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Perseverance strategies of enterprising individuals

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Abstract

Purpose – The purpose of this paper is to arrive at a conceptual understanding of perseverance processes in the context of enterprising behavior and to outline readily employable perseverance strategies for situations characterized by obstacles, challenges and setbacks.

Design/methodology/approach – This paper presents a process model of perseverance, drawing on elements of control theory and appraisal theory.

Findings – From this model, a variety of perseverance strategies within four broad categories is derived: strategies that affect adversity itself; strategies that change the way adversity is perceived; strategies that reframe the aim that adversity has made difficult to attain; and strategies that help to increase self-regulatory strength. James Dyson's biography provides examples for the strategies.

Practical implications – The paper discusses a broad variety of strategies to help individuals persevere in reaching their enterprising goals.

Originality/value – Although it is a widely held perception that perseverance is needed to successfully start and run a venture, the perseverance process and perseverance strategies have received little research attention.

Keywords Entrepreneurialism, Individual behaviour, Entrepreneurial behaviour, Control theory, Perseverance, Tenacity, Enterprising behavior

Paper type Conceptual paper

Introduction

It is a widely held perception that perseverance is needed to successfully start or run a venture. Even those who are highly experienced and who plan very well may run into unexpected obstacles and difficulties, and these may take longer to resolve than expected. New ventures can be resource hungry and sometimes acquiring them may prove more difficult, expensive, or time-consuming than originally planned. Information may be difficult to obtain, prove unreliable, lack specificity, or turn out to be irrelevant. Governmental regulations may delay development. A new competitor may capture the targeted customers. One may discover an aversion to particular aspects of venturing, for example, book keeping or selling. The market may prove to be far less interested in one's product or service than was initially hoped. Personal or family problems may intervene. Conflict among business partners may arise.

Any entrepreneurial task or activity may require perseverance. The list of potential setbacks and obstacles is endless, and their occurrence may make it difficult to keep up initial levels of motivation. This paper takes any one of these difficulties as its point of departure, and studies perseverance, defined as continued goal striving in spite of adversity, as a core competency for the enterprising individual. The contribution of the



paper is fourfold. First, it adds to the literature on entrepreneurial behavior. The focus is on actions, rather than on the determinants of those actions. The level of analysis is the individual. It studies the encounter with adversity at a particular moment, in a particular setting. Second, it develops a process model of perseverance, drawing on elements of control theory (Carver and Scheier, 1981, 1998), and appraisal theory (Lazarus, 1966, 1999; Lazarus and Folkman, 1984). Third, it outlines a classification of perseverance strategies: possibilities for cognitive or behavioral maneuvering in daily encounters with adversity. On the basis of the model, it derives perseverance strategies for situations characterized by obstacles, challenges, and setbacks. Fourth, it presents a research agenda for the study of perseverance strategies of enterprising individuals. The process model and the perseverance strategies that are proposed help to advance knowledge in this area and to produce testable propositions. By means of these contributions, this paper extends the entrepreneurship literature on perseverance which has so far not described a process model of perseverance in entrepreneurial goal striving, and which has mostly focussed on either duration as an outcome variable (without considering adversity) or on perseverance as a personality trait. The situation analyzed in this paper concerns that where the actor has choice and discretion, and relies on perseverance strategies that can be readily enacted to persevere in goal striving. Goals in this paper are defined as internally represented desired states (Vancouver and Day, 2005), and can refer to high-level goals (starting a successful “born-global” firm) as well as mundane ones (e.g. finding out about rules relating to value-added tax). By an enterprising individual I mean a person who takes pro-active, daring, and innovative goal-directed action. These ventures can manifest in various forms, such as setting up a new business venture, a non-profit organization, resolving a societal issue, or making a year-long trip around the world without having any money. Hence, in this paper I will switch back and forth from the individual to the venture level.

This paper proceeds as follows. The next section briefly describes previous entrepreneurship research on perseverance, and analyses how this paper extends this literature. The following section qualifies the importance of perseverance, arguing that high levels of perseverance can sometimes be problematic. The next part introduces control theory and appraisal theory and employs elements of both in a model. On the basis of this model, the final sections outline perseverance strategies for enterprising individuals, and suggest future research directions.

Perseverance in entrepreneurship research

Three small streams of research are concerned with entrepreneurial perseverance. First, some entrepreneurship studies that refer to perseverance study duration as a dependent variable. Gimeno *et al.* (1997) found that financially underperforming firms sometimes even outlast high performers, and find that they continue for non-financial reasons, such as lack of employment alternatives, and benefits such as autonomy and status. Astebro *et al.* (2007) investigated the cognitive biases of inventors who continue to pursue commercialization even after experts had advised them to quit. Gatewood *et al.* (1995) related attributes of start-up motives to persistence as defined by engaging in start-up activities and getting the business started. Gatewood *et al.* (2002) gave bogus feedback on entrepreneurial ability to college undergraduate students and found that it did not affect task effort in analyzing a business case. These studies leave implicit whether or not adversity was involved,

and thus provide little guidance around the issue of behavioral strategies in situations characterized by adversity. Trevelyan's (2011) conceptual piece discusses expenditure of task effort, but does not mention adversity.

A second stream of entrepreneurship research treats perseverance as an independent variable. In a cognitive approach, Markman *et al.* (2005) found that, in a cross-sectional setting, patent inventors in the medical industry who started their own business scored higher on perceived control over adversity and perceived responsibility regarding the outcome of adversity, compared with those staying in their job. While attributions and beliefs may impact on perseverance, they are not measures of perseverance itself, defined by these authors as the tendency to persist and endure in the face of adversity. Using a trait approach, Baum and Locke (2004) found that tenacity did not predict new venture performance after six years. It was cross-sectionally correlated with new resource skill, goals, self-efficacy, and communicated vision, and this affected new venture performance indirectly. The apparent implication of trait-based approaches is that, if you score low on trait tenacity, you might as well give up, thus creating a vicious cycle negatively reinforcing the lack of tenacity.

A third stream of studies sheds light on encounters with adversity, without explicitly focussing on perseverance. In a conceptual paper, Shepherd (2003) proposes that oscillating between a loss and a restoration orientation helps to overcome the grief over business failure. According to Shepherd *et al.* (2009), delaying failure can be a good strategy as it allows anticipatory grief to help reduce levels of actual grief once failure has occurred. Patzelt and Shepherd (2010) find that the self-employed make more effective use of problem- and emotion-based coping than the employed, a difference that they attribute to the autonomy that comes with being self-employed. Cope (2003) and Cope and Watts (2000) concentrate on learning from adversity. Using a critical incident methodology, Cope and Watts (2000) analyzed moments of adversity in the lives of six entrepreneurs, and concluded that setbacks were the catalyst of "fundamental, higher-level learning" (p. 104). This finding connects with a wider literature that relates hardship to personal growth and thriving (Affleck and Tennen, 1996; Carver and Scheier, 2003). Learning is associated with perceiving, feeling, thinking, or doing things differently, and can thus result in issues being tackled in new ways, or in improvements in future dealings with obstacles. Learning is therefore conceptually related to perseverance – learning can allow people to persevere, and vice versa.

This paper extends the literature in two ways. First, it introduces a descriptive process model of perseverance. It zooms in on the encounter with adversity at a particular moment, in a particular setting. It focusses on the actions that enterprising individuals can take when encountering obstacles and difficulties. Although the model is not specific to entrepreneurship *per se* (it may also be applied to other domains), the field of entrepreneurship needs such a model and it currently does not have one. Second, it extends the literature by focussing on action and behavior, through outlining the various strategies that enterprising individuals can employ in situations that require perseverance. It does not attempt to explain who perseveres best, and why. Thus, it is not concerned with trait-like constructs such as resilience (Block and Kremen, 1996), hardiness (Maddi, 2002), the need for achievement (McClelland, 1961), willpower (Goshal and Bruch, 2003), grit (Duckworth *et al.*, 2007), self-esteem (DiPaula and Campbell, 2002), and the adversity quotient (Stoltz, 1997).

Control theory and appraisal theory

Self-regulation theories depict human beings as complex goal-directed systems who self-regulate their actions in order to achieve their goals (Vancouver and Day, 2005; Vohs and Baumeister, 2004). Key self-regulation processes include goal establishment (processes involved in adopting, adapting, or rejecting a goal); planning (processes involved in preparing to pursue a goal); striving (processes involved in moving toward or maintaining a goal); and revision (processes involved in the possible change of, or disengagement from a goal) (Austin and Vancouver, 1996). Perseverance is mostly concerned with the latter two processes.

Carver and Scheier's control theory

One set of self-regulation theories, control theory (Carver and Scheier, 1981, 1998), is particularly concerned with goal striving and revision processes, as opposed to establishment and planning processes (Vancouver and Day, 2005). The basic idea of control theory, which has its origin in cybernetics, is the self-regulation of a system by means of a negative feedback loop (Fellenz, 1997). The use of the term "control" derives from engineering applications (Vancouver, 2005). Engineers sought ways to set and then regulate, or control, some variable such as car speed or temperature.

The fundamental control theory model is commonly illustrated by the example of the thermostat as a simple self-regulating system (see Figure 1). A thermostat regulates the room temperature by continuously monitoring it (with a sensor, the input function) and comparing (with a comparator) the measured temperature (feedback) with a preset reference standard (goal). If it detects a discrepancy between feedback and goal temperature, it induces heating or cooling (with an effector, the output function). The thermostat compares the measured temperature with the set standard and continues to heat or cool as long as a detectable discrepancy persists.

Control theorists such as Carver and Scheier (1981, 1998) applied this basic model of a mechanical control system to humans. In order to incorporate human qualities, they made many adaptations to allow for cognitive and behavioral complexity and flexibility, while retaining the conceptual simplicity inherent in its cybernetic principles (Fellenz, 1997; Vancouver, 2005)[1]. In Carver and Scheier's control theory, as in mechanistic control theory, the feedback loop is made of four elements (Figure 1). The input function concerns the perception of the current state. The comparator

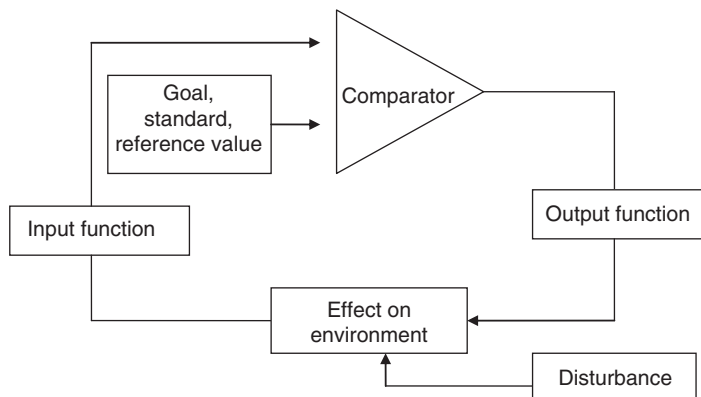


Figure 1.
Negative feedback loop

compares the current state with the goal, standard, or reference value. According to Carver and Scheier (1998), this generates three “readings.” First, progress toward the goal is monitored, measured as the decrease in discrepancy between the current state and the aimed state. In the case of an anti-goal, i.e. something one wants to avoid, such as being unable to pay the bills, it is progress toward distancing from this anti-goal that is monitored. Second, if the goal is being reached faster than expected, positive affect is generated; and if progress toward the goal is slower than expected, negative affect is the result. Third, the comparison between the current state and the goal creates “a hazy sense of confidence or doubt” (Carver and Scheier, 1998, Ch. 8). Here, outcome expectancies are recalculated – with doubt developing if it has become less likely that the goal will be achieved, and confidence if goal fulfillment has become more likely. Depending on the monitored discrepancy, its rate of change, and the outcome expectancy, the human agent acts and responds. This response, which refers to the output function, may have an effect on the environment, which then serves as an item for the input function.

Disturbances find their way into the system through the environment. They play a key role in the discussion of perseverance in enterprising situations because they impact on the progress toward the enterprising goal. When the disturbance can be immediately and easily resolved, little perseverance is needed. The current analysis is concerned with situations in which setbacks, obstacles, and difficulties are not so easily and immediately overcome, and thus require perseverance. Control theory is particularly suited to the analysis of perseverance in the context of goal-directed behavior. It emphasizes the ongoing and dynamic nature of dealing with adversity, it is applicable to high-level encompassing goals, as well as to low-level mundane goals, and it can serve to identify places in the feedback loop where different perseverance strategies may be relevant. Most importantly, it gives an account of the flow of action and information in goal striving (Vancouver, 2005). However, it has less to say about the output function: the actual coping responses and their direct antecedents in encounters with adversity (Vohs and Baumeister, 2004). Here, appraisal theory (Lazarus, 1966, 1999; Lazarus and Folkman, 1984) enters the picture.

Lazarus and Folkman’s appraisal theory

Appraisal theory explains how people deal with stress. The stressful encounter and its outcome are the focus of the analysis (Folkman *et al.*, 1986). As such, it can also be applied to setbacks and difficulties encountered in enterprising situations. The theory discerns three key concepts: primary appraisal; secondary appraisal; and coping. For discursive or analytic purposes they are treated as a sequence. Lazarus and colleagues, however, have repeatedly stressed that, in practice, the three key components all influence one another and can also occur simultaneously.

In primary appraisal, the person evaluates whether he or she has anything at stake in this encounter (e.g. a member of the start-up team unexpectedly withdraws). It inquires whether there is (potential) harm or benefit with respect to commitments, values, or goals (Folkman *et al.*, 1986). If an appraisal is made which determines that what is occurring is a condition of stress, the alternatives are harm, threat, or challenge. With harm, damage has already occurred, whereas threat concerns the possibility of such damage in the future. People who feel challenged enthusiastically pit themselves against obstacles. Appraisals of harm, threat, and challenge are not mutually exclusive and can all occur at the same time (Lazarus, 1999).

Secondary appraisals are self-judgments about a person's available options and resources to cope with the issue and its possible consequences (Lazarus and Folkman, 1984). It is a cognitive-evaluative process that is focussed on what can be done about a stressful person-environment relationship, when there has been a primary appraisal of harm, threat, or challenge (Lazarus, 1999). It includes an evaluation of coping options, and if it is part of an active search for information and meaning, it is appropriate to refer to it as a way of coping itself (Lazarus, 1999).

Coping is defined as "the person's efforts to manage specific external or internal demands that are appraised as taxing or exceeding the person's resources" (Lazarus and Folkman, 1984, p. 141). Lazarus and colleagues state that the two major functions of coping are dealing with the problem itself, and dealing with the emotions that the problem brings about (Lazarus, 1999). Their coping instrument, the "Ways of Coping" measure, is further subdivided into: confrontive coping; distancing; self-controlling; seeking social support; accepting responsibility; escape-avoidance; planful problem solving; and positive reappraisal. Previous studies have provided strong support for the idea that people usually simultaneously employ a range of coping strategies (Folkman *et al.*, 1986), and that different coping strategies are used in different phases in dealing with a problem (Carver and Scheier, 1994).

While there is reasonable agreement over a lower-level ordering of coping strategies that sufficiently captures all the possible responses that people can have in particular situations, there is little agreement on how to further aggregate these coping strategies on a higher level (Skinner *et al.*, 2003, p. 248). The distinction between problem-focussed and emotion-focussed coping has been criticized, as, in practice, the two go hand-in-hand, influence each other, and are difficult to disentangle (Carver *et al.*, 1989). Any coping strategy serves both functions (Skinner *et al.*, 2003). Subsequently other higher order distinctions, based on modes of coping rather than on function, have been proposed. Examples are behavioral vs cognitive; active vs passive; and changing the situation vs changing the self (Brandstädter and Renner, 1990). These have been critiqued on the ground that all ways of coping are multidimensional (Skinner *et al.*, 2003).

Still other distinctions have been proposed based on coping dimensions, notably approach and avoidance coping (Latack, 1986; Roth and Cohen, 1986). In approach coping, adversity is faced, either cognitively or behaviorally or in combination. In contrast, examples of avoidance or escape coping are distracting oneself; mental, or behavioral disengagement; denial; and use of alcohol. While approach coping has often been portrayed as good, and avoidance coping as bad, this has turned out to be too simplistic. For instance, becoming aggressive (approach) is not necessarily more effective than having a sleep (avoidance). Overall, the field concludes that nearly all coping strategies have their benefits, depending on the conditions in which they are enacted (Folkman and Moskowitz, 2004). The strength of appraisal theory for the analysis for perseverance strategies is that the theory emphasizes the subjective nature of appraisal processes, and that it details a large variety of coping responses.

The model in Figure 2 integrates elements of appraisal theory and control theory. Carver and Scheier (1999, 2005) have repeatedly commented on the compatibility of appraisal and control theory, stating that coping constitutes efforts at self-regulation in times of duress. They have not, however, explained how the different processes might be related, as is shown in Figure 2. Primary appraisal shares with the comparator that they both compare a current state of affairs with the aims that a person wants to

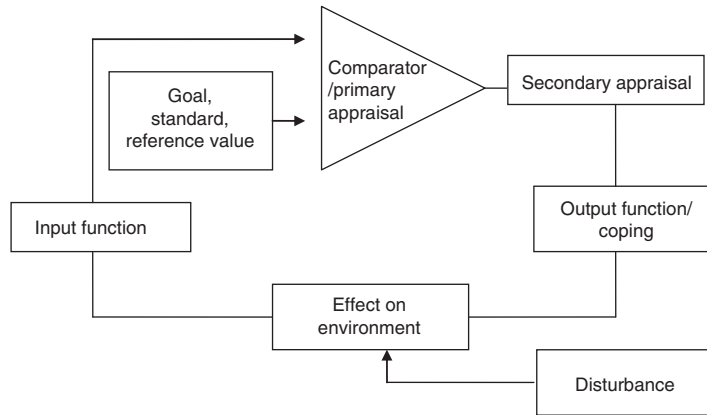


Figure 2.
Negative feedback loop
integrating control theory
and appraisal theory

achieve. In secondary appraisal a person's response options are considered and weighted. The output function refers to different types of coping.

The joint use of features of appraisal and control theory allows for the identification of perseverance strategies, which can all be seen as outputs or types of coping. Although admittedly higher-order classifications of coping are problematic, this analysis presents four broad categories of perseverance strategies (the dotted lines in Figure 3). The first category contains actions that target the environment by directly affecting the problem, difficulty, or obstacle. The second category discerns strategies that directly target the input function, while leaving the adversity at hand unaffected. In the third category, strategies that involve the goal are distinguished. Strategies in the fourth category aim to increase an individual's ability to deal with adversity. In other words, these strategies: affect adversity itself; reframe the goal that adversity has made more difficult to attain; change the way one looks at this adversity; and increase one's ability to deal with adversity. Stress management research has arrived at a comparable classification (Cameron and Whetten, 2007). The next section discusses the categories and their associated strategies in more detail.

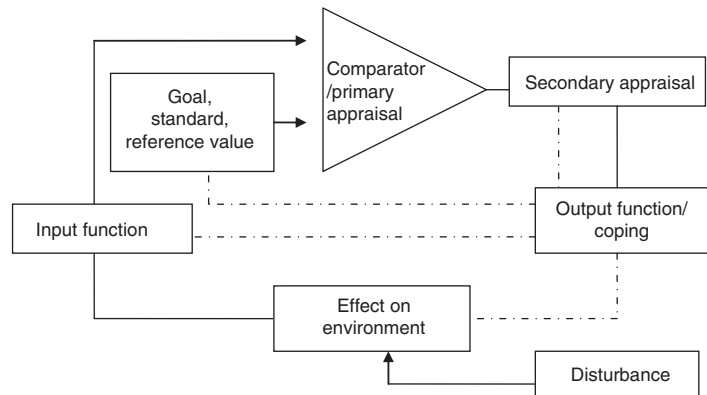


Figure 3.
Dealing with adversity
in goal striving

Perseverance strategies for enterprising individuals

According to Carver and Scheier (1998), it is the rate of progress toward the goal that determines whether negative or positive affect arises. In addition, they posit that a lack of goal progress can lead to a re-assessment of outcome expectancies, accompanied by a sense of doubt. Adversity, setbacks, difficulties, and obstacles will typically mean that progress toward the goal is delayed or stalled. As a result, negative feelings arise, and doubt may ensue. What are the strategies that can help the individual to persevere under such conditions? How can a person maintain a state of confidence and positive feeling? Figure 4 provides an overview of readily employable perseverance strategies, categorized by their place in the process model.

This model is a descriptive process model – it does not say which strategy or combination of strategies works best, neither in terms of persistence, nor in making progress toward the goal. The strategies in category A (perseverance strategies directly affecting the environment) aim to directly overcome adversity, and the strategies in categories B (directly affecting the input function), C (strategies involving the goal), and D (increasing one’s coping options) enable further use of the strategies in category A. However, it might be said that all strategies can be causally interlooped, in any number of sequence and combination.

Please note that the strategies are presented separately for didactic purposes. As the previous section on appraisal theory has indicated, different strategies can serve a similar purpose, just as one strategy can serve multiple purposes. I have illustrated the various strategies by means of examples from James Dyson’s (1997) autobiography *Against All Odds*. Dyson had to deal with vast amounts of adversity in the 15 years between conceiving his idea for a vacuum cleaner using cyclone technology, and finally producing and marketing it under his own name.

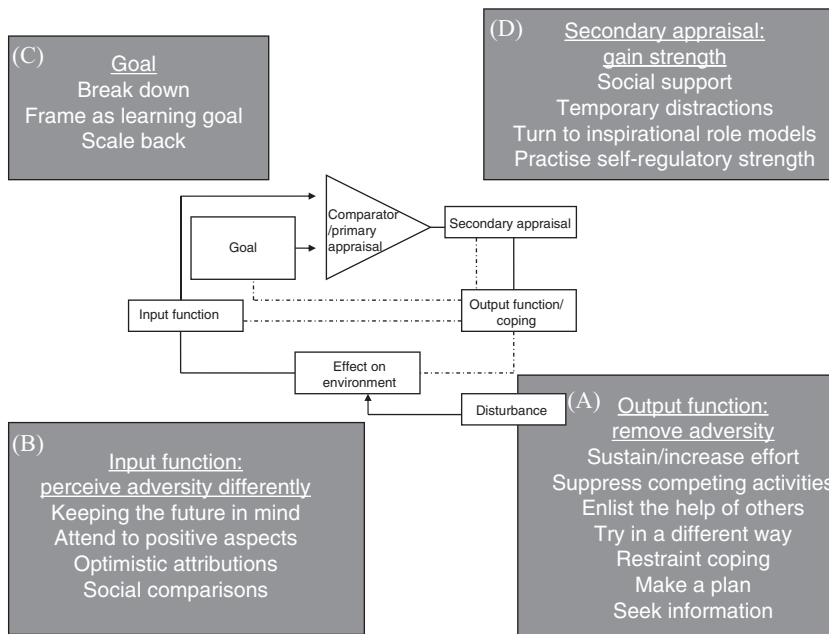


Figure 4. Perseverance strategies for enterprising individuals

Perseverance strategies that directly affect the environment (A)

When dealing with problems, obstacles, and setbacks, the immediate solution is elimination of the constraint. If success is not immediate, one can continue to tackle the problem head on, increase effort, find alternative ways to reach the goal, enlist the help of others to solve the issue, suppress competing goals and activities so as to focus on solving the problem, devise a plan, and seek information (all these behaviors were shown by Dyson). Yet another strategy is restraint coping. In some situations it may be more effective to refrain from action, to take a deep breath, and pause for some time in the hope that the problem will disappear. All strategies in this category are examples of problem-focussed coping, and all support perseverance. For example, thinking of an alternative way to solve a problem allows one to maintain positive outcome expectancies. Solving the issue, removing the obstacle, and overcoming the setback are the optimal outcomes in dealing with adversity. In the context of perseverance in enterprising situations, however, attention must also be paid to those situations where strategies that directly affect the situation do not immediately or fully help. Tenacity is called for when a problem cannot be easily resolved or removed. Here, attempts to affect the situation must be complemented by coping strategies that target the goal, the input function, or secondary appraisal. These strategies can also enable further direct attempts to remove adversity.

Perseverance strategies that directly affect the input function (B)

This section analyses coping strategies that affect the input function, while leaving the environment and the goal unchanged. These strategies target the perception of the situation. First, attention can be focussed on the aspects of the situation that can help an individual to persevere. Positive reappraisal can occur in multiple ways. One of them is transference (Baumeister and Heatherton, 1996): taking a longer term or wider view. With this strategy, one attempts to transcend the effects of immediate stimuli, and to bring attention back to overarching goals rather than being immersed in the immediate situation. One tries to stay focussed on the original vision, or motive, by which one was energized in the first instance. Keeping an eye on the overall goal puts current setbacks in perspective, and seeing a bright future gives hope. In the words of Dyson, "In those two years that I plodded around Europe I survived on a sort of *manāna* attitude: tomorrow would always be better. You have to think like that, otherwise you can't go on. [...] After each knock-back I would find a reason to be optimistic about the next meeting. 'They'll want it because they are into new technology,' I would think. Or, 'They will want it because they are German'" (p. 136).

A second positive reappraisal strategy consists of directing the attention to positive aspects. Dyson employed this strategy in dealing with the many rejections of his products (p. 136): "And as you suffer each rejection you learn a little bit about your product, and what people want from it, and why – and you can sometimes justify your profitless plodding that way, too" (p. 141). Another example: "What kept me going, though, was the quasi-religious following that my vacuum cleaner attracted. When a particular VP managed to persuade his company to take up the cyclone project, only to see it fall apart further down the line, he would, more often than not, quit the company in disgust. [...] the fact that so many others seemed to share my obsession gave me great heart, and convinced me that perseverance would eventually be rewarded" (p. 141).

A related, third reappraisal strategy is to attribute adversity to external, unstable, and specific causes. Seligman's (1991) work on learned optimism posits that pessimists

attribute harm to internal, stable, and pervasive causes, while optimists do the opposite. Dyson uses an optimistic attribution style. He retains his belief in the superiority of his products, and blames his many setbacks and rejections on the incompetence and the power games of those that he had to deal with (external causes), and his own mistakes (unstable, non-pervasive causes). Seligman (1991) admits that optimistic attributions may come at the expense of realism (pessimists may be biased in the opposite direction). He argues for “flexible optimism” (p. 281), which includes a number of reality checks. Nevertheless, the optimistic attribution style is much better suited to persisting in the face of adversity.

A fourth reappraisal strategy concerns social comparisons (Buunk and Gibbons, 2007). Seeking information about the encounters of other enterprising individuals with similar difficulties can enhance perseverance. Here, the evaluation of the social comparison is crucial. If someone else has successfully resolved the issue, this shows that one does not need to give up. If others gave up, this means that, by pressing on, one will have to deal with fewer competitors later. Conversely, the ability to persevere is hampered if the success of others is seen as a poor reflection of oneself, and if the failure of others is taken as evidence of the hopelessness of the mission. In his book, Dyson shows little evidence of using this strategy.

Perseverance strategies involving the goal (C)

Goals, standards, and reference values have various applications in perseverance strategies. First, perseverance may be furthered if larger goals are broken down into sub-goals. Breaking down goals by adding lower layers in the goal hierarchy (Austin and Vancouver, 1996), makes clear on a more detailed level what is needed to reach the goal, or can highlight alternative ways to reach a goal. The sub-goals can also be conceived as phases in the achievement of ultimate success. Labeled by him as the Edisonian approach, Dyson strongly favors iterative development as part of innovation (p. 267).

Second, framing issues as learning goals rather than as performance goals has been proven to be related to perseverance (Elliott and Dweck, 1988; Kaplan and Maehr, 2007). Before Dyson went into production with the Dual Cyclone, he had built 5,127 prototypes (p. 121). Although his overall goal was to build a superior vacuum cleaner, many of these prototypes served learning goals as they helped him to figure things out. Dyson states he “enjoyed and benefited from learning things by doing” (p. 264). The difference lies in the role that is ascribed to failure: failure makes it more difficult to reach a performance goal, but can in fact enhance learning (Cope and Watts, 2000; Sitkin, 1992). Thus, in a similar situation, depending on one’s learning orientation, one person becomes more removed from reaching the goal, while another comes closer (Locke and Latham, 2002). The new learning goal is a sub-goal that enables the achievement of the performance goal.

Third, the scaling back of goals is related to persistence (Carver and Scheier, 2003, 2005). Coming under ever-increasing debt burdens, Dyson decides to license his technologies, rather than doing production himself. “When we set up company in 1979 it had been with the intention of manufacturing the product ourselves, but by 1982, with my exhaustion and overdraft, and with the company not having made any money, it seemed unlikely that that was ever going to happen. [...] After lengthy discussions, Jeremy Fry and I decided that rather than attempting to produce the thing ourselves, we should try to license for its production” (pp. 128, 9). This change of strategy allowed Dyson to persevere. Goals can be scaled down in various ways, for

example, in terms of time (taking longer time to reach a goal), resources (starting with less resources than hoped for), and geography (aiming to reach a smaller geographical market area).

Scaling back as a perseverance strategy does not mean that someone should start out with easy goals. The positive association between goal difficulty and performance (e.g. sales agents with higher sales targets achieve higher sales) is one of the most robust findings in social science (Locke and Latham, 1990, 2002; Latham, 2004). There is also a clear link between goal difficulty and perseverance, in the sense that difficult goals are a necessary condition for perseverance. Easy goals usually do not require tenacity, whereas difficult goals often do. However, when adversity arises it can be detrimental to perseverance to increase goal difficulty even further, and, from a perseverance perspective, it can sometimes be better to reduce the scale of the target.

Breaking larger goals down into sub-goals, framing goals as learning rather than performance goals, and scaling back goals, all reduce the discrepancy between the current state and the ideal state of goal achievement, and facilitate progress toward reaching the goal. In the model (Figure 4), the consequences are positive affect and confidence in reaching the goal, and, in secondary appraisal, where the possibilities of dealing with the difficulty or issue are considered, more options seem viable. Changing the goal, or the way the goal is framed, is just one set of perseverance strategies. In many cases, the goal cannot be changed or differently framed, or one may be reluctant to do this. In these circumstances, still other perseverance may prove to be useful.

Perseverance strategies that increase one's coping options (increasing self-regulatory strength) (D)

One intriguing line of research that is relevant in the context of perseverance is the study of self-regulatory strength (Baumeister and Heatherton, 1996; Baumeister *et al.*, 2006). This research stream is concerned with self-control, for example, being able to resist impulses to consume fatty food, shop impulsively, steal, and engage in violence (Vohs and Baumeister, 2004). Starting with impulse control, the argument is that, if an impulse has a certain pulling strength, for instance an enticing piece of chocolate for a dieter, than what resists that impulse must have greater strength (Baumeister and Heatherton, 1996). This self-regulatory strength is a resource that becomes depleted when used. Hence, it is often in the evening that dieters eat the chocolate they have resisted all day (Muraven and Baumeister, 2000). Laboratory research shows that when people have exerted self-control on an initial task, they are subsequently less successful when performing other tasks requiring self-control (Schmeichel and Baumeister, 2004). A person can become exhausted from many simultaneous demands. Strategies in this category all aim to increase the ability to cope with adversity.

Self-regulatory strength can be replenished, for example, by sleeping, walking, or swimming. Seeking temporary distractions in order to replenish self-regulatory strength is a strategy that can further perseverance. After a nap, for example, a person may feel more able to directly target the source of adversity, or take a different perspective on adversity or the goals she is aiming to achieve. Dyson used unrelated invention projects for this purpose: "But for the moment [...] I had two mega-lawsuits raging on at once. To distract myself I began designing a new tank vacuum cleaner for the retail market" (p. 185). Temporary distraction can be an effective strategy if it means that one is able to face the adversity refreshed later on. Of course, there can be a

downside to this as some distraction strategies, such as drinking alcohol, and taking sleeping pills, can become habit-forming and harmful in themselves.

Another strategy that can help to regain self-regulatory strength is seeking social support. This can take various forms, such as a listening ear, and moral support, and can help to boost or regain confidence. At various points in his book does Dyson give his wife Deirdre credits for supporting him, even to the point that “Deirdre was often tougher than me [...], and would insist that we hang on and fight after spending so much” (p. 187). Venting emotions is another behavior that makes it possible to persevere longer, helping to deal with the negative feelings arising from falling behind in goal achievement. Dyson’s son testifies to the use of this practice: “Sometimes I would lose control completely when a model went wrong after weeks of planning, and Jacob told me only recently how well he remembers the sound of sheets of acrylic shattering out in the coach house, or down in the cellar, and me exploding in a typhoon of vociferous profanity” (p. 122). Turning to religion may also be seen as a form of social support (not used by Dyson). Turning to sources of inspiration is another strategy in this category. Sources of inspiration have different forms for different people, for example, a certain aspiration, a fear of failure, or a role model. For Dyson, Isambard Kingdom Brunel was a source of inspiration. “And at times in my life when I have encountered difficulty and self-doubt I have looked to his example to fire me on [...] identifying with them, and seeing parallels with every stage of my own life, enabled me to see my career as a whole and to know that it would all turn out the way it has” (pp. 39, 40).

Self-regulatory strength can also be practiced (Baumeister *et al.*, 2006). The interesting thing is that the exercise of self-regulatory strength leads to improvements in self-control also unrelated areas (Baumeister *et al.*, 2006). If self-regulatory strength is practiced in one area, it generalizes to other, unrelated areas. Compared with a control group, those who adhered to a two-month physical exercise program did not only get fitter, they also did better on a visual tracking task, decreased impulsive spending, and washed their dishes more often. Those who signed up and adhered to a money management program not only spent less, they also did better on a subsequent visual tracking task, showed better maintenance of household chores, and ate healthier food in spite of the increase in cost (five of these studies are reviewed in Baumeister *et al.*, 2006). The implication of this research is profound, because it suggests that one can become better at enterprising behavior by means of the practice of completely unrelated exercises. Practicing self-regulatory strength needs to take place before adversity is faced, as it increases resilience in the medium and longer term, and is therefore not a readily employable strategies like the others listed in Figure 4.

Discussion and a research agenda

The enterprising situation can be defined as any situation where goals are to be achieved under conditions of uncertainty, change, resource scarcity, and financial as well as psychological ownership (Baron, 1998, 2008; Gibb, 1993). What now follows are suggestions for the further study of strategies that allow individuals to persevere in their daily encounters with adversity in the enterprising situation. First, this paper has proposed a menu of perseverance strategies: it does not predict or suggest which perseverance strategies are more effective, neither for persisting longer, nor for reaching goals. It does not state which strategy makes a better fit with different types of enterprising individuals, tasks, or adverse conditions. Similarly, this analysis has not

addressed which combinations or sequences of strategies are particularly effective. For example, maintaining a positive outlook, scaling down goals, or gaining social support may together make it possible to make further attempts to remove an obstacle. One future research aim is to uncover these contingent relationships.

Furthermore, research can investigate the relationships between perseverance strategies and their determinants. These include proximal determinants such as task characteristics, task-specific confidence (Hayward *et al.*, 2010), and personal situational characteristics, such as a lack of alternatives and options that result in desperation-driven perseverance. Similarly, it would be of interest to study the incidence and effectiveness of perseverance strategies in connection with stable personality characteristics that imply perseverance, such as: resilience (Block and Kremen, 1996); hardiness (Maddi, 2002); the need for achievement (McClelland, 1961); willpower (Goshal and Bruch, 2003); grit (Duckworth *et al.*, 2007); self-esteem (DiPaula and Campbell, 2002); and the adversity quotient (Stoltz, 1997). The life story of James Dyson has provided many examples that illustrate the various strategies. One word of caution is in order here: With Dyson the role of character traits is of great importance. Early childhood events such as the early death of his father, and circumstances such as being the youngest one around, made him a very determined person, and therefore an extreme case. The focus of this paper is on enterprising behavior, actions that individuals can take to persevere, regardless of personality traits.

Our research model is concerned with goal striving and goal revision. Reducing the perceived discrepancy between a current and a desired state is at the heart of control theory. Our model has little to say about goal establishment, which, in the case of enterprising goals, is usually an act of deliberately enlarging this discrepancy (Locke and Latham, 1990). It is also silent about goal commitment: the determination to reach a goal (Wofford *et al.*, 1992). Why and how people establish and commit to goals is outside the scope of the model, as our focus is on perseverance in goal striving after the goals have been set and have been committed to. Still, goal establishment and commitment are likely to have an impact on the perseverance strategies and their effectiveness. These relationships would provide another fertile direction for future research.

A further suggestion is to study the optimum level of perseverance in various settings of enterprising behavior. Too little persistence in dealing with adversity can mean that initiatives will be pre-emptively aborted. However, just as one can persevere too little, one can also persevere too much. Unlimited perseverance can be suboptimal for two reasons. First, enterprising behavior is commonly associated not only with perseverance, but also with flexibility, adaptability, and pro-activeness. People remove themselves from blind alleys, give up plans that have been disrupted by unexpected events, and find different ways to reach a goal if one particular avenue is thwarted are more likely to succeed (Carver and Scheier, 2003, 2005; Pulakos *et al.*, 2000). Flexible and pro-active people not only adapt and accommodate, they also engage with emerging possibilities and opportunities (Bateman and Crant, 1999). This applies especially in environments that are characterized by change, uncertainty, and resource scarcity: in other words, enterprising situations (Baron, 1998). Here, improvisation (Baker and Nelson, 2005) and effectuation (Sarasvathy, 2001) may be called for. That said, continuously changing tack may also signal a lack of perseverance. In sum, success demands both perseverance and flexibility, but in any given situation, the two qualities need to be balanced.

Second, perseverance can result in an escalation of commitment (Staw, 1976). This phenomenon can occur in situations where costs are suffered in a course of action, where there is a choice to withdraw or persist, and where the consequences of withdrawal and persistence are uncertain. In escalation of commitment, people will continue, or even increase investing in a course of action, despite evidence that suggests that the course of action is mistaken. Examples in a business context include continuing to pump money into a café that does not attract customers, or in the commercialization of a technology that does not attract demand. The fundamental reason for escalation of commitment to exist, is uncertainty (DeNicolis Bragger *et al.*, 2003): one does not know if the café and the technology will eventually become popular. However, research has shown that, given a level of uncertainty and negative feedback on a course of action, there are several powerful drivers leading decision makers to persist rather than disengage. These include feeling responsible for the initial investment decision, described as a self-justification effect, whether toward oneself, or others, or both (Staw, 1976); psychological effects of sunk costs (Arkes and Blumer, 1985); loss aversion (Whyte, 1993); project completion tendencies (Moon, 2001); and overoptimism (Åstebro *et al.*, 2007).

In sum, more perseverance is not always better. Effective self-regulation entails not only tenacity, but also adaptability and pro-activeness (Bateman and Crant, 1999; Pulakos *et al.*, 2000), and the ability to disengage (Carver and Scheier, 1998, 2005; Wrosch *et al.*, 2003). My hunch is that perseverance in the enterprising situation entails tenacity when in pursuit of ultimate goals, while simultaneously being highly flexible with, and critical of, the means employed to reach those aims. Empirical tests are needed to validate this claim. To what extent can the body of literature that investigates de-escalation strategies (Simonson and Staw, 1992; Henderson *et al.*, 2007) be applied to the enterprising situation? Are there de-escalation strategies that are specific to entrepreneurship? At which point does flexibility turn into flight behavior, coming at the cost of perseverance?

Furthermore, there are several avenues for future research to expand our model, conceptually or empirically. One example is that the model is geared to the enterprising individual. Many ventures, however, are set up by teams, and the dynamics within enterprising teams that promote or hinder perseverance (as well as flexibility and escalation of commitment) present another excellent research opportunity. A second example is the role of affect (Baron, 2008; Patzelt and Shepherd, 2011). How do entrepreneurs regulate their negative emotions when adversity arises? Why do some entrepreneurs become energized by setbacks? A third example is the role of learning. Perseverance strategies often involve a change of approach. Can perseverance be seen as a special case of learning? Learning allows one to persevere, and perseverance allows one to learn. How do enterprising individuals maximize the learning potential from dealing with adversity (see Cope and Watts, 2000)? How do individuals learn about their most effective perseverance strategies? Fourth, although this model is presented in the context of enterprising behavior, in its various guises, it is not specific to it. Future research may outline how and why the enterprising context is different from others. For example, compared to marathon runners persevering under conditions of fatigue, enterprising individuals often have a shifting finish line, and only vague ideas of where the road is and whether the competition is in front, behind, or perhaps someplace else.

Of particular interest to entrepreneurship education is the possibility to develop perseverance as a competency. Is it possible to train tenacity at a later age?

Perseverance as an ability has its roots in the ability to delay gratification. Research shows that self-discipline is instilled at an early age, although Baumeister's research, as well as the success of boot camps (Baumeister and Heatherton, 1996), show that self-discipline can also be acquired at a later age. But is it possible to acquire perseverance in a classroom setting?

These proposed future research suggestions are more proposals of topics than outlines of specific research designs. In terms of the latter, two lines of research might serve as sources of inspiration. One possibility is to follow empirical work on control theory, which tends to be based on experiments. The other one is to follow empirical work on appraisal theory, which tends to be based on more qualitative work.

Conclusion

This paper addresses an issue faced by many enterprising individuals on a regular basis: how to persist in the face of difficulties, setbacks, obstacles, and harsh conditions. It presents a theoretical model that integrates different strands of research, and describes readily applicable strategies that can be employed in encounters with adversity. At the same time, the importance of perseverance is qualified by pointing at the need to be flexible, and the danger of escalation of commitment.

The enterprising situation is defined by conditions of uncertainty, change, and resource scarcity. These are challenging conditions, in which one is likely to encounter obstacles, difficulties, and adversity. The importance of entrepreneurship for the economy is by now well-established. Unfortunately, in a culture that is often focussed on instant gratification and immediate success, the ability to persevere may well be in decline. Ever-increasing uncertainty, change, and competitiveness, on the other hand, calls for more perseverance, rather than less. Hopefully, this paper will contribute to the persevering abilities of enterprising individuals.

Note

1. Adaptations include the subjective evaluation of input; the active selection, processing and interpreting of feedback; the ability to revise or change goals; the organization of multiple goals in hierarchical structures; the multi-potentiality and equifinality of goals; the choice among outputs; the ability to delay responses; the ability not only to act on discrepancy but also to employ goal change and feedback reevaluation (cognitive response strategies); to employ a trial-and-error approach to discrepancy reduction; to allow for adaptive learning and meta-learning; the inclusion of affect; and the calculation of outcome expectancies (Carver and Scheier, 1998; Fellenz, 1997).

References

- Affleck, G. and Tennen, H. (1996), "Construing benefits from adversity: adaptational significance and dispositional underpinnings", *Journal of Personality*, Vol. 64 No. 4, pp. 899-922.
- Arkes, H.R. and Blumer, C. (1985), "The psychology of sunk costs", *Organizational Behavior and Human Performance*, Vol. 35 No. 1, pp. 129-40.
- Åstebro, T., Jeffrey, S.A. and Adomdza, G.K. (2007), "Inventor perseverance after being told to quit: the role of cognitive bias", *Journal of Behavioral Decision Making*, Vol. 20 No. 3, pp. 253-72.
- Austin, J.T. and Vancouver, J.B. (1996), "Goal constructs in psychology: structure, process, and content", *Psychological Bulletin*, Vol. 120 No. 3, pp. 338-75.
- Baker, T. and Nelson, R.E. (2005), "Creating something from nothing: resource construction through entrepreneurial bricolage", *Administrative Science Quarterly*, Vol. 50 No. 3, pp. 329-66.

-
- Baron, R.A. (1998), "Cognitive mechanisms in entrepreneurship: why and when entrepreneurs think differently than other people", *Journal of Business Venturing*, Vol. 13 No. 4, pp. 275-94.
- Baron, R.A. (2008), "The role of affect in the entrepreneurial process", *Academy of Management Review*, Vol. 33 No. 2, pp. 328-40.
- Bateman, T.S. and Crant, J.M. (1999), "Proactive behavior: meaning, impact, recommendations", *Business Horizons*, Vol. 42 No. 3, pp. 63-70.
- Baum, J.R. and Locke, E.A. (2004), "The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth", *Journal of Applied Psychology*, Vol. 89 No. 4, pp. 587-98.
- Baumeister, R.F. and Heatherton, T.F. (1996), "Self-regulation failure: an overview", *Psychological Inquiry*, Vol. 7 No. 1, pp. 1-15.
- Baumeister, R.F., Gailliot, M., DeWall, C.N. and Oaten, M. (2006), "Self-regulation and personality: how interventions increase self-regulatory success, and how depletion moderates the effects of traits on behavior", *Journal of Personality*, Vol. 74 No. 6, pp. 1773-802.
- Block, J. and Kremen, A.M. (1996), "IQ and ego-resiliency: conceptual and empirical connections and separateness", *Journal of Personality and Social Psychology*, Vol. 70 No. 2, pp. 349-61.
- Brandstädter, J. and Renner, G. (1990), "Tenacious goal pursuit and flexible goal adjustment: explication and age-related analysis of assimilative and accommodative strategies of coping", *Psychology and Aging*, Vol. 5 No. 1, pp. 58-67.
- Buunk, A.P. and Gibbons, F.X. (2007), "Social comparison: the end of a theory and the emergence of a field", *Organizational Behavior and Human Decision Processes*, Vol. 102 No. 1, pp. 3-21.
- Cameron, K. and Whetten, D. (2007), *Developing Management Skills*, HarperCollins, New York, NY.
- Carver, C.S. and Scheier, M.F. (1981), *Attention and Self-Regulation: A Control Theory Approach to Human Behavior*, Springer Verlag, New York, NY.
- Carver, C.S. and Scheier, M.F. (1994), "Situational coping and coping dispositions in a stressful transaction", *Journal of Personality and Social Psychology*, Vol. 66 No. 1, pp. 184-95.
- Carver, C.S. and Scheier, M.F. (1998), *On the Self-Regulation of Behavior*, Cambridge University Press, Cambridge.
- Carver, C.S. and Scheier, M.F. (1999), "Stress, coping, and self-regulatory processes", in Pervin, L.A. and John, J.P. (Eds), *Handbook of Personality*, Guilford Press, New York, NY, pp. 527-47.
- Carver, C.S. and Scheier, M.F. (2003), "Three human strengths", in Aspinwall, L.G. and Staudinger, U.M. (Eds), *A Psychology of Human Strengths: Fundamental Questions and Future Directions for a Positive Psychology*, APA, Washington, DC, pp. 87-102.
- Carver, C.S. and Scheier, M.F. (2005), "Engagement, disengagement, coping, and catastrophe", in Elliot, A.J. and Dweck, C.S. (Eds), *Handbook of Competence and Motivation*, Guilford Press, New York, NY, pp. 553-75.
- Carver, C.S., Scheier, M.F. and Weintraub, J.K. (1989), "Assessing coping strategies: a theoretically based approach", *Journal of Personality and Social Psychology*, Vol. 56 No. 2, pp. 267-70.
- Cope, J. (2003), "Entrepreneurial learning and critical reflection: discontinuous events as triggers for 'higher-level' learning", *Management Learning*, Vol. 34 No. 4, pp. 429-50.
- Cope, J. and Watts, G. (2000), "Learning by doing. An exploration of experience, critical incidents and reflection in entrepreneurial learning", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 6 No. 3, pp. 104-24.
- DeNicolis Bragger, J.D., Hantula, D.A., Bragger, D., Kirnan, J. and Kutcher, E. (2003), "When success breeds failure: history, hysteresis, and delayed exit decisions", *Journal of Applied Psychology*, Vol. 88 No. 1, pp. 6-14.

- DiPaula, A. and Campbell, J.D. (2002), "Self esteem and persistence in the face of failure", *Journal of Personality and Social Psychology*, Vol. 83 No. 3, pp. 711-24.
- Duckworth, A.L., Peterson, C., Matthews, M.D. and Kelly, D.R. (2007), "Grit: perseverance and passion for long-term goals", *Journal of Personality and Social Psychology*, Vol. 92 No. 6, pp. 1087-101.
- Dyson, J. (1997), *Against All Odds: An Autobiography*, Orion, London.
- Elliott, E.S. and Dweck, C.S. (1988), "Goals: an approach to motivation and achievement", *Journal of Personality and Social Psychology*, Vol. 54 No. 1, pp. 5-12.
- Fellenz, M.R. (1997), "Control theory in organizational behavior: review, critique and prospects", SSRN research paper, SSRN, available at SSRN: <http://ssrn.com/abstract=939714> or <http://dx.doi.org/10.2139/ssrn.93971>
- Folkman, S. and Moskowitz, J.T. (2004), "Coping: pitfalls and promise", *Annual Review of Psychology*, Vol. 55, pp. 745-74.
- Folkman, S., Lazarus, R.S., Dunkel-Schetter, C., DeLongis, A. and Gruen, R.J. (1986), "Dynamics of a stressful encounter: cognitive appraisal, coping, and encounter outcomes", *Journal of Personality and Social Psychology*, Vol. 50 No. 5, pp. 992-1003.
- Gatewood, E.J., Shaver, K.G. and Gartner, W.B. (1995), "A longitudinal study of cognitive factors influencing start-up behaviors and success at venture creation", *Journal of Business Venturing*, Vol. 10 No. 5, pp. 371-91.
- Gatewood, E.J., Shaver, K.G., Powers, J.B. and Gartner, W.B. (2002), "Entrepreneurial expectancy, task effort, and performance", *Entrepreneurship Theory & Practice*, Vol. 27 No. 2, pp. 187-206.
- Gibb, A.A. (1993), "The enterprise culture and education", *International Small Business Journal*, Vol. 11 No. 3, pp. 11-34.
- Gimeno, J., Folta, T.B., Cooper, A.C. and Woo, C.Y. (1997), "Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms", *Administrative Science Quarterly*, Vol. 42 No. 6, pp. 750-83.
- Goshal, S. and Bruch, H. (2003), "Going beyond motivation to the power of volition", *MIT Sloan Management Review*, Vol. 44 No. 3, pp. 51-7.
- Hayward, M.L.A., Forster, W.R., Sarasvathy, S.D. and Frederickson, B.L. (2010), "Beyond hubris: how highly confident entrepreneurs rebound to venture again", *Journal of Business Venturing*, Vol. 25 No. 6, pp. 569-78.
- Henderson, M.D., Gollwitzer, P.M. and Oettingen, G. (2007), "Implementation intentions and disengagement from a failing course of action", *Journal of Behavioral Decision Making*, Vol. 20 No. 1, pp. 81-102.
- Kaplan, A. and Maehr, M.L. (2007), "The contributions and prospects of goal orientation theory", *Educational Psychology Review*, Vol. 19 No. 2, pp. 141-84.
- Latack, J.C. (1986), "Coping with job stress: measures and future directions for scale development", *Journal of Applied Psychology*, Vol. 71 No. 3, pp. 377-85.
- Latham, G.P. (2004), "The motivational benefits of goal setting", *Academy of Management Executive*, Vol. 18 No. 4, pp. 126-9.
- Lazarus, R.S. (1966), *Psychological Stress and the Coping Process*, McGraw-Hill, New York, NY.
- Lazarus, R.S. (1999), *Stress and Emotion*, Springer, New York, NY.
- Lazarus, R.S. and Folkman, S. (1984), *Stress, Appraisal and Coping*, Springer, New York, NY.
- Locke, E.A. and Latham, G.P. (1990), *A Theory of Goal Setting & Task Performance*, Prentice Hall, Englewood Cliffs, NJ.
- Locke, E.A. and Latham, G.P. (2002), "Building a practically useful theory of goal setting and task motivation", *American Psychologist*, Vol. 57 No. 9, pp. 705-17.

-
- McClelland, D.C. (1961), *The Achieving Society*, Van Nostrand, New York, NY.
- Maddi, S.R. (2002), "The story of hardiness: twenty years of theorizing, research, and practice", *Consulting Psychology Journal*, Vol. 43 No. 3, pp. 175-85.
- Markman, G.D., Baron, R.A. and Balkin, D.B. (2005), "Are perseverance and self-efficacy costless? Assessing entrepreneurs' regretful thinking", *Journal of Organizational Behavior*, Vol. 26 No. 1, pp. 1-19.
- Moon, H. (2001), "Looking forward and looking back: integrating completion and sunk-cost effects within an escalation-of-commitment progress decision", *Journal of Applied Psychology*, Vol. 86 No. 1, pp. 104-13.
- Muraven, M.R. and Baumeister, R.F. (2000), "Self-regulation and depletion of limited resources: does self-control resemble a muscle?", *Psychological Bulletin*, Vol. 126 No. 2, pp. 247-59.
- Patzelt, H. and Shepherd, D.A. (2011), "Negative emotions of an entrepreneurial career: self-employment and regulatory coping behaviors", *Journal of Business Venturing*, Vol. 26 No. 2, pp. 226-38.
- Pulakos, E.D., Arad, S., Plamondon, K.E. and Donovan, M.A. (2000), "Adaptability in the workplace: development of a taxonomy of adaptive performance", *Journal of Applied Psychology*, Vol. 85 No. 4, pp. 612-24.
- Roth, S. and Cohen, L. (1986), "Approach, avoidance, and coping with stress", *American Psychologist*, Vol. 41 No. 7, pp. 813-19.
- Sarasvathy, S.D. (2001), "Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency", *Academy of Management Review*, Vol. 26 No. 2, pp. 243-63.
- Schmeichel, B.J. and Baumeister, R.F. (2004), "Self-regulatory strength", in Baumeister, R.F. and Vohs, K.D. (Eds), *Handbook of Self-Regulation. Research, Theory and Applications*, Guilford Press, New York, NY, pp. 84-98.
- Seligman, M. (1991), *Learned Optimism*, A.A. Knopf, New York, NY.
- Shepherd, D. (2003), "Learning from business failure: propositions of grief recovery for the self-employed", *Academy of Management Review*, Vol. 28 No. 2, pp. 318-29.
- Shepherd, D.A., Wiklund, J. and Haynie, J.M. (2009), "Moving forward: balancing the financial and emotional costs of business failure", *Journal of Business Venturing*, Vol. 24 No. 2, pp. 134-48.
- Simonson, I. and Staw, B.M. (1992), "Deescalation strategies: a comparison of techniques for reducing commitment to losing courses of action", *Journal of Applied Psychology*, Vol. 77 No. 4, pp. 419-46.
- Sitkin, S.B. (1992), "Learning through failure: the strategy of small losses", in Cummings, L.L. and Staw, B.M. (Eds), *Research in Organizational Behavior*, Vol. 14, JAI Press, Connecticut, CT, pp. 231-66.
- Skinner, E.A., Edge, K., Altman, J. and Sherwood, H. (2003), "Searching for the structure of coping: a review and critique of category systems for classifying ways of coping", *Psychological Bulletin*, Vol. 129 No. 2, pp. 216-69.
- Staw, B.M. (1976), "Knee-deep in the big muddy: a study of escalating commitment to a chosen course of action", *Organizational Behavior and Human Performance*, Vol. 16 No. 1, pp. 27-44.
- Stoltz, P.G. (1997), *Adversity Quotient. Turning Obstacles Into Opportunities*, Wiley, New York, NY.
- Trevelyan, R. (2011), "Self-regulation and effort in entrepreneurial tasks", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 17 No. 1, pp. 39-63.

- Vancouver, J.B. (2005), "The depth of history and explanation as benefit and bane for psychological control theories", *Journal of Applied Psychology*, Vol. 90 No. 1, pp. 38-52.
- Vancouver, J.B. and Day, D.V. (2005), "Industrial and organisation research on self-regulation: from constructs to applications", *Applied Psychology*, Vol. 54 No. 2, pp. 155-85.
- Vohs, K.D. and Baumeister, R.F. (Eds) (2004), "Understanding self-regulation", *Handbook of Self-Regulation. Research, Theory and Applications*, Guilford Press, New York, NY, pp. 1-9.
- Whyte, G. (1993), "Escalating commitment in individual and group decision making: a prospect theory approach", *Organizational Behavior and Human Decision Processes*, Vol. 54 No. 3, pp. 430-55.
- Wofford, J.C., Goodwin, V.L. and Premack, S. (1992), "Meta-analysis of the antecedents of personal goal level and of the antecedents and consequences of goal commitment", *Journal of Management*, Vol. 18 No. 3, pp. 595-615.
- Wrosch, C., Scheier, M.F., Schulz, R. and Carver, C.S. (2003), "The importance of goal disengagement in adaptive self-regulation: when giving up is beneficial", *Self and Identity*, Vol. 2 No. 1, pp. 1-20.

Further reading

- Cassar, G. (2007), "Money, money, money? A longitudinal investigation of entrepreneur career reasons, growth preferences and achieved growth", *Entrepreneurship & Regional Development*, Vol. 19 No. 1, pp. 89-107.
- Davidsson, P. (2006), "Nascent entrepreneurship: empirical studies and developments", *Foundations and Trends in Entrepreneurship*, Vol. 2 No. 1, pp. 1-76.
- Godin, S. (2007), *The Dip*, Penguin, New York, NY.
- Miceli, M. and Castelfranchi, C. (2000), "Nature and mechanisms of loss of motivation", *Review of General Psychology*, Vol. 4 No. 3, pp. 238-63.
- Powers, W.T. (1973), *Behavior: The Control of Perception*, Aldine de Gruyter, New York, NY.
- Shane, S., Locke, E. and Collins, C.J. (2003), "Entrepreneurial motivation", *Human Resource Management Review*, Vol. 13 No. 2, pp. 257-80.
- Wong, K.F.E. (2005), "The role of risk in making decisions under escalation conditions", *Applied Psychology: An International Review*, Vol. 54 No. 4, pp. 584-607.

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