Facilitating Successful Behavior Change: Beyond Goal Setting to Goal Flourishing

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Abstract

Most successful coaching engagements encourage clients to start, increase, decrease, modify, or stop behaviors that contribute to their effectiveness and performance on the job (Fogg, n.d.). Successfully sustaining new or altered behaviors over time until they become a habit is even more difficult (Nowack, 2009). Goal intentions (e.g., "I want to be a more participative and involvement oriented leader") have been found in a recent meta-analysis to be a weak predictor of acquiring new habits and account for approximately 28% of the variance in successful behavior change efforts (Sheeran 2002). Translating insight in coaching engagements to deliberate, varied, and ongoing practice has been shown to be associated with long-term successful behavior change (Nowack & Mashihi, 2012). This paper reviews current issues and best practices in goal intentions, goal striving, and goal flourishing to maximize coaching success with clients.

Keywords: goal striving, goal setting, implementation intentions, behavior change, feedback, habits

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Goal setting and the initiation of new behaviors and sustaining them over time is particularly challenging for most individuals. Yet, we are all creatures of habit. In fact, based on experience-sampling diary studies using both student and community samples, approximately 45% of everyday behaviors tend to be repeated in the same location almost every day (Quinn & Wood, 2005). Surprisingly, people report a heterogeneous set of actions that vary in habit strength each day including diverse and established behaviors such as exercise, eating, and daily activities (Wood, Quinn, & Kashy, 2002). This paper will attempt to summarize current evidence and practice behind goal intentions, goal setting/planning processes, and goal striving resulting in successful creation of new habits (goal flourishing) by addressing six important questions (Figure 2). Initially, it will be useful to define specific characteristics of coaching goals and then present important factors associated with goal flourishing including some common myths about goal striving and giving up/quitting goals.

Recent neuroscience research provides both a framework for understanding the resistance to initiating new habits and the challenges around goal flourishing. For example, there appears to be broad and meaningful individual differences in our motivation to try new behaviors, a willingness to take risks, and a tendency to seek novel and intense experiences (Holmes et al., 2016). Using magnetic resonance imaging (MRI), Holmes et al., (2016) measured the size of particular regions of the brain for each participant and measured self-reported traits associated with sensation-seeking and impulsivity as well as alcohol, tobacco, and caffeine usage. The strongest links occurred in brain areas related to the ability to regulate emotions and behavior most strongly associated with the anterior cingulate and middle frontal gyrus. Changes in those

brain structures also significantly correlated with participants' self-reported tendency to act on impulse and with heightened use of alcohol, tobacco, or caffeine.

Current research suggests that availability and type of social support (Chiaburu, Van Dam, Hutchins, 2010; Martin, 2010; Orehek & Forest, 2016) as well as regulation of emotions are equal to, or even more important, than cognitions in predicting both intention and initiation of new habits (Lawton, Conner, & McEachan, 2009). These findings suggest an important role of coaches in considering the social support climate of clients, helping them to manage their emotional reactions and consequences for engaging in behavioral change efforts as well as assessing "readiness to change" stages that are all associated with successful behavior change.

For example, one of the purposes of using 360-degree feedback in coaching interventions is to provide information to coachees to illuminate strengths as well as potential areas for development (Nowack & Mashihi, 2012; Bracken, Rose, & Church, 2016). Some negative reactions to such feedback might actually be motivating for successful behavior change (Atwater & Brett, 2005) but neuroscience research provides answers about why "underestimators" (those more critical in self-ratings relative to others) or those who interpret the feedback as judgmental or hurtful are disengaged and lack motivation to change behavior (Woo, Sims, Rupp & Gibbons, 2008). Additionally, interpersonal judgment and social evaluation tends to elicit strong stress reactions with cortisol levels in our system being elevated fifty percent longer when the stressor is interpersonal versus impersonal (Dickerson & Kemeny, 2004). As a result, individuals who interpret feedback negatively and experience emotional hurt, rejection, and pain tend to have both blunted motivation to initiate behavior change and diminished readiness for creating implementation intentions that are crucial for successful behavior change. Fortunately for

practitioners, there are some individual change models that help optimize understanding, acceptance and action based on feedback to ensure successful behavior change.

Building on the feedback and change process models of London & Smither (2002), Gregory, Levy, & Jeffers (2008), and Koroleva, (2016) a more specific individual behavioral change model has been proposed by Nowack (2009) based heavily on evidence-based research in the health psychology and behavioral medicine literature (Figure 1). The 3-E model of individual behavior change (Enlighten, Encourage and Enable; Nowack, 2009) is based on a merging of recognized individual behavioral change models including the theory of planned behavior (Ajzen, 1991), self-efficacy and social cognitive theory (Bandura, 1977), the health belief model (Becker, 1974), the transtheoretical model of change (TTM; Prochaska & Velicer, 1997), and extension of the elements of goal-setting theory and performance posited by Locke & Latham (2002). Each of these theories and models should be useful to all coaches who are attempting to influence both insight/awareness and successful behavior change with their clients.

Insert Figure 1 about Here

Successful coaching engagements foster both self-efficacy and self-management of clients (Joo, 2005; Grover & Furnham, 2016). Self-management theorists agree upon two important components that involve cognitive, emotional and behavioral challenges in goal flourishing (i.e., the successful adoption and targeted results of goal pursuits): goal setting and goal striving (Mann, De Ridder, & Fujita, 2013). Goal setting (Fogg Behavior Grid; Fogg, 2012) typically involves two concepts—the valence of behaviors (start, increase, decrease, stop, do differently) and frequency (one time, sometime, and all the time). Goal striving typically surrounds the implementation of actions and behaviors based on goal setting, redefining of goals

during the pursuit, managing lapses from distractions, and loss of energy and/or resources that interfere with successful accomplishment. Although often temporal, there are situations where reappraisal of goals often follows perceived or real obstacles and challenges (e.g., if the goal is unrealistic or resources needed to accomplish the goal change such as financial).

Clients tend to initially identify goals (Koestner, Lekes, Powers, & Chicoine, 2002) in which they have an intrinsic stake ("what is in it for me?") and also when they perceive what others expect or desire of them (e.g., 360-degree feedback results by one's boss or direct reports to change specific leadership practices). Self-determination theory (Deci & Ryan, 1985), readiness to change (Prochaska & Velicer, 1997), the 3-E model of individual change (Nowack, 2009), and other related models all suggest that a client's level of motivation and self-efficacy is a critical predictor of successful goal adoption, maintenance, and adherence over time.

Hierarchy of goals also shape what clients will focus on. For example, if a specific goal (e.g., deploying a stress management technique like mindfulness meditation) competes with another goal (e.g., spending more time with one's children after work) based on finances, time, or energy clients are unlikely to maintain it over time (Riediger & Freund, 2004). So, helping clients to explore both inhibitors and promoters of goals would appear to be a useful exercise by coaches to facilitate goal completion and success. Additionally, research by Kruglanski, Shah, Fisbach, Friedman, Chun, & Sleeth-Keppler (2002) suggests that when client goals have more than one payoff, clients are more likely to pursue all of them as doing so maximizes the outcome with the same effort (e.g., soliciting and accepting feedback from direct reports might simultaneously increase engagement of employees while enhancing perceived agreeableness as a personality trait of the leader).

Insert Figure 2 about Here

1. What are the key characteristics of goals?

There are a number of important characteristics that directly influence the goal pursuit individuals engage in (Koo & Fishbach, 2010). Some of the most important characteristics include difficulty (e.g., easy vs. challenging), proximity of the end state (e.g., short-term vs. long-term), number of goals to tackle at one time (e.g., single vs. multiple), type of goal (e.g., learning vs. performance) and motivational mindset (e.g., avoidance vs. approach). Each of these five characteristics of goals will be briefly described below.

Easy Goals vs. Challenging/Stretch Goals

Previous studies have traditionally emphasized that goals should not be overly ambitious as exemplified by the SMART goal acronym, which suggests that goals should be Specific, Measurable, Attainable, Realistic, and Timely (Latham, 2003). However, current research suggests that challenging goals lead to greater effort, focus, and persistence than moderately difficult or easy goals and that SMART goals might not be very effective in fully operationalizing the complexity needed for deliberate practice (Nowack, 2015). Such "big, hairy, audacious goals" or BHAGs help provide a clear vision of what is to be measured and evaluated at the end of a large scale behavior change effort (Collins, 1999).

It has also been suggested that people who perceived their goal as difficult to attain reported higher positive emotion, an increase in job satisfaction, and perceptions of occupational success (Latham & Locke, 2008). In fact, there is some evidence that difficult and unrealistic goals might actually inspire, rather than, interfere with goal pursuit (Linde, Jeffrey, Finch, Ng, & Rothman, 2004; Latham & Locke, 2013). Other research suggests that difficulty of a coaching

goal does not appear to impact how successful the coaching engagement actually is in terms of overall goal attainment (Sonesh, Coultas, Marlow, Lacerenza, Reyes & Salas, 2015).

Implications for Coaching. Some researchers argue that lowering the difficulty of goals, rather than, enhancing motivation is desired strategy for successful behavior change (Fogg, 2012). In summary, encouraging clients to set challenging goals is more likely to stimulate initial readiness to change. However, when faced with obstacles or challenges, reducing barriers to achieving goal success by modifying their difficulty might be a good strategy to follow for clients in coaching engagements (Fogg, 2012).

Short-Term Focus vs. Long-Term Focus

Goals are often distinguished by how far forward they project into the future. Schunk (2001) suggests that short-term goals are achieved more quickly, result in higher motivation, and better self-regulation than more distant or long-term goals. Further, research suggests that if long-term goals must be established, subdividing or "chunking" them into more manageable tiny actions or steps can produce greater benefits (i.e., goal attainment).

The time frame for completion needs to be reasonable in order for goals to be attained (Latham & Locke, 2006). However, individuals are more likely to maintain goals in the face of obstacles and challenges when more time remained for goal pursuit than when less time remained (Schmidt & Deshon, 2007) suggesting that for shorter-term goals, experiencing setbacks early will not necessarily lead to extinction of the initial goal. Additionally, people who wrote out their short-term goals, shared their commitment to complete the goals with others, and communicated progress with others were approximately 33% more successful than those who did not document their goals, share intent and communicate progress with others (Matthews, 2012). Finally, a single focus on the goal without having a specific backup plan appears to be

predictive of goal achievement given a longer time-frame to accomplish desired results (Shin & Milkman, 2016).

Implications for Coaching. For most coaching engagements, clients should be encouraged to focus on specific and short-term goals and the underlying steps and/or behaviors to facilitate progress and success. Building in tracking and monitoring systems and encouraging clients to share their intentions with "goal mentors" might also be useful strategies to optimize successful achievement of both short-term and long-term goals (Cole-Lewis & Kershaw, 2010; Fanning, Mullen, & McCauley, 2012; Mashihi & Nowack, 2012; DeLeon, Fuentes, & Cohen, 2014).

Single Goals vs. Multiple Goals

Behavior change efforts are typically individualistic based on a myriad of individual ad environmental factors and tend to be progressive, regressive, or even static (Nowack, 2009). Mixed evidence supports the argument that multiple simultaneous efforts (e.g., behaviors planned to improve multiple competencies at the same time) tend to be equal or even more effective than focusing on single goals because they reinforce quick benefits (Hyman, Pavlik, Taylor, Goodrick, & Moye, 2007; Achtziger, Gollwitzer & Sheeran, 2008). On the other hand, several studies suggest that focus on a single implementation intention might be superior to multiple goal intentions (Dalton & Spiller, 2012). Additional research extends these findings by showing that formulating multiple plans in service of the same goal is also not beneficial (Verhoeven, Marieke, Adriaanse, De Rider, De Vet, E., & Fenniss, 2103).

Implications for Coaching. Individuals can accomplish more than one goal at a time, assuming that these goals do not conflict with each other in some way (Locke & Latham, 1990). As such, coaches should raise realistic concern about overall success when clients express an

interest in working simultaneously on multiple goals in their initial contracting agreement or throughout the coaching engagement with their clients. For example, rather than making multiple implementation intentions at once, a phased approach might be more successful. In this way, one new behavioral goal or habit could be targeted with an implementation intention first, and only when the new desired behavior has been reached with some metric of agreed upon improvement by the coach and client, a new goal might be addressed.

Learning Goals vs. Performance Goals

An individual's goal orientation and personality can accurately describe the goals that they choose and the methods used to pursue those goals (DeShon & Gillespie, 2005). A performance versus learning characteristic of goals (Elliott & Dweck, 1988) involves the achievement of a specific standard (e.g., performance goal such as “lose 15 pounds”) versus the development of a specific skill (e.g., learning goal such as “acquiring the skill to practice mindfulness meditation”). Instead of focusing on the end result, a learning goal focuses attention on the discovery of effective strategies, skills or techniques to attain and sustain desired results (Seijts & Latham, 2006). Latham and Locke (2013) argue that it is best to set a learning goal when an individual lacks the ability to perform the task and to set a performance (outcome) goal when the person has the ability to attain a desired level of performance.

When trying to accomplish a learning goal, the individual will learn to master all the necessary skills that are associated with acquiring that goal. In the process, he or she may ask for feedback and reflect on progress in order to master whatever it takes to learn the new skill. On the other hand, trying to attain a specific performance goal can place additional cognitive demands that could interfere (e.g., choking) with goal accomplishment (e.g., Beilock, Carr, MacMahon, & Starkes, 2002).

Implications for Coaching. Performance goals can be appropriate when the necessary skills to perform a task are already mastered and the primary focus is to exert more effort to reach a higher level of performance. Seigt & Latham (2006) found that individuals with learning goals demonstrated the following advantages over those with performance goals:

1. They took the time necessary to acquire the knowledge to perform the task effectively and to analyze the task-relevant information that was available to them.
2. They showed an increase in self-efficacy as a result of the discovery of appropriate strategies for task mastery. Other research supports the notion that learning goals are especially effective in enhancing self-efficacy and self-regulation (Schunk, 2001).
3. They had a significantly higher commitment to their goals than did those with a performance goal.

It is a good idea to set up goals that will allow your clients to focus on mastering the skills necessary to perform a new behavior as well as goals that target specific outcomes. For instance, a client may have a performance goal of creating a more productive team or losing a specific amount of weight. However, by establishing a learning goal, the client would focus on acquiring the skills to build a high performance team and to maintain a healthy weight to ensure the targets or outcomes are successfully accomplished.

Avoidance Goals vs. Approach Goals

Goals that clients have can either be focused on securing desired outcomes (approach goals) but can also target avoiding unwanted outcomes (avoidance goals). Avoidance goals as focused on eliminating an undesired end-state (e.g., “avoid being overly controlling in my staff meetings”) tend to have more ambiguous strategies associated with them and should typically be avoided (Carver & Scheier, 1988).

Because approach goals tend to be more effective than most avoidance goals, one strategy for behavior change interventions is to encourage clients to redefine any avoidance goals into approach goals (e.g., "be more participative and listen more to my staff during our meetings before I suggest my own ideas"). Additionally, people are more likely to engage in an approach goal when they have set a low-high range goal (e.g., lose 2–4 pounds this week) versus when they have set a single number goal (Scott & Nowlis, 2013). Coaches should consider encouraging their clients to utilize more low-high range goals when appropriate for specific desired behaviors.

Implications for Coaching. With some goals, clients may be able to use a "substitution goal" (e.g., "in meetings, soliciting suggestions and input from others instead of expressing my own ideas and opinions") or a different goal for which the avoidance goal is instrumental (e.g., "seeking input and then summarizing the ideas of others" is instrumental for "not being seen as being an overly directive or authoritative leader"). Fogg (Fogg Behavior Grid; 2012) offers a comprehensive typology of strategies and drivers for coaches to use with their clients focusing on either approach (start doing, doing more or doing differently) or avoidance (stop doing or doing less) goals and provides examples for when the end result is one-time (e.g., run a marathon), sometimes (i.e., situational or periodic), or all the time (i.e., become an ongoing behavioral ritual).

2. If goal intentions aren't generally effective to facilitate behavior change, what works better?

Research suggests that attempts to change people's intentions alone may not always result in successful maintenance of behavior over time (Lawton, Conner, & McEachan, 2009).

Many people express a strong desire and intent to become more effective and to try new behaviors, but often they never really initiate or sustain a new change for very long (e.g., relapse). Some research suggests that the perceived importance of the goal (i.e., concern for the desired behavioral change endpoint) might be the best predictor of those who will initiate new behaviors (whether they keep it up or not). On the other hand, the individual factors of self-efficacy, perceived control and being clear about the disadvantages (i.e., the "cons" of behavioral change) are stronger predictors of clients who successfully maintain new behaviors over time (Rhodes, Plotnikoff, & Courneya, 2008).

In general, clients are most strongly committed to goals that are desirable (attractive) and attainable (Oettingen, et al., 2009). However, neither of these factors guarantees that these judgments translate into actual practice (Oettingen & Gollowitzer, 2001). Research by Oettingen, et al., 2009) provides some evidence that cognitively contrasting a desired future state with impeding reality (mental contrasting) effectively increases motivation and commitment to implementing a goal. In two studies, Oettingen et al., 2009; Gallo, Cohen, Gollwitzer & Oettingen, 2013) demonstrated that when expectations for success are high, the technique of mental contrasting leads to increased commitment to goal implementation.

These studies suggest that a structured approach to comparing and contrasting future success vs. realistic barriers determines the energy that will be used to commit and pursue personal/professional goals. Simply, coaches could help clients directly reflect and compare their vision of a desired future (e.g., enhanced professional performance or adopting new behaviors) with the current situation that may hinder goal pursuit and success (e.g., barriers, temptations, and obstacles). This technique appears to be consistent with "self-talk" motivational interviewing strategies used to enhance readiness to change (e.g., Passmore, 2007) and

comparing the "real" vs. "ideal" self in the intentional change model posited by Boyatzis, & Akrivu (2006).

In summary, intentions to change behavior are weak predictors of actual behavior change (Nowack, 2015). However, the use of implementation intentions (practice plans) appear to be significantly more robust (Gollwitzer & Sheeran, 2006). A meta-analysis involving over 8,000 participants in 94 independent studies revealed a medium-to-large average effect size (d = 0.65) of implementation intentions on goal achievement in a variety of domains (e.g., interpersonal, environmental, health) on top of the effects of mere goal intentions (Gollwitzer & Sheeran, 2006; Conor & Higgins, 2010). These findings provide coaches with a specific approach to contracting and supporting goal initiation to translate them into ongoing practice plans using an “if-then” model with clients. As such, implementation intentions are defined as “if-then” plans that have been shown to cause sustained changes in behavior and acquisition of new habits (Gollwitzer & Sheeran, 2006).

The “if” part of the goal is the trigger or cue and the “then” part of the goal is a statement of the specific behavior desired to be modified (e.g., stop, start, do more, do less, etc.). Some habit triggers will be situation based (e.g., “When I feel anxious, I will practice mindfulness meditation to calm me down” or “When I notice the other person speaking, then I will seek to understand what they are saying before I share my own ides”) and others are time based (e.g., “When it is Monday, Wednesday and Friday morning at 7am for the next month then I will attend my 50 minute yoga class” or “At each weekly staff meeting, I will solicit the ideas of my staff and summarize them before sharing my own thoughts and suggestions”). Both types might be relevant to use depending on the specific goal being targeted. Fogg (2012) and (Nowack, 2015) suggest that one of the most potent “triggers” is pairing a new behavior with an existing

habit (e.g., if a client has a routine in the morning that is already established it is easier to link a new behavior to that existing habit).

Insert Figure 3 about Here

Studies show that the "if" component of implementation intentions facilitate the accessibility of situations and linking "of" with "then" automates the behavioral response specified in the "then" component (Gollowitzer & Sheeran, 2006). Implementation intentions are powerful for coaches to use with clients because they systematically facilitate deliberate practice to ensure both neuroplasticity and long-term goal success (Mashihi & Nowack, 2012; Connor & Higgins, 2010).

3. Goal Striving: When are clients most motivated?

Readiness to change models such as the Transtheoretical Behavior Change Model (TTM; Prochaska & Velicer, 1997) suggests that clients are ready to change when they are ready to change. The TTM model refers readiness stages of differential motivation with respect to both goal initiation and striving (e.g., precontemplation to maintenance stages). With respect to goal striving, clients have already moved through contemplation, preparation and action stages yet not all clients have the motivation to continue with their goal pursuits despite some progress being made. In practice, client motivation typically varies so what do we know about when clients are most motivated in a goal initiation and striving cycle?

In general, the most common indicator for a subjective evaluation of a "best day at work" is perceived progress in a goal by an individual or team (Amabile & Kramer, 2011). Amabile et al., (2011) investigated a total of 26 project teams comprised of 238 individuals who were asked to report daily on moods, motivations, perceptions of the work environment, what work was

accomplished, and what events stood out in their mind (nearly 12,000 diary entries). Steps forward (progress) occurred on 76% of people's best mood days and setbacks on only 13% of those days. Therefore, progress—even a small step forward—was highly correlated with the number of days employees reported being in a good mood although causality between mood and progress was not possible to discern in this study (Amabile & Kramer, 2011). Nonetheless, this finding and the research of others (e.g., Fogg, 2012), suggest that coaches should emphasize and reinforce tiny steps of progress by their clients to maintain a high level of motivation and positive affect throughout the course of a coaching engagement.

When clients work toward goals they monitor their progress in two ways--what they have achieved so far and how much they have left to do. It appears that clients switch between the methods depending on how close they were to reaching their goal. Research with university students asked to pursue a specific goal (e.g., correcting errors in an essay) were less motivated halfway through the tasks, which likely reflects the point where they switch their focus from how much they achieved to how much they had left to do (Bonezzi, Brendl, & De Angelis, 2011). Despite the widely accepted belief that motivation to reach a goal increases as clients approach the desired end state, these findings suggest that this is not always the case and very much depend on the standard of reference used to monitor progress.

Client motivation within coaching engagements typically follows a U-shaped pattern such that motivation is highest at the beginning and end of a goal pursuit, rather than, in the middle (Toure-Tillery & Fishbach, 2011; 2012). Since beginning and end (vs. middle) positions with respect to goal setting are often arbitrarily determined, one thing coaches can do with clients is to reduce the length of the "middle" by dividing goal pursuits into sub-goals requiring smaller actions and dates to follow-up. This should increase the likelihood that clients will continue to

successfully maintain their efforts towards goal completion. Taken together, these studies suggest motivation is most likely to fluctuate most in the middle of goal striving (i.e., slacking is more likely in the middle of a goal pursuit) so this is the optimum time for coaches to explore new ways to enhance the readiness to change level of their clients to avoid potential derailment or outright failure.

4. How Long Does it Take for New Habits to Form?

One important outcome in coaching engagements and leadership development initiatives is successful habit and behavior change based on targeted goals of the client. Neuroscience research provides practitioners with a better understanding about how long it takes, on average, for new behaviors to become comfortable and automatic. It is important to point out that there is a difference between changes at the neural level (neuroplasticity) and resulting behaviors becoming more efficient and/or leading to visible performance outcomes that are meaningful for clients (Kleim & Jones, 2008).

For example, the posterior hippocampus (visual-spatial memory center) of London taxi cab drivers has been shown to increase in size with years of experience (Woollett, Spiers, & Maguire, 2009), extensive piano practicing is associated with enhanced plasticity of white matter areas of the brain (Bengtsson, Nagy, Skare, Forsman, Forssberg & Ullén, 2005), adults attending a juggling course showed detectable changes in brain structure within three months (Draganski, Busch, Schuierer, Bogdahn & May, 2004), and short-term practice of mindfulness meditation results in significant changes in the brain measured by functional magnetic imagery (fMRI; Tang, Hölzel, & Posner, 2015). However, previous and current practice of new behaviors is required to translate observable neural change into skill improvement and/or actual health benefits.

To illustrate, doctors who have previous video game experience and currently report playing games make significantly fewer endoscopic surgical errors than surgeons who have no previous video experience (Rosser, Lynch, Cuddihy, Gentile, Klonsky & Merrell, 2007). Finally, in a waiting list control study using objective measures of auto-immune lesions, clients with multiple sclerosis practicing a comprehensive stress management program demonstrated significantly less development of disease (exacerbations and new lesions) but no evidence of subsequent improvement was observed when clients discontinued using these coping techniques 26-weeks following the study (Mohr, Lovera, Brown, Cohen, Neylan, Henry, Siddique, Jun, Daikh & Pelletier, 2012). At a practical level, getting clients to "start" new habits and behaviors does appear to create significant and observable neural change but unless the behavior is maintained, the advantages will unlikely be translated into enhanced performance ("use it or lose it").

Research by Lally and associates (Lally, Van Jaarsveld, Potts, & Wardle, 2009) suggest that new behaviors can become automatic, on average, between 18 to 254 days but it depends on the complexity of what new behavior a client is trying to put into place as well as their personality. They studied volunteers who chose to change an eating, drinking or exercise behavior and tracked them for success. Participants completed a self-report diary which they entered on a website log and were asked to try the new behavior each day for 84 days. For the habits, 27 chose an eating behavior, 31 a drinking behavior (e.g., drinking water), 34 an exercise behavior and 4 did something else (e.g., meditation). Analysis of all of these behaviors indicated that it took 66 days, on average, for this new behavior to become automatic and natural. The range was anywhere from 18 to 254 days. The mean number of days varied by the complexity of the habit: Drinking--59 days; Eating--65 days; and Exercise--91 days.

Additional research suggests that interleaving (mixing up deliberate practice) results in even greater skill performance and success than merely repeating new behaviors over and over (Lin, Chiang, Knowlton, Iacoboni, Udompholkul, & Wu, 2012). A substantial body of research has established that interleaving (defined as practicing different skills in quick succession) significantly improves both learning and performance in students and adults (e.g., Rohrer, 2012; Roher, Dedrick & Steershick, 2015).

Therefore, creating new habits requires tremendous self-control and emotional regulation to reach a limit of self-reported automaticity for performing an initially new behavior. Taken together, practitioners should consider that translating a goal into a new habit for most clients might take longer than expected (approximately two months or more of deliberate practice) assuming clients have appropriate readiness to change motivation level throughout a coaching engagement. As a result, shorter-term coaching engagements and complex behavior change efforts might require greater repetition and diversity of practice (interleaving) to demonstrate effectiveness.

5. When should clients "hold" and when should they "fold" in goal striving?

Research in both health and organizational psychology suggest several five-factor models (FFM) are significantly associated with goal initiation, goal striving, and successful behavior change over time (Lyubomirsky, King & Diener, 2005; Hampson & Friedman, 2008; Kern & Friedman, 2008; Smither, London, & Reilly, 2005). For example, a review of the training transfer literature by zu Knyphausen-Aufseß & Smukalla (2009) suggests that learners who are higher in emotional stability and more extroverted are most likely to maximize training success in terms of knowledge acquisition and skill improvement over time.

It seems both intuitive and reasonable that persistence and drive would generally be associated with goal striving and successful behavior change. In a series of studies by Angela Duckworth and colleagues, individuals demonstrating "grit" were more likely to be successful in both academic and job related goals and measures of performance (Duckworth, Peterson, Matthews, & Kelly, 2007). Grit (defined as passion and perseverance for long-term goals) accounted for an average of 4% of the variance in success outcome measures (e.g., educational attainment among 2 samples of adults (N=1,545 and N=690), academic GPA among Ivy League undergraduates (N=138), and retention in 2 classes of United States Military Academy, West Point, cadets (Duckworth et al., 2007).

However, a recent meta-analysis by Credé, Tynan, & Harms (2016) found that grit, as typically measured, appears to be only moderately correlated with diverse performance and retention outcomes and is strongly confounded with the construct of conscientiousness. Their results based on 584 effect sizes from 88 independent samples representing 66,807 individuals suggest that the true utility of the grit construct may solely be due to perseverance which overlaps with FFM measures of conscientiousness (Credé et al., 2016). As such, continuing in the face of goal challenge and pressure (i.e., "holding") would appear to be generally advantageous for successful goal attainment and maximized by those high in grit, achievement orientation, and drive (i.e., conscientiousness)—until it is not.

According to several studies, quitting ("folding") may be a better coping strategy for the well-being of clients when facing unattainable goals. In a series of studies, psychologist's Gregory Miller and Carsten Wrosch have found that people who feel comfortable quitting when faced with unattainable goals may have better mental and physical health than those who persevere and push themselves to succeed (Wrosch, Scheier, & Miller, 2003; Wrosch, Miller,

Scheier, & Brun de Pontet, 2007). These findings build on their previous research, which found that those persistent individuals experienced higher levels of an inflammatory protein called C-reactive protein (an indicator of inflammation) as well as increased cortisol (Miller & Wrosch, 2007). Given that chronic inflammation represents a risk factor for a variety of diseases (e.g., heart disease, Miller, Chen, & Zhou, 2007), these findings provide evidence for another mechanism potentially linking goal disengagement, psychological well-being, and physical health outcomes.

As such, effort and persistence are not always the most adaptive responses to the experience of goal-related obstacles and challenges. Based on these findings, coaches might be more supportive for clients, in the face of unattainable goals, to actually disengage and explore goal reengagement. In fact, goal disengagement and goal reengagement capacities are typically not strongly correlated with each other making it possible for practitioners to emphasize both behaviors (Wrosch et al., 2003). Support for this perspective is provided by King and Hicks (2006) who investigated how individuals cope with lost opportunities and mistaken expectations and its association with health, happiness and personality development. The happiest individuals acknowledged loss, did not spend much time ruminating on the past, and more easily disengage from failure and "what might have been" in the past. Overall, they were more likely to be focused on and committed to current goals, passions and life activities (King & Hicks, 2006).

6. Does practice make perfect?

Most coaches and clients resonate with the old saying that "practice generally makes perfect." As such, it is commonly accepted that individual differences in performance reflect differences in the amount of deliberate and accumulated practice (activities that are structured

and repetitive to enhance effectiveness in any domain). Or, at least if you do something long and hard enough you will likely result in you becoming an expert.

There is, in fact, a big difference between "experts" and those "who are expert" in what they do. In a 1996 book co-edited by Anders Ericsson and others called "The Cambridge Handbook of Expertise and Expert Performance", two of the authors conclude that great performance comes mostly from two things: regularly obtaining concrete and constructive feedback and deliberate practice with difficult tasks (Ericsson, 1996a, p.4). For example, the authors found that the best skaters spent 68% of their practice doing really hard jumps and routines compared to those who were less successful (they spent only about 48% of their time doing the same difficult things). Ericsson (1996b) defines "deliberate practice" to mean focused, structured, serious and detailed attempts to get better. That means it has to be challenging and difficult (i.e., practicing the most difficult tasks).

In two other studies, Ericcson and colleagues (Ericsson, Krampe & Tesch-Romer, 1993) recruited musicians from different levels of accomplishment and asked them to retrospectively estimate the amounts of time per week they had engaged in deliberate practice. Group averages were highest for the most accomplished musicians. On average, the "best" violinists had accumulated over 10,000 hours of deliberate practice, compared with less than 8,000 hours for the "good" violinists and not even 5,000 hours for the least accomplished "teachers." Ericsson et al., (1993) concluded that "individual differences in ultimate performance can largely be accounted for by differential amounts of past and current levels of practice" (p. 392).

Brooke Macnamara and her colleagues from Princeton University recently conducted the largest review and meta-analysis of studies exploring the relationship between deliberate practice and performance in several domains (Macnamara, Hambrick, & Oswald, 2014). Their research

also tests the widespread "10,000-hour rule" popularized in a number of books (Gladwell, 2008; Colvin, 2008) that suggests that it takes 10,000 hours of practice to become an expert in any given skill domain. Their research included 111 independent samples, with 157 effect sizes and a total sample of 11,135 participants (Macnamara et al., 2014). They explored the deliberate practice and performance relationship in various domains and two sets of factors. The first factor was based on the predictability of a task or how often the behavior might be expected to be performed (e.g., handling an aviation emergency to running each day) and the second was how the previous research was conducted and how practice was actually measured (e.g., recall or log).

Their findings contradict the popular urban myth and claim that individual differences in expertise and performance are largely accounted for by the amount of deliberate practice a person engages in over time. In fact, the percentage of variance accounted by deliberate practice in five specific domains was: games 26%; music 21%; sports 18%; education 4%; and professions <1% (Macnamara et al., 2014). Even in the most widely studied domains of expertise research (music and chess), deliberate practice doesn't appear to adequately explain individual differences in performance (Hambrick, Oswald, Altmann, Meinz, Gobet, & Campitelli, 2014).

A subsequent meta-analysis (Macnamara, Moreau, & Hambrick, 2016) focused on the performance of elite athletes to test the premise that individual differences in sports performance largely reflect individual differences in accumulated amount of deliberate practice (Ericcson, 2007). Overall, deliberate practice accounted for 18% of the variance in sports performance. However, the contribution differed depending on skill level. Most important, deliberate practice accounted for only 1% of the variance in performance among elite-level performers.

Deliberate practice explained a similar amount of variance in performance for youth as it did for adult athletes (19% vs. 15%) and higher skill was independent of starting age (Macnamara et al., 2016). Taken together, the “popular myth” of the requirement for 10,000 hours to become expert is clearly not supported by research evidence suggesting genetic influence and other factors might account for the unexplained variance in performance (e.g. with athletes it might be ease of accumulating muscle mass or cortical motor control associated with superior coordination).

Certainly, deliberate practice is a necessary, but not sufficient, to explain individual differences in skills and it appears that more variance isn’t explained by deliberate practice than what is explained by it. From a practitioner perspective, these results suggest the importance of considering other broad factors that may contribute to individual differences in competence and expertise (e.g., cognitive ability, personality, peer support, genetic predisposition, etc.). For example, across a wide range of piano-playing skill, deliberate practice accounted for less than half the variance (45.1%) in sight-reading performance (Meinz & Hambrick, 2011). However, working memory capacity (which is highly stable and largely heritable) added incremental validity and explained an additional 7.4% variance of performance above and beyond deliberate practice.

Additionally, another study explored the popular 10,000 "rule" by examining associations between musical ability and practice (rs = .18–.36) in 10,500 Swedish twins (Mosing, Madison, Pedersen, & Ullen, 2014). Findings from this study suggest that practice doesn't always make "perfect" if you don't have the minimal capabilities and the proper mindset to begin with. Surprisingly, associations between music practice and music ability were predominantly genetic, and, contrary to the researcher's hypothesis, nonshared environmental influences did not

contribute. Genetic influences on hours of practice were substantial, explaining 69% of the variance in males and 41% in females, with additional shared-environmental influences in females (21%). Music abilities were moderately heritable, ranging between 12% and 61% (Ullen, 2014). Finally, using a sample of over 850 twin-pairs, Hambrick & Tucker-Drob (2014) found, after controlling for music practice, that there was a statistically significant genetic effect on music accomplishment.

Although it seems reasonable to predict that anyone who engages in thousands of hours of deliberate practice will develop a high level of skills in any field, it appears that our basic skills and abilities may actually limit the ultimate level of performance that can be attained. Genes and environment are both important for essentially any behavior and practice is no exception. However, there is a strong indication that extreme environmentalist models of performance and expertise (e.g., "practice is everything") are likely to be just an urban myth (Plomin, Shakeshaft, McMillan, & Trzaskowski, 2014; Nowack, 2015).

Coaches and consultants should encourage clients to practice new skills until they become comfortable and automatic but be cognizant of the limits of deliberate practice in realistically converting "competent jerks" into "loveable stars" on the job. Evidence is convincing that not all clients we work with can change very much despite deliberate and accumulated practice (Hambrick, Oswald, Altmann, Meinz, Gobert & Campitelli, 2014). In practical terms, the magnitude of behavior change expected and required by organizations who hire coaches to help employees change behavior may, at times, be both unrealistic and unattainable for some.

Conclusion

In general, there has been a lack of attention in both research and practice in exploring ways to successfully help clients initiate and sustain new behavior in training and coaching interventions (Bracken et al., in press; Joo 2005; London & Smither, 2002; Nowack & Mashihi, 2013). Based on the current neuroscience and behavioral research, coaches and consultants should consider the following suggestions for optimizing goal setting and successful behavior change with their clients:

1. *Skydiving is Not Advised for Those Who Have a Tendency to Fail*. Despite common edicts from psychologists, educators, and parents that perseverance and relentless pursuit of goals optimize work and life success and well-being, recent research actually suggests a curvilinear pattern. In fact, some lifetime failure has been shown to be associated with optimal well-being (Seery, 2011; Seery, Leo, Lupien, Kondrak, & Almonte, 2013). Popular concepts like "grit" (Duckworth, Petersen, Matthews, & Kelly, 2007) appear to reinforce a "never quit" philosophy despite evidence of only modest associations with diverse performance outcomes and measurement confound with established constructs such as conscientiousness (Credé, Tynan, & Harms, 2016). In fact, failure in accomplishing goals should not be viewed as a weakness in clients and terminating the pursuit of unrealistic or unattainable goals might actually prove to be a better strategy in terms of physical health and psychological well-being (Miller & Wrosch, 2007).

2. *Practice Makes Better (Not Perfect).* More statistical variance in expertise and successful performance is *not* explained by deliberate practice than what *is* explained. Deliberate practice is merely a necessary, but not sufficient, condition for skill competence and significant performance improvement whether behavioral or mental

(Pascual-Leone, Nguyet, Cohen, Brasil-Neto, Cammarota, & Hallett, 1995; Pascual-Leone, Amedi, Fregni, & Merabet, 2005). As such, coaches should consider the importance of sustained mental and/or physical deliberate practice against the investment of time, energy and money against factors such as readiness to change and physical, cognitive and psychological abilities that might limit successful goal attainment and high performance (Macnamara, Moreau, & Hambrick, 2016). Even with the most motivated clients, meta-analytic research suggests only small to modest effect sizes for skilled based outcomes suggesting that not all clients are capable of significant changes in behavior (Jones, Woods, & Guillaume, 2015).

3. *Goal Intentions are not the same as Practice Plans*. Wanting to change, often observed as stating intentions through goals, doesn't necessarily ensure nor predict successful change. Motivated clients with a readiness to change will have the greatest success translating stated goals into practice plans (Gollowitzer & Sheeran, 2006). Using "If-Then" goal implementation intention methods with clients maximizes goal striving, completion and success. The "if" part of implementation intentions refer to the trigger or cue for implementation of the desired behavior and can be existing habits, time or specific situations such as meetings with others (Fogg, 2012). Coaches should enhance the use of regular practice plans with their clients to facilitate maximum neuroplasticity through varied deliberate practice for approximately 60 to 90 days depending on the complexity of the desired target behavior resulting in unconscious competence required for higher levels of comfort, skill enhancement and performance (Lally et al., 2009).

4. *Goals Come in Different Sizes but, Like Shoes, Should Fit the Client*. If you go to any

coffee shop, you can typically order a variety of different "sizes" of your favorite drink. Goals also can be described as also having different "sizes" and features so being precise with the goals of your client will maximize goal success. Fogg (2012) has summarized a behavioral grid of 15 different goal options that help guide coaches and clients to focus on the best direction addressing their interest and needs (e.g., goals resulting in behaviors to do one time, sometime, or all the time that might include doing things more frequently, less frequently, differently, starting something new or stopping an existing behavior). It is important that clients be specific in defining the type of goal and frequency of adoption they desire to ensure the possibility of goal striving and successful achievement.

5. *Adopt Strategies to Optimize Goal Success but Avoid Back-Up Planning*. Motivation and commitment to goals are indeed prerequisites for client success in attempting to develop new habits and adhere to goals. Kruglanski, Pierro & Sheveland (2011) found that thinking about additional strategies for achieving a given goal indeed increases *commitment* to that goal. However, it is easy to confuse our clients with encouraging them to create strategies to accomplish stated goals versus contemplating and developing "back-up plans" in the possible face of failure.

Back-up plans, or secondary goals, should not be confused with the relative efficacy of relapse prevention strategies extensively used in addiction abstinence oriented goals (Marlatt & Gordon, 1980). Relapse prevention classifies factors contributing to relapse into two categories: proximal determinants (high-stress situations, coping skills, outcome expectancies) and covert antecedents (e.g., urges/cravings, social interactions increasing relapse). Using a cognitive-behavioral

framework, relapse prevention helps the client recognize and prepare for high-stress situations in which a lapse or total relapse is likely (Larimer & Palmer, 1999).

While making a back-up plan may provide practical and emotional benefits in the face of uncertainty, the value may come at a higher than previously understood cost. Results from three studies suggest that the act of reflecting on a back-up plan has harmful effects on goal accomplishment (Jhae & Milkman, 2016). Their research suggests that reflecting on or generating back-up plans may actually reduce the probability of successful goal attainment by dampening the initial goal desire (note that goal success that is based on pure luck or innate skill won't be affected). Clients who are mindful of their goal(s) and stated target behavior(s) will be optimally successful but challenging clients to come up with alternative or backup plans might actually interfere with subsequent goal success.

6. *Insight and Motivation are only Necessary, but not Sufficient, Conditions for Successful Goal Attainment and Performance Improvement.* Not all clients who are self-aware and motivated will successfully change behavior or become more effective on the job (Bacon & Spear, 2003; Chiaburu & Marinova, 2005; Glasgow, Fisher, Strycker, Hessler, Toobert, King, & Jacobs, 2014; Mashihi & Nowack, 2013). In a recent comprehensive review of coaching studies (Grover & Furnham, 2016), nearly all studies investigating the impact of coaching on goal attainment were found to have positive overall results as well as a significant association with enhancing self-efficacy in clients. However, very little positive associations appear to support a relationship between coaching and actual improvement in job performance (Grover &

Furnham, 2016).

From both a research and practice perspective, it is important to separate and delineate proximal (e.g., enhanced resilience, self-awareness, skills acquisition) vs. distal outcomes (e.g., retention, performance) that are realistic and possible with specific behavior change interventions like coaching. Finally, based on 360-degree feedback studies with coaching, effect sizes for observed behavior change are typically modest suggesting that organizations need to be realistic about the magnitude of behavior change to expect even when clients are highly motivated (Smither, London & Reilly, 2005; Nowack & Mashihi, 2015).

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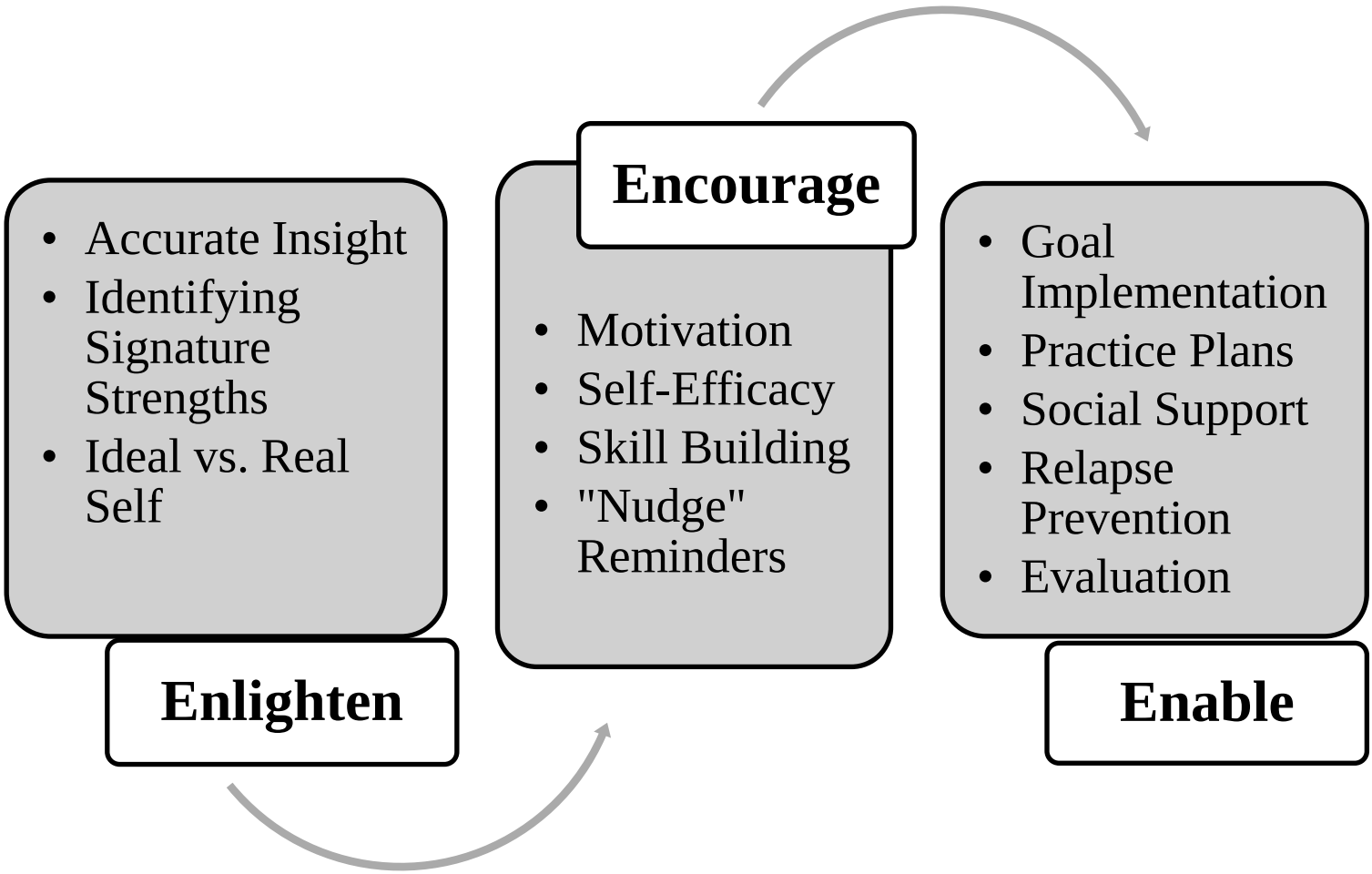

Figure 1. Enlighten, Encourage, and Enable Individual Change Model

Six Important Questions about Goal Setting, Goal Striving and Goal Flourishing

1. What are the key characteristics of goals?
2. If goal intentions aren't generally effective to facilitate behavior change what works better?
3. Goal striving: When are clients most motivated?
4. How long does it take for new habits to form?
5. When should clients "hold" and when should they "fold" in goal striving?
6. Does practice make perfect?

Figure 2. Six Questions about Goal Setting.

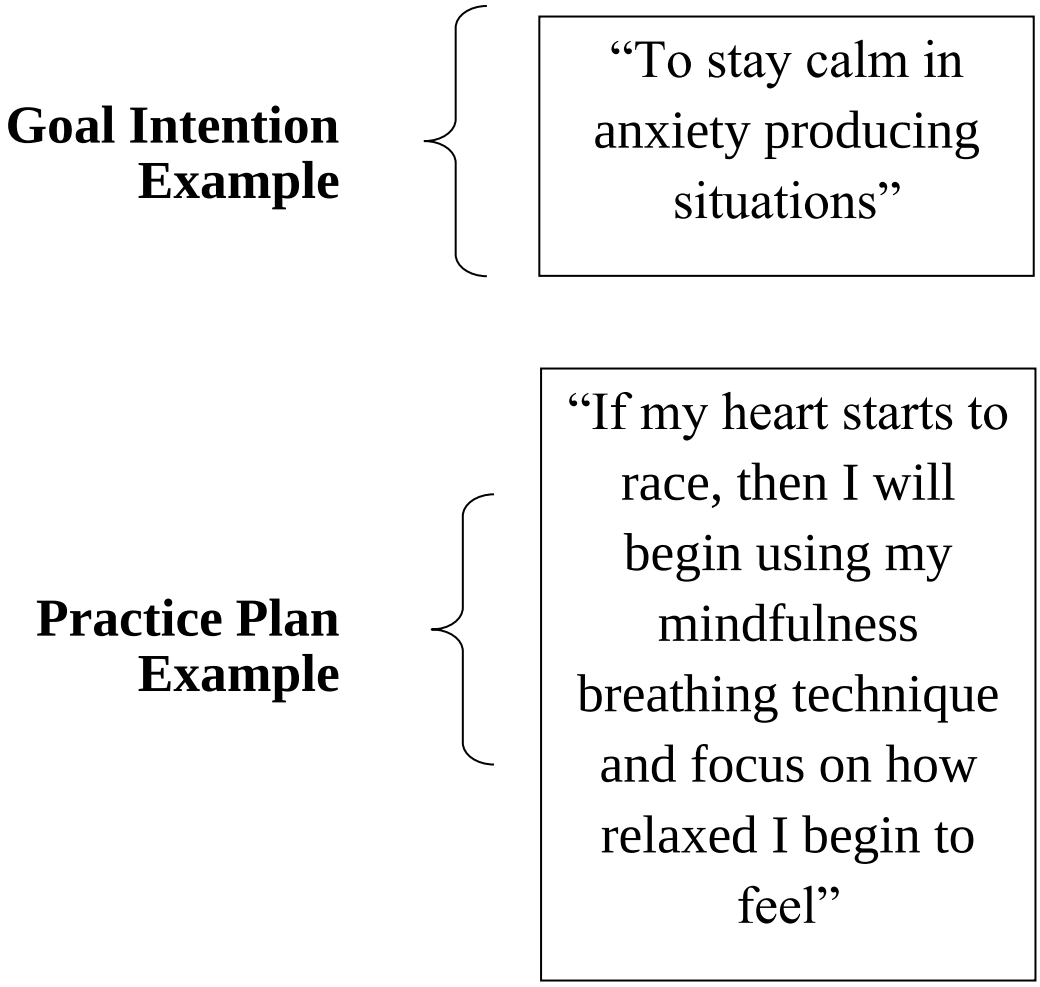

Figure 3. Practice Plan/Implementation Intention Example