

Employees spend a major part of their waking time at work. It is no surprise then that reducing demands and increasing resources (e.g., autonomy, social support, self-efficacy) at work are important in promoting employees' work-life balance, well-being and health. Over the last years, research has examined not only ways to repair the negative consequences of work stress, but also ways to promote resources to improve employees' well-being at work. Especially, introducing positive **psychology interventions to the workplace** is a **new avenue** in the occupational health psychology field. Positive psychology interventions focus on building resour-

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ces and preventing resource loss, and include **activities** that aim to cultivate positive feelings, behaviors and cognitions. In this blog post, we highlight three approaches that can help employees to build their resources and foster well-being at work.

How can I see, experience and value more positive aspects of my work?

Cognitive strategies such as practicing optimistic thinking and appreciating positive experiences at work can help employees to create positive emotions and to feel better. In our **intervention study**, we asked caregivers to think about a positive and meaningful event they had experienced at work. This could be a positive interaction with their patient, a nice chat with a colleague or a treatment success. We asked the caregivers to reflect on this positive event and to savour their positive experience. This five-minute audio-supported exercise was repeated for ten consecutive work days. After the intervention period, caregivers in the intervention group had lower levels of fatigue and emotional exhaustion than caregivers in the control group. Particularly, caregivers with a high need for recovery, for example feeling low energy, benefitted from the positive thinking activity.

How can I gain new energy during work? The benefit of rest breaks

Work demands can drain employees' energy and result in low work engagement and feelings of exhaustion and fatigue. Taking short rests from work enables employees to temporarily shift their attention away from work tasks in order to maintain and build new energy. We **developed** two short rest activities: A simulated savouring nature activity (e.g., listening to nature sounds such as bird singing or waves); and a progressive muscle relaxation activity. We classify such a short break "as a micro-intervention" that can be completed at the workplace and which gives an employee a rest from work, during which they shift their attention away from work tasks. In **our study** employees were randomly assigned to either the savouring nature or the progressive muscle relaxation condition. The results show that both of these short daily rest breaks, which can be easily introduced into the workday, raise employees' vigour and lower their fatigue over a course of 10 work days.

How can I switch off from work and find a good balance between work and private life?

Employees who think about and emotionally engage with work-related issues during their leisure time often find it difficult to detach or mentally switch off from work. This can lead to a diminished work–life balance. Following **boundary theory,** we designed an intervention that enables employees to find their individual way to either integrate or separate both life domains. Our online **intervention** teaches mindfulness as a cognitive-emotional separation strategy. **Mindfulness** describes a state of being non-judgmentally aware of current experiences. In our intervention, employees reflected on their segmentation strategies (i.e. strategies meant to keep work and private life separate from each other) and learned mindful breathing exercises which help them to focus on the present moment and to let go of undesired work-related cognitions and feelings. This enabled employees to focus on an activity in a specific life domain (e.g., playing with children at home) and forget work-related worries or preoccupations. Our **study results** show that compared to a control group, employees in the intervention group experienced less emotional exhaustion, negative affect and strain-based work–family conflict, as well as more psychological detachment and satisfaction with work–life balance.

Conclusion

Interventions on positive work reflection, respite breaks and segmentation of life domains can help employees to build resources and improve their well-being. For organizations and employees we see the following benefits:

These intervention activities can be easily integrated into the work day during short breaks or performed in the evening during leisure time. They can be applied across occupations and can be made available through online platforms, smartphone apps or on paper. Organizations and employees must keep in mind that primarily employees in need (e.g., high workload, emotionally demanding work tasks) benefit from these interventions, and that long-term effects of these interventions are not yet known. Finally, these individual interventions are not necessarily a substitute for more-comprehensive workplace health promotion efforts (e.g., reducing workload, team building workshops, leadership trainings) that aim to improve working conditions holistically.

Practical recommendations

- Think about something that went well at work during your lunch break or when you finish your work. For example: a nice chat with a colleague, a successful presentation, a task you enjoyed
- Plan short breaks during your working day to detach and recharge. Use them to relax, meditate or to go for a walk.
- Try to switch off from work. Small mindful breathing exercises can help you to focus on momentary experiences and to let undesired thoughts and emotions go.

Patient talk: What the doctor clearly says, and the patient clearly does not understand

By **Anne Marie Plass,**
University Medical Center of Göttingen, Germany

Sometime ago a dermatologist who works as a psoriasis (a chronic skin disorder) -specialist in a university hospital, complained to me about many patients who do not adhere to the therapy, even though a mutual goal has been set, and a shared decision has been made.

Shared decision-making has been defined as "an approach where clinicians and patients share the best available evidence when faced with the task of making **decisions**," usually when two or more treatment options are available, or more than one person is involved. Both patients and physicians contribute to the medical **decision-making process**, and patients are supported to consider options to achieving informed preferences and desired outcomes. Sharing decisions is becoming increasingly prominent in health care policy, with many professional **healthcare providers** trying their best to act as **patient-centered** as possible. Especially since this way of communicating with the patient can improve therapy adherence and trust.

At its core, shared decision-making is based on mutual understanding and **respect**. The physician and the patient are equal partners in this process, both contributing to the decision by bringing their own expertise and experiences to the conversation. As such, the care provider contributes through medical knowledge and expertise, and the patient adds knowledge and expertise about his or her personal life. This however, is easier said than done. While many health care professionals claim they are 'already doing it', data from **patient experience surveys** indicate that **this is not generally the case**.

> *The dermatologist I spoke to made it a habit to not decide on behalf of her patients, but to decide together with her patients about what therapy would suit them best. She therefore did not at all understand why her patients still were not motivated to taking the pills as prescribed, even after having based the therapy on patient's personal preferences.*

In describing the way she implemented the shared decision making process into daily clinical practice, she said that as soon as the patient came in, she informed him/ her that during this consultation they together were to decide about the therapy, and thus were going to discuss the various therapeutic options together.

Sometimes, patients may need time to study new information and to consider their personal preferences before they commit to new decisions. This is particularly so when the future of their condition is unknown and they may have to think about outcome states that they have never **experienced**. When offered a role in decision making, some patients may therefore feel surprised or unsettled by the offer of options, and uncertain about what might be best. Informing patients of various treatment options, and that they are expected to participate in shared decision making **beforehand** might therefore improve the **effectiveness** of shared decision making.

In order to help her patients in deciding about the therapy that would suit their personal preferences best, this dermatologist suggests percentages, e.g., 10%, or 20% improvement, as possible goals. After a patient chooses the percentage that suited them best, the dermatologist explained what therapy and medication would be needed to achieve this goal, thus actively engaging the patient in the decision-making process. Despite all this, her patients still did not adhere to the therapy, even though they themselves chose this option to fit best to their personal situation. I asked her whether she thought her patients understood the meaning of 20%, 30% etc., and whether they would express themselves likewise when pointing out the desired relief of symptoms to others.

Part of the **difficulty** lies in the inherent tendency for (healthcare) professionals to **use language** that is mainly transparent to fellow professionals. Medical language can be complicated, and evidence indicates that **nearly half of patients** struggle to understand it. Jargon and abstract terms tend to conjure up a wide range of interpretations that may depart markedly from those the care provider had in mind. Moreover, a large body of evidence demonstrates that assessment items may also be subject to significant misinterpretation, or otherwise **fail to measure what was intended**. People may indicate on a questionnaire that they are not capable of walking 500 meters, but when followed up in a conversation, they may reveal that they often walk for more than an hour in the shopping mall.

I replied to the specialist that if I were the patient, I would want to be able to shake hands as an end goal of the therapy, or to wearing a short-sleeved T-shirt, something like that. She gazed at me and started to laugh saying that was right, but she would never have thought of that herself. Furthermore, she had not realized that informing the patient beforehand about the decision-making process might be more effective.

It is therefore vitally important that healthcare professionals are mindful about the patients that they are treating, and the understanding their patients have. This is not limited to those with limited (health) literacy, but all patients would benefit from clear and concise information and cutting out jargon. Moreover, it is of the utmost importance for physicians to communicate in the language patients are accustomed to, expressing themselves in the words patients would use.

Practical recommendations

- Increasing patient involvement in decision-making processes can improve adherence to therapeutic regimens and treatment outcomes.
- Always try to express yourself in the words patients would use (i.e. avoid medical jargon)
- Keep in mind that, although what you are saying may be perfectly clear to you, significant misunderstandings can Therefore, always check for patient understanding.
- Offer patients time and useful, easy-to-understand information; make sure that you are well-prepared for important consultations
- Let patients know in advance what is expected from them when making shared decisions.

What happens with medications when they go home?

By **Kerry Chamberlain,** Massey University, Auckland, New Zealand

What do people do with medications once they enter the home? Surprisingly, limited research has attempted to answer that question. Yet, it is important – most medications are consumed at home under the control of the consumer. Prescription medicines are regulated, but once prescribed and collected, they are presumed to be taken as directed. People also can access and use a wide range of over-the-counter medications (e.g., for pain relief), alternative medications (e.g., homeopathic preparations), and other health-related preparations that are less obviously medications (e.g., dietary supplements, probiotic drinks). However, we should note that access to all forms of medication can **vary considerably** between **countries**.

Medications of all kinds are complex **social objects** and it is a mistake to consider them simply as medical technologies, effective for curing or palliating medical conditions when taken as advised. Medicines have widely varying dose-response effectiveness. Some (e.g., paracetamol) have a wide therapeutic index (i.e., are readily tolerated across a wide range of dosages), while others (e.g., levothyroxine), have a narrow therapeutic index (i.e., small differences in dose may lead to serious therapeutic failures and/or serious adverse reactions). Also, all medications have side effects of some kind, some minor and unnoticed by most users, others more major and potentially serious. While medications can have varying effects, people themselves also differ considerably in their tolerance for medications, and tolerances can **change over time** with repeated consumption of the drug.

We have substantial evidence that only about half of prescription medications **are taken as directed**. This occurs for a **variety of reasons**, including experience of side-effects, concerns about dependence, beliefs about **illness**, medications and treatments.
Hence, it is important to understand how lay people make sense of medications in their daily lives. We conducted research with people in 55 households purposively-chosen from four cities across New Zealand. We were not interested in their adherence to medications, but we asked them to **discuss their medication practices,** to map where medications of all sorts were kept in their homes, and to produce and discuss all medications that were in their homes.

Some major outcomes from this research were:

- A wide variety of medications of all sorts – prescription, over-the-counter, and alternative – were prevalent in all households, and distributed widely within the home. Their placement was organized, and important for use, with shared medicines stored centrally (kitchens and living rooms), personal medications located in more private spaces (bedrooms, bathrooms), and older medicines stored away (in cupboards and attics). This emplacement of medications reflected the **familial relationships and practices** of care within households.
- People understood and used medications very differently, from **resistance** to use through to various ways of complying with, amending, or extending their use, depending on the type of medication and illness involved.

  - ***For example, some were particular about taking antibiotics: "I don't like taking antibiotics… antibiotics should be saved for dire emergencies".***

  - ***Others taking psychotropic medications reduced their use because of side effects and dependency: "I wanted to function as a functioning member of society … to get well I had to actually ditch the medication".***

  - ***People using alternative medicines often resisted allopathic medications completely: "I'd rather either try and wait it out or, just any other alternative rather than taking drugs".***

  - ***Others modified doses according to symptoms: "I was prescribed a higher dose but I just decided that I would try and keep it as low as possible".***

- These everyday medication practices were governed by people's understandings of the value and place of medications in society. Medications could produce disorder, when fear and anxiety raised by drug marketing and media stories invoked the 'unnatural' and out of control, or they could produce order, when understood as providing 'balance', and restoring order and control. Medications also invoked morality, when regarded as 'a necessary evil' requiring personal vigilance in their consumption, or when their consumption implied a **'morally failing'** ill person or a stigmatized failing body, creating identities that needed to be managed.

Rather than view lay medication practices as misinformed or irrational, we argue that they have a logic of their own, informed by a **'lay pharmacology'** where patient perspectives on medications are located within both their conditions for being given medications and their personal health narratives. This lay pharmacology capability influences and alters medication-taking practices within homes in ways such as those identified above, and provides a missing perspective in **many approaches** to understanding **medication-taking.**

Medications in the home have social lives of their own.

Practical recommendations

- Health psychology practitioners should understand that medication-taking is a social practice and approach it as such, rather than viewing it solely from the biomedical perspective of adherence.
- Medication use can be better understood as located within situated practices, and especially within the temporal and spatial domestic practices that are embedded in daily home life. Health psychology practitioners seeking to intervene in medication-taking need to discuss and uncover these practices and provide advice that is related to the social and contextual dynamics influencing everyday medication use for patients.
- Health psychology practitioners should discuss medication use openly with patients and attempt to locate recommendations for use within the patient's understandings of their illness, how they view and value medications, and how medication-taking practices can be incorporated into their everyday living.

How to set goals that work?

By **Tracy Epton**, University of Manchester, United Kingdom

Goal setting is a popular technique

There are many different techniques that can be used to change behaviour **(93 according to a recent list!)**. Goal setting is a well-known technique that most people have used at some point. Goal setting is used by charities (e.g., Alcohol Concern, a UK charity, asked people to set a goal to quit drinking for the month of **January**), as part of commercial **weight loss programmes** and even in **fitness apps**. One **recent review** looked at a 384 tests of the effectiveness of goal setting across a range of different fields to see if goal setting really works, which types of goals work best and if goal setting works for everyone.

Does goal setting work to change behaviour?

Goal setting works for changing lots of different behaviours **(including recycling, sports performance, educational goals and health)** even when it is used just on its own with no other behaviour change techniques.

What is surprising is that goal setting doesn't necessarily work better when it's combined with other behaviour change techniques that it is commonly paired with. For example, adding feedback (i.e., telling people their current standing and / or progress towards the goal) to a goal setting intervention doesn't increase its effectiveness. More importantly, getting people to explicitly commit to the goal or even just asking them how committed they are to the goal actually decreases the effectiveness of goal setting.

The addition of goal setting, improved the effectiveness of one behaviour change technique. Interventions that included monitoring someone's performance without giving them feedback (e.g., recording how many portions of fruit and vegetables someone eats with their meal) are more effective if goal setting is added too.

There are a lot of different factors to be taken into account when setting and evaluating goals some of which are widely known (e.g., **SMART goals**) but others that might not be widely considered.

What can improve the effectiveness of goal setting on behaviour change?

There is a **myth** that setting an easily achievable goal is more effective for things like losing weight. However, behaviour change is improved if difficult goals are set. Difficult goals are those that are expected to be achieved by only a low proportion of people, these are more effective at changing behaviour than moderate (those expected to be achieved by 15-50% of people) or easy goals (i.e., those that are expected to be achieved by more than half of people).

Telling people about the goal is a good way to increase successful behaviour change. Goals are more likely to be achieved or progress made towards them, if the goal is set publicly (i.e., you have face to face contact with someone as you are setting a goal or you tell someone about your goal, e.g., you tell your work colleagues that you are planning to quit smoking). Indeed, **writing down goals and putting them in a public place** is a recommendation in sport psychology too.

Working as a group on a goal also leads to more successful behaviour change. Setting one larger goal as a family, a work group or sports team or even a group of friends is more effective than each person in that group setting an individual goal.

There are certain factors that don't matter when setting a goal

Goals that focus on behaviour (e.g., weight loss programmes often get people to set a behaviour focused goal such as eating only 1,200 calories per day) are as effective as goals that focus on outcomes **(e.g., a goal of losing a particular amount of weight each week)**.

Goals that aim to improve your performance relative to a current standing (e.g., walk 5,000 more steps per day) are as effective as those that are based on an absolute external standard **(e.g., walk 10,000 steps per day)**.

Goals that are self-set, set by someone else or are collaboratively set are all equally effective. It's also ok to set more than one goal at once or to repeatedly set the same goal over a period of time – there is no difference in effectiveness.

Practical recommendations

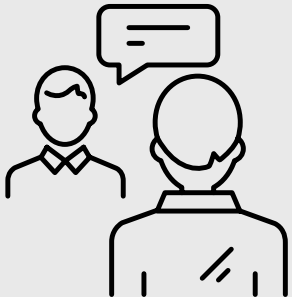
Practitioners if encouraging patients to set goals or if setting goals for patients should consider these points.

Do ask people to:

- Set a fairly difficult goal – this will help them make more progress
- Tell people about the goal – these are more successful than those that are kept to yourself
- Set collective goals – a larger group goal is more effective than several individual goals

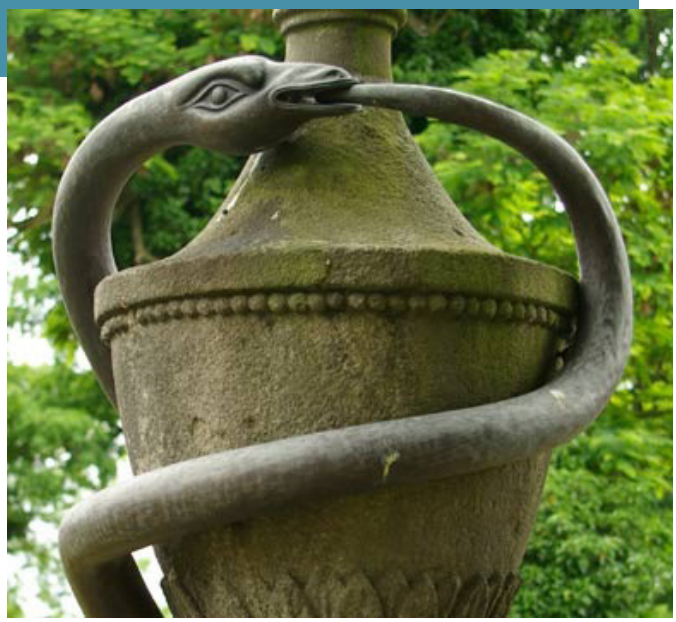
Things you should avoid

- Don't ask someone how committed they are to the goal: if they're not highly committed, it could backfire by drawing their attention to this!



Self-regulation from theory to practice: supporting your patients' goals for change

By **Stan Maes & Véronique De Gucht,** Leiden University, Netherlands



Over the last decades, the role of individuals within the healthcare system has evolved from 'compliance with medical regimens', implying obedience; to 'self-management', denoting responsibility for the control of one's own health or disease. This has recently progressed further to the idea of 'self-regulation', a systematic process that involves setting personal health-related goals and steering behavior to achieve these goals. To illustrate the continuous self-regulation process, we have chosen the ancient image of an 'ouroboros' (i.e., a snake eating its own tail) to accompany this blog post.

Self-regulation occurs in phases: (1) goal awareness and goal setting; (2) active goal pursuit and (3) goal attainment, maintenance or disengagement. In the following paragraphs, we illustrate these phases using the example case of an individual, John, who has suffered a heart attack.

Phase 1

In the first phase, individuals should become aware of and set realistic and personally-relevant health-related (change) goals. For example, John might be asked, 'What would recovery be for you?,' to which he might reply that taking nature walks with his grandchild is important to him. As a first step, John might therefore set a goal such as 'starting short walks in my neighborhood.' It is important here that such goals are self-set and are realistic considering current functioning, as these give a sense of ownership and are more easily attained than goals imposed by others. Techniques of **motivational interviewing** can help to support personal goal setting among unmotivated individuals.

Phase 2

The second phase is characterized by goal pursuit. In this phase, individuals must bridge the **common gap** between cognitions (e.g., intentions) and action. For this purpose, a specific 'action plan' is needed, based on reflection, which specifies precisely when, where and how to act. In our example, this might be: 'From next week onwards, I will walk with my wife to a nearby grocery shop to buy food on Monday, Wednesday and Friday at 3pm'. Action plans like this, which specify sufficient detail, have been shown to enhance achievement of goals related to **physical exercise, healthy eating** and **other** health behaviors.

In addition, three regulatory mechanisms play important roles during goal pursuit. The first of these is feedback, which involves monitoring and evaluating progress. In our example, John could be asked to register his activity to see whether he met his goal. The results could then be reviewed with John to either identify successes, or to identify problems to overcome in the future. The second mechanism involves anticipatory or feedforward processes, which include outcome expectancies (i.e., what a person thinks will happen if they take action) and self-efficacy beliefs (i.e., whether a person feels that they can successfully take action). Outcome expectancies and self-efficacy are both enhanced by observation of successful others, goal progress and encouragement.

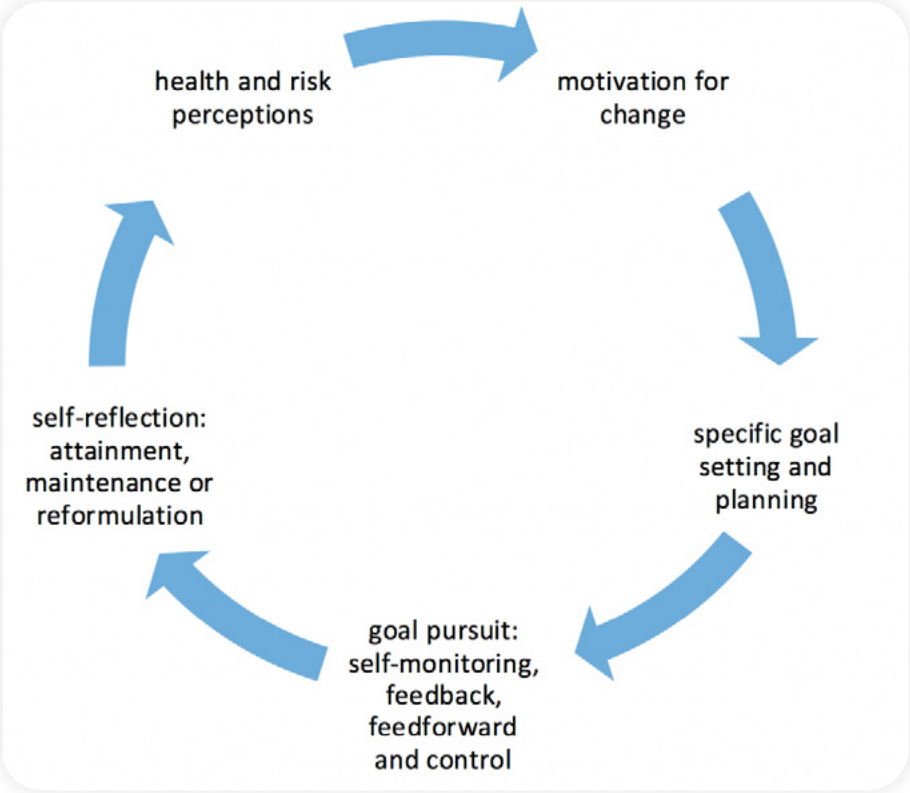


Figure: The self-regulation cycle.

Outcome expectancies and self-efficacy are both enhanced by observation of successful others, goal progress and encouragement.

Clinicians should therefore provide contact with other people who successfully achieved comparable goals, to increase the chances of goal achievement and provide individuals with opportunities to receive support for their goals. The final mechanism involves activating control processes to ensure continued efforts despite competing goals or obstacles. A distraction from the self-set goal, e.g., by a life event, may have a detrimental effect on goal pursuit. Lack of progress toward goals (i.e., failure) is also frequently related to negative mood. If this occurs, one might want to offer John support for dealing with these emotions and help in coping with failure, by seeing these as opportunities for learning.

Phase 3

The third phase regards goal attainment, maintenance and disengagement. Goal attainment is not the end, but rather a new beginning. Individuals can be encouraged to set new goals to maintain progress over time. If however, a self-set health goal proves to be unattainable, it is often wiser to disengage from this goal and choose **a more manageable goal.** In our example, John could therefore continue pursuing his actual physical activity goal, or rather set a new goal such as going for a short daily walk with his dog. Fostering self-efficacy and social support are again important predictors of maintenance.

Much research has supported the efficacy of self-regulation based interventions for health behavior change in healthy populations and among patients with chronic illnesses, e.g., **for weight loss in type 2 diabetes,** for **physical activity among people with arthritis,** for **lifestyle change in cardiac rehabilitation**, and for **balancing activity and rest in chronic fatigue syndrome.**

Practical recommendations

- Support the individual in formulating a personal change goal related to a relevant health issue (e.g., 'What would represent recovery for you?'). These goals should be specific, important to the individual, not too easy or too difficult and attainable in a restricted time frame.
- Assist the individual in building an action plan by asking when, where, how and how long the patient will act in relation to the target goal.
- Ask the individual to build a 'goal ladder,' which defines (self-)assessable steps towards progressive goal attainment.
- Increase the individual's self-efficacy by showing examples of other patients who achieved a comparable goal, encouraging the patient and praising him or her for goal progress. Teach the individual how to cope with obstacles and relapse.
- Support goal maintenance, and assist individuals in reformulating their goal in a more manageable way if they find it unattainable in its present form.

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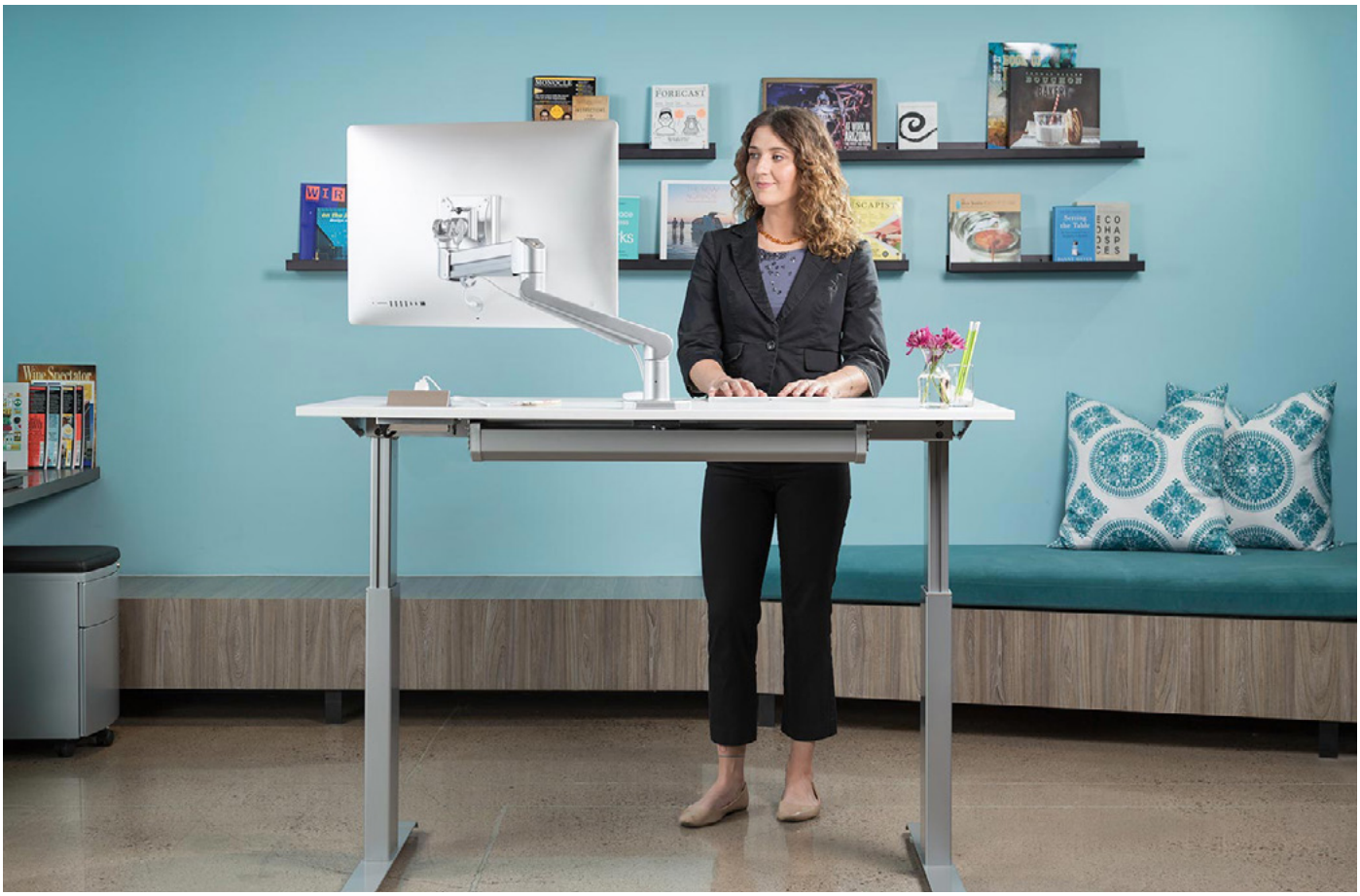


Move more, sit less at work: let's not sit to talk about it

By **Stuart Biddle,** University of Southern Queensland, Australia

I'm writing this blog on Valentine's Day! The health promotion charity in Australia, Bluearth, has produced some amusing videos encouraging you to use your chair less by 'breaking up with your chair' (liking splitting from your partner, see videos **here**). So what is the issue here? Essentially, with changes in the way many of us work, we sit too much and this has been shown to be bad for our health. For example, many people will drive to work, sit at a desk most of the day, drive home, and sit in front of the TV or computer for much of the evening. The workplace, therefore, is ripe for health behaviour change. But with such a habitual behaviour like sitting, strong social norms, as well as environmental designs that encourage less movement alongside comfortable and rewarding sitting, how can we change anything?

First, it is important to note that simply sitting less is not the only answer. We must strive to help people to move

more through physical activity, preferably of a moderate-to-vigorous nature. But, in addition, making the transition from long periods of sitting to engaging in a greater volume of light-intensity physical activity is also important. This might involve light activity, such as getting up out of the chair and talking to a colleague instead of emailing, using the stairs, or simply engaging in several what we call 'sit-to-stand transitions' in work meetings.

So what might work? We conducted **a systematic review of behaviour change techniques,** including those in the workplace. Of the 38 interventions we reviewed, 20 were in a worksite context. We rated 15 interventions (39%) as 'very promising' for behaviour change. Interventions based on changing the environment (e.g., having a sit-to-stand desk), persuasion, or education (e.g., a seminar on the health effects of sitting and moving at work) were most promising. Self-monitoring (e.g., keeping a log), problem solving (e.g., working out solutions for the office), and restructuring the social or physical environment were particularly promising behaviour change techniques.

To help people sit less and move more at work, but of course stay productive and 'on-task', the use of sit-to-stand desks have become popular. The advice is to break up sitting as much as possible rather than stand for prolonged periods. Based on the results of our review, therefore, we would expect such desks to be successful in bringing about behaviour change as they are enabling changes to the physical environment. But, at the same time, we may need to provide initial education on the benefits, as well as self-monitoring. In **a study** where we did not provide such desks, the self-monitoring tool we gave was not received well and we did not achieve the behaviour change we sought. This also suggests that practical implementation, of such behaviour change techniques is also important to monitor, as well finding a self-monitoring tool that is acceptable for the participants and is appropriate and timely in its feedback.

Practical recommendations

- Encourage senior management to support efforts for less sitting and more movement at work
- Provide on-site education about moving more and sitting less, preferably with self-monitoring of sitting time (e.g., a log book)
- Create policy, or at least social norms, that 'give permission' for staff to sit less and stand or move more in meetings. Walking meetings might also be encouraged.
- Provide a sit-to-stand desk in the workplace, if possible
- If this desk is not possible, improvise with occasional standing tasks (e.g., using a tablet on an elevated work surface)

Willpower versus Unhealthy Temptations – Spoiler Alert – Willpower Usually Loses

By **Amanda Rebar,** Central Queensland University, Australia

It will come as no surprise that evidence shows people do not always behave in ways that are best for their long-term health. For example, most people are aware that exercise is good for their **physical and mental health**, but comparatively far **fewer** people exercise regularly. When a person makes an intention to start exercising, there is only about a **50% chance** that they will actually follow through with that. Those are the same odds as a coin flip! Did you ever give much thought to why it is that despite people's best intentions, they indulge in unhealthy behaviour? There is a perspective growing in credence and popularity amongst health psychology science about how people's behaviour is influenced by two systems. These **dual process models** provide a refreshing viewpoint for how to help people live healthy lifestyles without it requiring a constant battle of willpower versus unhealthy temptations.

There are **many iterations** of dual process models, but the general idea of the models is that behaviour is influenced by two systems – one composed of reflective processes and the other of **automatic processes**. The reflective system influences behaviour through deliberative, planned processes, which are usually quite slow

and require willpower. The automatic system influences behaviour through unintentional, spontaneous impulses. Although the processes are different, they can result in the same outcomes. For example – a woman has changed what she eats. It may be that she was informed that she is at an increased risk of heart disease and decided it was in her best interest to make the change – that would be a reflective process. Alternatively, it could be that she changed what she ate simply because she just had not been in 'the mood' or had experienced any 'cravings' to eat the same foods as usual – that would be automatic processes.

The automatic system has a pretty bad reputation. It has typically been vilified as the source of unhealthy temptations that must be overcome with **willpower**. Commonly, we educate people about why they should change their behaviour and rely on that information to persuade them enough to set goals and plans to change, diligently monitor their behaviour, and sort out a way to effectively follow-through with their plans each day. **The problem** is that these types of behaviour change strategies do not always work and when they do, it may only be for a short time.

Maintaining a healthy lifestyle will undoubtedly require overcoming some temptations, but there are also ways we can help people work **with instead of against** their automatic system. Evidence is showing that there are ways to make it easier to resist unhealthy automatic influences and even ways to make automatic influences aligned with long-term health goals. With simple changes in the way we provide lifestyle advice, we may be able to give willpower the upper hand in the battle against unhealthy temptations or even stop the fight all together so that 'temptations' fights on the side of health.

Practical recommendations

- Suggest simple changes in daily routines that can help to avoid unhealthy temptations. Usually, there are certain places, moods, experiences, or times of day in which people are most prone to unhealthy behaviour. Awareness of what triggers the unhealthy temptation takes away some of its power and allows you to save willpower for the most high-risk times.
  - Example: Someone who has just quit smoking may want to take a different route from work if he usually gets a pack of cigarettes at the service station on the way home.
- Come up with ways to make healthy behaviour options simpler and more pleasant than the unhealthy alternatives.
  - Example: Do not keep junk food in the house. People will be less likely to indulge in urges for unhealthy eating if it requires a trip to the shops when there are healthier options at home.
- Make healthy options more visible than unhealthy options. Advertising works through repetition and high visibility of branding. The same techniques can be applied to health behaviours.
  - Example: If a person has a hard time remembering to take their medication, ask them to place the medication in a prominent and safe location (windowsill over the kitchen sink instead of in a cabinet) so that it is seen regularly throughout a person's typical day.
- Do healthy behaviours that are rewarding. When healthy behaviour is enjoyable, it takes less willpower to achieve and will be more likely to be maintained long-term. If it is treated as something unpleasant that must be tolerated, odds are it won't last long.
  - Example: If your child doesn't like steamed vegetables, don't force her to eat it or bribe her with a sweet after she finishes. Instead, explore different cooking strategies for vegetables that she may like so she learns to enjoy it rather than developing an avoidance to eating vegetables.

Planning theory- and evidence-based behavior change interventions: Intervention Mapping

By **Gerjo Kok,** Maastricht University, the Netherlands; University of Texas at Houston, USA

A wide range of campaigns and interventions to improve public health and change health behaviors currently exists, but many of these are not "theory- and evidence-based". This post will briefly describe the processes health psychologists undertake when developing interventions, and highlight how these differ from (and improve upon) similar processes commonly undertaken elsewhere.

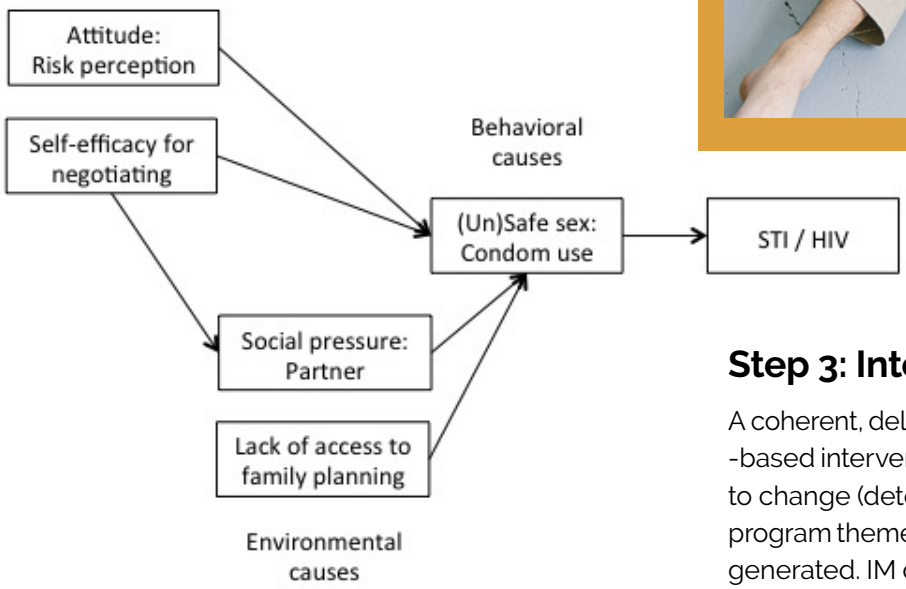
Steps

Planning behavior change interventions is a step-by-step process, which often involves taking two steps forward and one step back. This is especially important, as each step builds on previous steps, and inattention to one step may lead to mistakes and inadequate decisions in another. The so-called **Intervention Mapping (IM)** pro-

tocol identifies **six steps in intervention development** which help the planner to create on intervention based on theory and evidence:

Step 1: Needs assessment

In this step, a planning group, consisting of all parties involved – including target population, stakeholders, experts, researchers and future implementers – assesses the problem. This includes identifying the behavioral and environmental causes of the problem, as well as the determinants of these behavioral and environmental causes. These pieces can then be depicted in a "logic model" of the problem – like the (simplified) one below on adolescents' STI/HIV prevention – which offers a clear picture of how the various pieces fit together.



Step 2: Identifying objectives

Once the problem and its causes are clearly defined, specific program outcomes and objectives can be defined as well. This includes specifying how determinants of individuals' behaviors and environments' agents (decision makers) will need to be changed in order to alleviate the problem. For example, from the logic model above, to promote adolescents' condom use, the intervention should increase risk perception as well as the perceived effectiveness of condoms to reduce risk perception. The intervention should also influence the partner directly, if possible, in combination with improving adolescents' negotiating self-efficacy. Finally, depending on existing societal norms, access to family planning services can be facilitated.

Step 3: Intervention design

A coherent, deliverable intervention is designed. Theory--based intervention methods and practical applications to change (determinants of) behavior are selected, and program themes, components, scope and sequence are generated. IM distinguishes so-called behavior change methods (or techniques) that have been shown effective in changing determinants of behavior and/or environmental causes. For example, risk perception can be increased by scenario-based risk information. Self-efficacy may be improved by modeling and feedback. Advocacy and lobbying may influence decision-making at the policy level. All these change methods require translation into practical applications, taking into account the theory and evidence-based parameters. For example for modeling: the learner will identify with the model, the learner observes that the model is reinforced, the learner has sufficient self-efficacy and skills for the action, and the model serves as a coping model instead of a mastery model.

Step 4: Intervention production

This is the actual production of the intervention. Program structure is refined, and messages and materials

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are drafted, pretested, and produced. For the example above, the Dutch **'Long Live Love'** program was developed, implemented and has been repeatedly shown to promote safer sex in adolescents in schools.

Step 5: Implementation plan

A program implementation plan is generated. Potential program users are identified, performance objectives and change objectives for program use are specified, and implementation interventions are designed, again using the steps of IM. For the example above, the intervention targeted 14-15 years old adolescents at schools. The implementation intervention targeted dissemination to the schools, adoption by the school directors and teachers, correct implementation by the teachers, and finally institutionalization of the intervention by the school directors and boards.

Step 6: Evaluating effectiveness plan

Developing an intervention is not the end of the road. It is also important to evaluate whether an intervention achieved its objectives (i.e., effectiveness evaluation), and whether or not the intervention was implemented as intended (i.e., process evaluation). Activities for steps 5 and 6 should start as early as possible in the planning process. Information from these evaluations can be used to refine and improve interventions, moving back and forth between steps.

Broad perspectives

The planning of behavior change interventions should always:

1. Use behavioral theories and evidence as foundations;
2. Take an ecological approach to assessing and intervening in (health) problems; and
3. Make sure that agents in the target communities and other relevant stakeholders participate.

An individual with a health problem is part of a system, as is the potential solution for the health problem. Therefore, broad participation across different levels of a system can bring a greater breadth of skills, knowledge, and expertise to a project and can improve how applicable the intervention is in real world settings and how best to evaluate the intervention.

Core processes

IM also suggests "core processes", key actions for applying theory and evidence: posing questions, brainstorming answers, reviewing empirical findings, accessing and using theory, identifying and addressing the need for new research, and finally formulating the working list of answers.

Especially the process of accessing and applying theory is the challenge that health psychologists are especially trained for. Searching the literature for evidence on the topic, the program planner will encounter theoretical ideas, as well as concepts that may be linked to theories. Finally, planners may use theories that they are familiar with, for example the theory of planned behavior for determinants of behavior, or self-regulatory theories for changing behavior.

Practical recommendations

- Every planning group for a behavior change intervention should have a behavioral science expert as one of its members, e.g., a well-trained health psychologist.
- When developing behavior change interventions, use theory and evidence, take a systems approach, and improve participation in the intervention.
- Planning behavior change interventions is a step-by-step process, wherein each step builds on those preceding it. The IM protocol can help guide people through these steps.
- The 'core processes' may assist the health psychologist in finding theoretical answers for planning questions.
- Particularly relevant for intervention planning are: identifying changeable and important determinants of behavior, taking into account the theoretical parameters that make behavior change methods effective, and making sure that the intervention is implemented as planned.

Social support and health behavior: How to move from well-intentioned to skilled support

By **Urte Scholz,** University of Zurich and Gertraud (Turu) Stadler, University of Aberdeen

Social support seems to be an exclusively positive thing. What can be bad about a little help? Having someone who cooks healthy meals when you try to eat better, or being comforted when you feel down because your recent attempt at quitting smoking didn't go so well? These scenarios already give us a feeling that good intentions to support someone may not be enough. A partner who cooks healthy meals for you or your sister showering you with diet tips may also make you feel like they know better than you what is good for you. Did you ask them to help you? Do they not fully trust you to eat healthily on your own? So, is support for changing one's behavior always a good thing? This text aims to help practitioners advise their clients on how to seek out useful social support. Let's start with defining what social support is and what it is not.

What is social support?

Social support is help from another person to someone who is confronted with a problem or challenge, such as trying to eat a healthier diet. Support aims at solving the problem or at least relieving the stress associated with the problem. There are three common ways of support that often blend: One way is emotional support, such as comforting the person and making them feel loved, understood, and cared for when they stress about how difficult it is to eat better. A second way is practical support, i.e., taking a concrete action to help the other, such as buying healthy foods. The third way is informational support, such as providing tips on how to eat more veggies. While support can come from literally any other person, research has found that most support comes from close others, such as romantic partners, family, and friends. Important support sources for people with health problems are often health professionals and other people with similar conditions.

There are two different kinds of support, either what support you expect in the future or what support you actually got in the past. People can think about the support they expect to receive from others for stressful situations in the future. For example, a smoker intending to quit can imagine the support that he/she will be offered from others. This type of support is called perceived support. It is more related to people's optimistic view of the future than to actual support transactions. Perceived support

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can be a bit lofty, as the support expectations are not necessarily tested by a challenging situation. The second way of looking at support is to ask about what support a person got with a problem. The latter are retrospective reports of actual support transactions. For example, what help someone got during the last week while trying to eat better. These two kinds of support do not necessarily closely relate to each other. You can expect your loved ones to help in times of need, but you might not recall having received much help with your recent stint at trying to eat better.

Skilled support for health behavior change

When looking at research on social support and health behaviors, many studies report positive effects of support for health behavior. When we take a closer look, however, we find that many of these studies focus on the first kind of support described above, perceived support. A positive expectation of support is consistently related to better health behaviors. The second kind of support, actual support transactions, has received much less attention in research, and the available studies found mixed effects. These mixed results sometimes seem to come from a failure to really enhance support in the interventions in the first place. Overall, it seems there is no guarantee that well-intentioned social support is helpful when someone tries to change a health behavior. Instead, the success of supportive actions seems to depend on:

- who is providing the support (sometimes a friend helping is better than a spouse helping),
- on the gender of the provider (women seem to be the better providers for both men and women),
- on the fit between support needs and provision, and also
- under which conditions it occurs (whether the giving and receiving of support is balanced or lop-sided).

In fact, there are studies out there that demonstrate that receiving support might even do harm. Support might contribute to feeling down or to simply not being able to cope with the challenge at hand yourself. **Skilled support**—support from trusted others that meets your needs and makes you feel understood, valued, and cared for when changing your behavior—may be the best option. Skilled support depends on both sides communicating with each other: The person wanting to make a change should evaluate personal needs and communicate these needs clearly, actively seeking support from persons he or she can fully trust to be responsive. The support provider should aim to meet the person's needs in a way that is respectful and responsive to the recipient's needs.

Practical recommendations

So what should people do in order to effectively support someone with regard to a health behavior change? Practitioners advising clients should encourage them to seek skilled support and communicate with their close others and health professionals about it. For effectively supporting another person's attempt to change a health behavior, keep the following recommendations in mind:

- Encourage persons who want to make a change to seek support from trusted close others and to talk with them about what would be really helpful for them. This might also include being left alone!
- Practice with clients to communicate their needs in specific situations and to make suggestions to make the support they receive more helpful to them. For example, practitioners can use role play to go through different scenarios for asking for support. This should also include raising awareness that support is a very individual matter and not always helpful. Thus, the person can practice giving guidance and constructive feedback to support providers to improve the support transactions.
- Practice to recognize skilled support. As changing one's behavior is a dynamic process and the needs might change from one day to another this may involve frequent adaptations.

Very Brief Interventions

By **Stephen Sutton,** University of Cambridge, England

Large-scale problems require large-scale solutions. Tackling the 'Big 4' behaviours (physical inactivity, tobacco use, excessive consumption of food and alcohol) requires scalable interventions that can reach large numbers of people to achieve a significant public health impact. One promising approach is to use brief interventions delivered by practitioners in healthcare settings. For example, in the UK, **the National Institute for Health and Care Excellence recommends** that primary care practitioners deliver tailored, 'brief' physical activity advice to inactive adults, and follow this up at subsequent appointments.

There is **evidence for the effectiveness** of brief interventions. However, a problem with interpreting this literature is that there are **different definitions** of 'brief advice' or 'brief interventions'. For example, **one review** defined brief advice as "Less than 30 minutes in duration, or delivered in one session (allowing for research follow-up only as additional contact)". Many such 'brief' interventions are too long to be included in routine primary care consultations. In our work, we have therefore focused on developing and evaluating 'very brief' interventions, defined as a single session lasting no more than five minutes, to address physical inactivity. These very brief interventions could be used in different healthcare settings, but we developed ours for the National Health Service (NHS) Health Check Programme in England. This invites adults aged 40 to 74 years who are not on a disease register to have a vascular health check every five years. Most of these checks take place in primary care and are carried out by practice nurses and healthcare assistants. They are an ideal opportunity to deliver a very brief behaviour change intervention to potentially millions of people.

To develop **the interventions** we used an iterative approach that combined evidence and expertise from multiple sources, including systematic reviews, a stakeholder consultation, a qualitative study, estimation of resource cost and team discussions. We specified the content of the very brief interventions in terms of **behaviour change techniques**. For example, **our pedometer-based very brief intervention** incorporated nine different behaviour change techniques, including Goal setting (behaviour), Action planning and Self-monitoring of behaviour. These were implemented by giving the participant a pedometer and Step Chart along with verbal instructions such as "Each week you can set yourself a step goal, for example 6,000 steps a day, and then each day you can write down

how many steps you walked and see if you achieved your goal". We also developed a three-hour training session and manual for practitioners.

Such technique-based very brief interventions should be distinguished from simple 'advice giving'. Advice usually involves exhortations to change and information about the harms of physical inactivity or the benefits of being more active. While important, it may also be helpful to include techniques such as goal setting and self-monitoring that are designed to help people to change their behaviour.

We showed that it is feasible to include very brief interventions in Health Checks and that they are acceptable to practitioners and patients. Our initial findings on efficacy were quite promising. Based on objectively-measured physical activity using an accelerometer, **the pedometer-based very brief intervention** had an estimated 73% probability of being effective (i.e. of increasing physical activity relative to a no-intervention control condition). However, when we tested this very brief intervention in a larger trial (N = 1,007), it had only a small, non-significant, positive effect on objectively-measured physical activity at three months. Nevertheless, the economic evaluation suggested that there is a 60% probability that the intervention is cost-effective in the long term compared with an NHS Health Check alone. Thus, delivering the very brief intervention may be better than doing nothing.

It may be possible to increase the effectiveness of very brief interventions by incorporating additional intervention components. The challenge is to do this without greatly increasing their cost. One approach is to combine a very brief face-to-face intervention delivered by a healthcare practitioner with a 'digital' intervention that provides the patient with ongoing support for behaviour change. The combination of face-to-face and digital components may be more effective than either alone. We have used a version of this intervention model in our work on **improving quit rates among smokers** in primary care, in which the digital component consists of a 90-day programme of tailored text messages sent to the smoker's mobile phone.

Practical recommendations

- There is evidence for the effectiveness of brief interventions to change behaviours such as smoking and physical activity. But many of these interventions are too long to include in routine consultations with patients.
- Consider instead using very brief interventions, defined as taking no longer than five minutes. The evidence for their effectiveness is weaker than for brief interventions. But delivering a very brief intervention is probably better than not intervening at all.
- Rather than just 'giving advice', think of very brief interventions as including one or more behaviour change techniques. For example, it may be helpful to ask the patient to monitor their behaviour or to make a specific action plan by writing down when, where and how they will increase their physical activity or avoid tempting snacks.
- 'Signposting' patients to useful resources (e.g. a smartphone app or a local walking group) is quick to do and may enhance the impact of the intervention. Arranging a follow-up appointment may also be helpful.
- Make every contact count. Every time you see a patient, you have a potential opportunity to say something about behaviour change. The additive effect of many practitioners using very brief interventions with many patients may have a significant public health impact.

Harnessing your imagination: Using the power of mental imagery to change health behaviour

Martin S. Hagger, Curtin University, Australia and University of Jyväskylä, Finland and Dominic Conroy, Birkbeck University of London, UK

What is mental imagery?

People are usually quite good at imagining things. For example, people often act out future actions or scenarios in their mind, or daydream about fanciful possibilities. These imagined situations are often unstructured and unprompted. Psychologists have explored whether it is possible to harness this **capacity for imagination as a way to improve people's ability to achieve desired outcomes or goals.**

Imagery is the general term used by psychologists to describe strategies that use people's imagination to improve their motivation toward goal-directed actions.

There are a number of different imagery methods. They often involve self-directed or practitioner-led exercises in which people imagine or visualise successfully doing the behaviour of interest or imagine the feelings and emotions experienced when doing the behaviour and its consequences. For example, a smoker wanting to quit may imagine the steps he or she might take to manage situations when they are likely to have cravings for a cigarette. Imagery interventions work by increasing motivation toward doing the behaviour in the future. It is a way of improving a preparation and readiness to successfully perform a behaviour and reach a goal.

Imagery may increase individuals' situation-specific confidence, also know as self-efficacy, for performing the behaviour. Higher levels of self-efficacy will increase the individual's motivation or intention to participate in the behaviour in the future and assist them in overcoming any associated barriers and obstacles. For example, imagining successfully avoiding high-sugar soft drinks during break times, and visualizing overcoming potential challenges or difficulties, such as finding a low-sugar alternative to quench thirst, will give a dieter greater confidence in their ability to do so. In effect, a person imagining themselves doing the behaviour successfully is creating the ultimate role model – themself!

How is mental imagery used?

Although there are many types of mental imagery (e.g., guided imagery, mental simulations), there are some key elements that are common to all. Imagery is often done in an 'exercise' in which the person creates a dynamic mental picture of themselves doing the desired action. In the exercise, the person visualises their actions in 'real time' and as accurately as possible, paying attention to important details and trying to imagine how they might feel when acting. In some cases, the person may be asked to also imaging achieving the goal or outcome, and the associated positive emotions they would likely experience. The imagery can be self-directed or prompted by a facilitator, who guides and directs the imagery exercise. Specialist training psychology is not a prerequisite to be a facilitator, but experience with assisting and guiding mental imagery is important. It can be also done in groups with group members imaging their own scenarios usually directed by a single facilitator.

Does it work?

Imagery has been used to promote motivation and confidence for participating in health behaviour. Studies have shown that prompting people to visualise the steps they need to take to perform the desired health behaviour results in greater motivation and self-efficacy toward the behaviour, and actual behavioural participation. Mental imagery has been shown to be effective in **reducing alcohol consumption**, **increasing physical activity**, **promoting healthy eating**, and **smoking cessation**. Imagery has also been shown to be effective when used **alongside other behaviour change methods such as action planning or 'if-then' plans** (i.e., planning when, were and how to act), see Gollwitzer blog post. We recently conducted a **review of studies using imagery for health behaviour change** and found imagery strategies to be effective, especially when used repeatedly and when people were given explicit instructions on how to do imagery exercises.

Practical recommendations

Imagery is a relatively simple, low burden, and low cost method to promote motivation and self-efficacy for health behaviour change. We have provided some suggestions on the essential features and considerations of imagery for health practitioners:

- **Target audience.** Imagery interventions are most appropriate for people who are, at the very least, interested in changing their behaviour, rather than those who have little or no interest, or have not thought at all about behaviour change. It is often important that they have a health goal (e.g. to jog for 20 minutes non-stop).

- **Imagery 'exercises'.** Imagery should be conducted as an 'exercise' that involves a person spending a period of time performing imagery. Exercises should be conducted in a quiet, comfortable place free from any distractions.

- **Guiding the imagery.** For people who are imagery 'novices' a facilitator is advised, or, at least, clear instructions on how to conduct the imagery exercises. More experienced people can conduct imagery on their own ('self-prompted'). Writing down the imagery and providing reminders (e.g., via mobile text messages) can be an effective ways to help people remember their imagery.

- **Timing.** Imagery exercises can be conducted in a very short space of time, perhaps in less than 5 minutes, but longer imagery exercises may be more effective and could lead to the imagery being more memorable and vivid.

- **Content. In an imagery exercise,** the person who wants to change their behaviour might imagine the steps they might take to perform a particular behaviour at the time and in the place that they expect they might do the behaviour. They might also be prompted to imagine themselves encountering obstacles that might prevent them doing these behaviours and visualize how they might overcome them. For example, a person who wants to increase their physical activity (e.g., brisk walking) might spend five minutes in a seated or even lying position imagining how they might fit additional walking into their daily routine and imagine themselves doing it.

Practitioners interested in learning more should read a recently published set of guidelines for mental imagery to change behaviour.

The Power of Planning

Peter M. Gollwitzer, New York University

Everyone has bad habits. You snack when distressed or you drink too much alcohol when relaxing with friends. You create unnecessary stress by letting the social media distract you from completing pressing work projects, or by getting into unnecessary arguments with colleagues, friends, and family. How can you change these bad habits?

Many people might tell you that you simply have to commit to the goal of stopping these bad but common habits, and down the road – if you just try hard enough – you will get rid of them. However, **extensive research** in the science of motivation has shown that there is a wide disparity between having the goal of controlling one's bad habits and actually doing so. This is true for bad habits relating to all domains of life including health, work, and one's social life. So what can you do to reduce these gaps?

In **my research** in the US and in Germany on the self-regulation of goal pursuit, I discovered that people should make plans on how to implement their goals. The most effective plans are those that specify when, where and how you want to act on your goals by using an IF-THEN format. Take drinking too much in the company of your friends as an example. In the IF part of the plan, you identify the critical situation that usually triggers your bad habit. Perhaps the trigger is being offered a drink by your friends. In the THEN part, you specify an action that can halt accepting the offer such as responding to it by saying that you prefer a glass of water today. And then you link the IF and the THEN part together by making an IF-Then plan: "IF on Friday after work my colleagues invite me to go for a drink, THEN I will answer: I want to go home and spend time with my family today!"

Sounds too simple? Well, an endless line of studies published in peer-reviewed journals conducted with children, adults, and old to very old people around the world have shown that IF-THEN plans significantly increase the rate of goal attainment. This is true for goals in

the health, achievement and interpersonal domain, for people from different cultural and social backgrounds, and even for people who have problems with self-regulation in general (e.g., children with ADHD, people who suffer from addictions, frontal lobe patients).

How can simple IF-THEN plans be so effective in achieving behavior change?

In **laboratory experiments**, we discovered that these plans make performing the behavior specified in the THEN part much easier when the critical situation is encountered. The person no longer has to tell herself that she wants to break a bad habit and then try hard to do so. Rather, encountering the critical situation specified in the IF part triggers the pre-planned response in a fast, effortless, and incidental manner. Because the IF-THEN plan delegates the initiation of the planned response to the specified critical situation, it is taken out of the hands of the person who – as a consequence – no longer has to play the role of the willful "controller" of her actions. Instead, the person now makes a pre-programmed, almost automatic response.

Practical recommendations

It is not difficult to learn to make good IF-THEN plans. You only have to detect the personal critical situations that trigger your bad habits, and you have to identify those behaviors that you can and want to perform instead of the habitual ones. Gabriele Oettingen, a colleague at New York University, has developed a self-regulation strategy called **WOOP** (which stands for Wish-Outcome-Obstacle-Plan) that entails four steps helping you to specify the IF part and the THEN part of an IF-THEN plan. More specifically, the first step entails explicating your Wish to overcome a certain bad habit, and the second step, to image vividly how it would feel to experience the best Outcome of having realized your wish. Then, in a third step, you ask yourself what it is in you that hinders you to move forward with realizing your wish: What is the personal Obstacle that holds you back? Once you have found this inner obstacle and explored it by using mental imagery you can move on to the fourth step. You make an IF-THEN Plan that puts the discovered obstacle in the IF part and an instrumental action to overcome this obstacle in the THEN part; you complete the fourth step of WOOP by enacting your IF-THEN plan in front of your mind's eye. Done!

So if you do not want to fall prey to your bad habits or want to teach others how to best protect themselves from acting on bad habits, make the following IF-THEN plan: "IF I find a moment of quiet time today, THEN I will visit **www.woopmylife.org** and learn how to use WOOP!" You may even download the WOOP App. This App is for free and will become your best friend in your efforts to meet your goal of changing your bad habits or help other people to meet that goal.

Fear is a bad counsellor

Dr Gjalt-Jorn Peters,
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Netherlands

Fear appeals are a commonly used strategy to change behaviour. For instance the threatening and graphic fear-arousing communications now ever-present on **tobacco packaging**, and in campaigns to promote **seatbelt use** and **discourage substance use.** Despite the popularity and widespread use of these fear-arousing methods, research suggests that they may not be the best way to change behaviour, or to raise awareness or educate people.

How is this possible? Shouldn't people be scared of things that could harm their health? Surely no one who knows the risks would smoke, drive without a seatbelt, or use methamphetamine, right? Not quite…

The appeal of fear

One reason that scare tactics seem to be the go-to choice for public health campaigns is that people often think that they know how others behave. People think that what prevents them from doing something dangerous, will be the same thing that prevents others from doing that. "If people only knew the risks…"

Of course, the risks of many unhealthy behaviours are already frequently communicated in the media, through school systems and via social networks. Did these campaigns not reach the people who are at risk? Or are these messages not confrontational or powerful enough?

The thinking goes that a more confrontational or scarier message should work better to break through people's defences, confront them with how dangerous these behaviours are, and get them to think twice before trying a cigarette or methamphetamine. And indeed, when you **ask lay people what would work** to deter them from doing something unhealthy, this is **often one of the most popular answers.**

However, we've known for a while that this **introspection is flawed:** people don't always have access to their reasons for acting as they do. Asking the target population about their reasons for doing (or not doing) a behaviour can be very useful, and involving them in the intervention development process is crucial to success. However, lay people are not experts on behaviour change, and that responsibility shouldn't be placed on them.

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Besides the intuitive attraction of threatening communication, another reason for its popularity is a perceived lack of alternatives. Not all intervention developers and advertising agencies are familiar with intervention development protocols such as **Intervention Mapping**, or the **lists of behaviour change methods** that are available. It is understandable that intervention developers frequently employ fear and threats in their health promotion efforts, as they are easily accessible and are based on 'common sense.' But why is this a problem?

Nothing to fear but fear itself

The problem is that humans do not always behave rationally, and evolution did not 'design' us for most things we do nowadays. One thing people are generally quite good at is maintaining a positive self-image. And one of the means we employ to do this is distortion of our own perceptions.

While we are all generally interested in information about risks, if the circumstances aren't right, people may tune out risk-related information. For easy behaviours, this isn't a problem: If you warn somebody that they shouldn't eat raw chicken, for example, they will very likely comply. It's with more difficult behaviours that the problem of self-perception comes into play.

Quitting smoking is notoriously hard: in fact, **most smokers want to quit**, and when people don't think they can avoid a threat, their self-image is threatened. It's not fun to engage in something destructive and be fully, painfully aware of its dangers. So, people have ways of making themselves less aware. Whenever a person is not confident that they can avert a threat, they will react defensively to preserve their self-image: either by downplaying the risks or by focusing on other positive aspects of their self-image. For example, a smoker might cite their grandmother who has smoked two packs a day for forty years and is still going strong ("Smoking is not so dangerous"); or might explain that they work out five times a week or eat half a kilo of broccoli every day ("I am a healthy person"). These defensive reactions help people to maintain a positive self-image which allows then to continue engaging in the dangerous behaviour.

These dynamics have been **studied for over sixty years**. However, the issue is still considered somewhat controversial. To resolve this controversy, our research team **critically assessed all research in the area**. We researched why on the one hand, some studies found that threatening communication worked, while on the other hand, other studies found (congruent with psychological theories) that they did not work.

In the review of literature, we found that fear appeals only changed behaviour when they were coupled with interventions that successfully increased individuals' confidence in their ability to eliminate the threat. In other words, only when people thought they could avert the threat, did it make sense to threaten them. When people were not confident they could change their behaviour to avoid a threat but were threatened anyway, not only were the fear-arousing messages ineffective, but they sometimes even backfired.

If threatening or confronting people is not the way to effectively change peoples' behaviour, what is?

Practical recommendations

- When trying to change behaviour, **first establish the causes (determinants)** of the behaviour. Is the most important determinant risk perception, social norms, or insufficient skills?
- Then identify which methods can change those determinants (see this **extensive list** and these **accessible practical guidelines**)
- If you end up choosing threatening communication, make sure of the following two things:
- Either your target population is confident that they can perform the desirable behaviour (known as 'high self-efficacy), or;
- Your intervention contains one or more effective components that succeed in enhancing their self-efficacy to an acceptable level.

E-health: hypes and hopes

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Nowadays, people use the Internet all the time and for a wide range of activities: from buying groceries to showing a funny cat-picture to a friend on the other side of the world. It is all possible. Also, the Internet is used more and more within the domain of health – often referred to as e-health.

What is e-health?

'E-health' refers to health services and information delivered or enhanced through the Internet and related technologies. Within health psychology, e-health targets a wide range of lifestyle behaviours like, for example, being more physically active or quitting smoking. Based on **an overview of the literature** that has been around since the turn of the century, we can conclude that these Internet-delivered interventions can be effective. It is important, however, that the development process of these interventions is guided by **available theory and evidence**.

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Advantages of Internet-delivered interventions

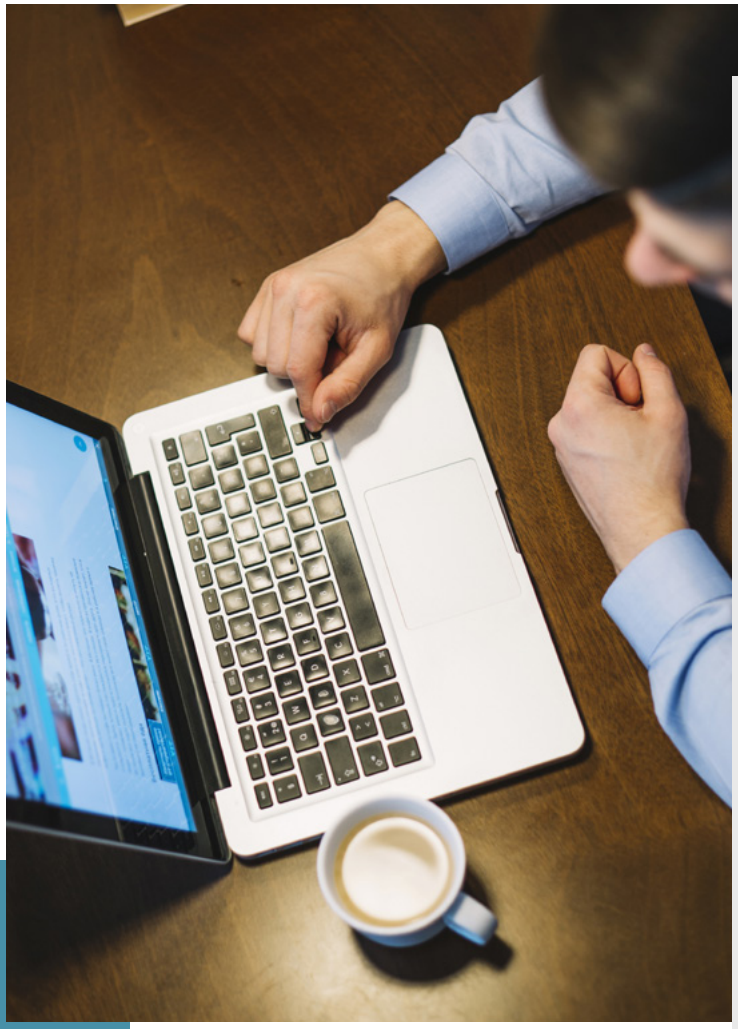
Using the Internet and related technologies can have several advantages. For example, people might feel more anonymous in comparison to interventions that are delivered face-to-face. This anonymity might be favourable for interventions regarding behaviours that might involve shame (e.g. condom use, or alcohol moderation). Additionally, interventions can make use of GPS satellite navigation to provide location-specific information about healthy nutrition options that are immediately available. Note, however, that both examples provided here should be seen as possibilities and do not imply that this is advantageous for all Internet-delivered interventions. They are only useful if it appears that lack of anonymity or availability of healthy nutrition options are indeed contributing to people behaving unhealthily. In other words, characteristics of the medium and the opportunities it offers should be seen as a tool, not a magic bullet.

Investigating intervention use

One advantage for all Internet-delivered interventions is that they provide the opportunity to investigate intervention use: for example, they can provide a detailed insight into where users either leave an intervention website or have come to a standstill. This can be used to adapt interventions to a user's needs and increase exposure and probability of positive intervention outcomes. Furthermore, it provides insight into how intensively visitors use the intervention (e.g. frequency and duration) and what they are interested in (e.g. topics).

In conclusion

E-health interventions have certain characteristics that offer opportunities that can be very useful within the field of health psychology. However, it is not a magic bullet. Behaviour change is a complex process and we should rely on all the available theory and evidence-base to increase the likelihood of our interventions being effective – both online and offline.



Practical recommendations

- E-Health can be used as a tool to change behaviour. However, it is important to systematically develop Internet-delivered interventions, just like all other types of behaviour change interventions
- Do not use e-health just for the sake of it: characteristics of the medium and the opportunities that it offers should only be used purposefully; always think about why you wish to use a certain media and/or the opportunities it offers
- If you use e-health, investigate intervention use. This can help you to gain insight into how your intervention is used and at the same time can be used to improve your intervention.

Does money really change everything? Using financial incentives and disincentives to change health behaviours

Dr Jean Adams, Centre for Diet & Activity Research, University of Cambridge

Since October last year, by law, large retailers in England have been charging customers 5p (€0.06) for 'single-use plastic carrier bags' – those flimsy plastic bags you get from supermarkets to carry your groceries home. The money raised is donated by retailers to 'good causes'. In the first six months of the scheme, plastic bag use by major supermarkets decreased by more than 90% (that's 7bn fewer bags!) and more than £29m (€32m) was donated to good causes. It's hard not to conclude that a small financial disincentive can have a big impact on our behaviour.

Do financial incentives for health behaviour change work?

So how about using financial incentives, and disincentives, to change people's health behaviours? This idea is increasingly catching on. Some countries in Central and South America have tried out large financial incentive programmes to encourage mothers to attend antenatal care, have their children immunised, and send them to school. Each time eligible mothers achieve one of the programme's required behaviours, they receive a cash payment directly from the government. There is encouraging evidence that these programmes can have positive impacts on child health in lower and middle income countries.

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Higher-income countries have been slower to embrace the idea of financial incentives for health behaviour change. But the evidence base is growing and **two systematic** reviews of literature have now concluded that these programmes can be effective and that effects can last for some time after incentives have been stopped. There is **little evidence** that financial incentives undermine 'internal motivation' to engage in healthy behaviours, and incentives even seem to work for the so-called 'complex' behaviours like **smoking cessation** that can be difficult to change.

Why aren't financial incentives for health behaviour change used more in practice?

Whilst financial incentives for health behaviours might 'work' in theory, in practice they can be highly problematic. To achieve the full potential of any intervention, **everybody has to be on board with the basic idea** – from the policy-makers designing services, to front-line workers delivering programmes, to the public, to those on the receiving end of any intervention.

When we've **talked to people** about offering financial incentives for giving up smoking, taking up regular physical activity, or **turning up for immunisations** and routine cancer screening, we tend to meet with negative reactions. Generally there is an acceptance that incentives could encourage some people to engage with healthier behaviours. But, this seems to be over-ridden by stronger feelings that incentives are unfair to people who 'do the right thing' without an incentive. There is also concern that people will cheat and 'game' the system by lying about their behaviour to gain a reward they aren't entitled to. Today's financial climate seems to be behind the feeling that giving money away can't possibly be cost-effective, or even affordable and that any incentive should be small in value. There is also some concern that recipients might spend their rewards on unhealthy products. **Policymakers** are also concerned that incentives don't tackle the **wider social determinants** of unhealthy behaviours and that these interventions are difficult to defend to politicians and the media.

In all our qualitative studies, our participants have been keen to offer alternative approaches to improving health behaviours – particularly through education and information. We've never directly sought these. Instead, it just seems that offering a financial incentive is not an 'obvious' solution to most people, and that they feel that other avenues should be exhausted first.

Interestingly, however, we find quite different results when we conduct on-line surveys. Twice we have found that people find health behaviour change programmes that include financial incentives to be **as, or more, appealing** than programmes without incentives. Perhaps when they're protected by the anonymity of the internet, people are more comfortable expressing their mercenary tendencies! Certainly, we might expect some 'social desirability' bias to influence what people feel it is acceptable to say about financial incentives in a focus group or interview.

Culture and context also seem to matter, and there is some evidence that financial incentives for health behaviours are more acceptable in the USA than they are in the UK – perhaps because it is just more normal to link money to health(care) in the USA than it is in the UK (which has a nationalised healthcare system).

Practical recommendations

Financial incentives can certainly be an effective way to help people change their health behaviours. But they are not universally acceptable. Any incentive programme should be implemented with due care to addressing people's concerns about these programmes. This might include:

- Offering smaller value incentives, to reduce concern that money is being 'wasted'
- Offering shopping vouchers rather than cash, to reduce the potential that rewards are spent on unhealthy products
- Ensuring that programmes are well monitored so that people can't 'game' the system
- Embedding incentives in wider programmes of interventions that include education and information on healthy behaviours

It might also be helpful to start open and honest conversations within communities exploring when, where and how financial incentive interventions are felt to be most appropriate.

Getting into the habit: Applying the science of habit-formation to the real-world

By **Benjamin Gardner,** King's College London

What is a 'habit'?

Why do we eat popcorn while watching movies? The answer, for most, is that eating popcorn is a habitual response to watching movies. Psychologists define **'habitual' behaviours** as actions that happen automatically, due to learned associations between situations (the movie theatre) and our responses to them (eating popcorn).

Habit associations develop when, in response to a specific situation (arriving at the movie theatre), we consistently do something (eating popcorn) that achieves desirable outcomes (pleasant taste). Over time, the association strengthens such that merely encountering the situation automatically triggers the action, without requiring us to think about what we are doing. By bypassing decision-making, acting habitually frees up mental resources for tasks more worthy of conscious thought.

How do we learn habits?

Researchers have been studying habit learning for over 150 years, but mostly in animals. Recently health psychologists have begun to investigate real-world habit formation and how it might promote healthy behaviours. **One study** showed that the first few repetitions of new actions prompted speedy gains in self-rated automaticity (i.e. habit strength), which slowed until a plateau was reached. **Observational research** has shown that many health-related actions, such as food choice, exercise, and binge-drinking, are done habitually, rather than thoughtfully.

How long does it take to form a habit?

The evidence is mixed on this. **One study** suggested that on average habits form in 66 days, while **another** found that new gym-goers had to exercise at least 4 times per week for 6 weeks to establish an exercise habit. Either way, it's probably not 21 days, an urban myth started by plastic surgeon Dr Maxwell Maltz, which we've busted **elsewhere**.

However, the habit-formation question is not as clear-cut as it seems. **There are no objective criteria for establishing the presence of habit**, so it is impossible to say with certainty that one person 'has a habit' and another does not. It is more realistic to conceive of behaviours as more or less habitual, rather than 'habitual' versus 'non-habitual'. This makes it difficult to reliably estimate the habit-formation duration.

The good news, though, is that participants in **intervention studies** doing new actions daily tend to report that those actions become 'second nature' or 'part of their routine' within two weeks.

How can we use habit to change behaviour?

Habit formation has important implications for changing behaviour, because habits are thought to persist over time. The surprisingly few studies to have used habit formation as a strategy for promoting healthy actions have produced **promising results**.

For example, **parents** who received advice on how to form habits for feeding their young children a healthy diet (fruit and vegetables, healthy snacks, water) reported forming healthier feeding habits, and improvements in child dietary quality, eight weeks later.

An intervention promoting the integration of light physical activity habits into normally-seated routines was found to decrease sitting time, and increase walking and moderate activity, among community-based older adults.

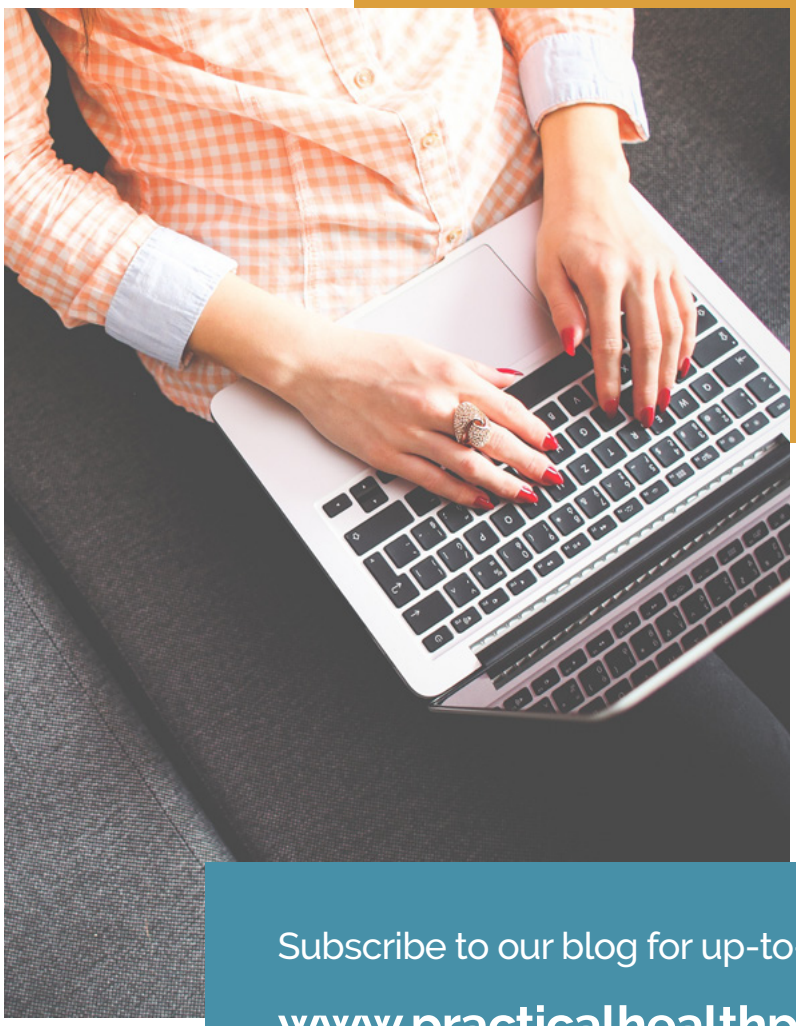
There is a caveat to all this. What does it really mean to say that an action is 'habitual'? If, say, someone reports **'doing 30 minutes of physical activity without thinking'**, what do they mean? We rarely find ourselves having completed 30 minutes of activity having had no awareness of what we were doing. We've recently proposed that there are two ways in which any action can be habitual: we can habitually 'decide' to do something (this is 'habitual instigation'), or habitually 'do' something ('habitual execution'). **Habitually 'deciding'** to exercise (where a situation automatically triggers an impulse to start exercising) predicts how frequently people exercise. However, having a habit for 'doing' exercise in a routine way, so that one part of an 'exercise' routine (e.g. finishing using the treadmill) triggers the next part (using free-weights), does not predict how often people exercise.

Practical recommendations

Practitioners should consider incorporating habit principles into behaviour change advice. There are several ways to do this.

- **Repeat the behaviour consistently.** Practitioners should recommend that people repeat an action consistently in response to a situation. This is how habit associations form.
- **Choose a specific behaviour and a specific trigger.** When forming habits, ensure that the selected action is well specified, and the chosen situational trigger is frequently encountered. It is unhelpful to form a habit for doing something in response to a trigger that only occurs yearly, for example.
- **Make sure the behaviour is something that you want to do.** People tend to persist more at pursuing actions that they have freely chosen to do, rather than those they feel pressured to do by others.
- **Start with simple behaviour changes.** Simpler actions may become habitual more quickly than more complex actions.
- **Keep expectations realistic.** Be clear on exactly what people can expect when behaviour becomes 'habitual'. Forming a habit is best seen as like setting an internal reminder to do something in an appropriate situation.

One place you could start substituting bad for good habits is the movie theatre. You may be surprised at how satisfying a pre-bought bunch of grapes is instead of your usual popcorn – if you can get past the smell of the popcorn...



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