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'The Ostrich Problem': Motivated Avoidance or Rejection of Information About Goal Progress

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Abstract

Monitoring one's current standing with respect to goals can promote effective self-regulation. However, the present review suggests that there is an ostrich problem such that, in many instances, people have a tendency to "bury their head in the sand" and intentionally avoid or reject information that would help them to monitor their goal progress. For example, people with diabetes avoid monitoring their blood glucose, and few people monitor their household energy consumption, check their bank balances, keep track of what they are eating and so on. While situational constraints can explain some problems with progress monitoring, we use a self-motives framework to posit that the decision to avoid monitoring often represents the product of an interaction between different motives. For example, the desire to accurately assess progress may conflict with the desire to protect or enhance the self. The present review collates evidence pertaining to the ostrich problem, identifies different motives that underlie the decision to monitor versus not monitor goal progress, illustrates how the ostrich problem might be integrated into models of self-regulation, and provides suggestions for future research. In so doing, the review advances our understanding of the nature and determinants of intentionally deficient monitoring.

Imagine that, following a festive period of excess, someone has set the goal of losing weight before the summer. How could this person find out whether he/she was making progress toward this goal? Assessing goal progress often requires an active decision (e.g., to keep a log of exercise or calories consumed, to step on the scales) and an objective appraisal of the information received. Given that the information gleaned from monitoring may not always be pleasant (e.g., it might suggest that progress is slower than expected), we contend that people may choose to 'bury their heads in the sand' and avoid such information. For example, Linde et al. (2005) found that 20% of people enrolled in a weight loss program reported to have never self-weighed prior to the program. In short, we suggest that there are instances in which people are motivated to avoid or reject information about goal progress, a psychological phenomenon that we call the ostrich problem.[1] Our aim is to delineate the ostrich problem and discuss why it occurs and what its consequences might be. We also illustrate how the ostrich problem might be integrated into models of self-regulation and provide suggestions for future research on progress monitoring.

Monitoring goal progress involves periodically noting the qualities of goal-related behavior or its outcomes and comparing these perceptions with salient reference values (Carver & Scheier, 1990). Different types of information on goal progress may be more or less accessible, and thus, the receipt of relevant information may be more or less intentional. For example, it is difficult not to notice significant changes in one's appearance that indicate whether one is successful at losing weight. In other contexts, people may need to actively seek information on their goal progress. Checking the balance of a savings account, for instance, requires visiting the bank, reading one's bank statement, or logging into an online system. We therefore distinguish between "active monitoring", where the person actively and strategically seeks information on goal progress and "passive monitoring" where information on goal progress becomes

apparent (at a conscious or an unconscious level) without any effort on the part of the receiver (see Berger, 2002, for a similar distinction between strategic and non-strategic information acquisition).[2] People can derive information about their goal progress by monitoring behavior or by monitoring the outcomes of behavior (Abraham & Michie, 2008).

Once a person has information pertaining to goal progress, he/she then needs to interpret that information. Goals provide both a standard against which to compare one's current state and also a schema for making sense of the information available (Ashford & Cummings, 1983). For example, the goal to reduce electricity consumption provides a context for interpreting the information shown on an energy bill (e.g., in answering the question "am using more or less electricity than before?"). The relation between the current rate of goal progress and the desired rate is thought to be indicated by "a hazy and nonverbal sense of outcome expectancy" (Carver & Scheier, 1990, p. 23) and affect (Carver, 2003; Carver & Scheier, 1990, 1998). When progress is better than expected (e.g., an energy bill suggests that efforts to save energy have led to substantial savings), the person is predicted to experience positive affect (e.g., elation, eagerness). However, when progress is poorer than desired (e.g., an energy bill suggests no change in energy usage), then negative affect is predicted to ensue (e.g., sadness, disappointment).

Evidence of the Ostrich Problem

Although there are times when people are motivated to monitor their goal progress, there are also many instances in which people do not monitor their goal progress, even for goals that they rate as important. To give some examples, self-monitoring of blood glucose for patients with diabetes is relatively easy, quick, inexpensive, and associated with improved glycaemic control. As such, there is evidence that people with diabetes are motivated to monitor their blood glucose levels (Shankar et al., 2007). However, regular self-monitoring among people with diabetes is uncommon (Evans et al., 1999; Harris et al., 1993; Peel et al., 2007). Studies also reveal a similar avoidance of progress information in other contexts. Northcraft and Ashford (1990) showed that people are less likely to seek feedback about the outcomes of their share portfolios if they have low expectations about share performance. The National Savings and Investment Survey (2012) revealed that, of the Britons who worry about their finances daily, only 10% monitor their finances at least once a month. Similarly, despite rating relevant goals as important, few people keep track of how much they have eaten (Polivy, 1976), how many alcoholic drinks they have consumed (Hull, 1981), or the environmental impact of their behaviors (Shepherd & Kay, 2012). Finally, in organizational contexts, there is evidence that employees who lack self-confidence are less likely to seek feedback on their progress (Ashford, 1986) and that people are unlikely to seek feedback when they believe that it will dampen their self-esteem, or are worried about how seeking feedback might be construed by others (e.g., Tuckey et al., 2002).

The ostrich problem includes situations in which people receive relevant information but intentionally fail to evaluate the implications of that information for their goal progress – in other words, they (in a functional sense) reject the information. Reviews of information avoidance (e.g., Sweeny et al., 2010) and studies of feedback interventions (for a review, see Kluger & DeNisi, 1996) suggest that, even when information that could be used to evaluate goal progress is available, people may ignore or selectively attend to aspects of that information. For example, people sometimes reject information that: (i) is not consistent with their current attitudes (Lundgren & Prislin, 1998), expectations (Pinkley et al., 1995), or self-beliefs (Holton & Pyszczynski, 1989); (ii) may demand undesired action (Sweeny et al., 2010); (iii) suggests that goal progress is poor rather than good (e.g., Jacobs et al., 1973; Johnson & Nawrocki, 1967); or, relatedly, (iv) is expected to cause unpleasant emotions or diminish pleasant emotions (Sweeny et al., 2010).

Our conceptualization of the ostrich problem does not, however, include cases in which monitoring goal progress is objectively difficult (e.g., when information on goal progress does not exist, when it is vague or confusing, or when the goal is vague). For example, Cowburn and Stockley (2004) reviewed studies investigating consumer understanding of nutrition and use of nutrition labeling and concluded that consumers found nutrition labels confusing. These situations do not necessarily involve the active avoidance of information (and, thus, are not considered to be examples of the ostrich problem) because the individual may endeavor to monitor their current standing, but fail because the task is beyond their capacities. Cases in which people monitor proxies or substitutes also do not reflect the ostrich problem (e.g., a student monitors how many pages she has read instead of assessing whether she understands the material). The only exception would be if the substitution were motivated by the desire to avoid obtaining an accurate assessment of progress on the relevant dimension. In conclusion, the ostrich problem exists when pertinent information on goal progress is available but avoided.

Determinants of the Ostrich Problem

Given the potential benefits of monitoring progress for promoting goal achievement and behavior change, why might people actively avoid or ignore information pertaining to their goal progress? Liberman and Dar (2009) provide a useful review of how aspects of the focal goal (e.g., importance), along with personal (e.g., tolerance of uncertainty, need for closure) and situational factors (e.g., accountability for performance), can influence the nature and extent of progress monitoring. We acknowledge these determinants here but focus on the different motives that underlie decisions to seek information on goal progress. In so doing, we draw partly from reviews by Anseel et al. (2013), Anseel et al. (2007), Ashford et al. (2003), Crommelinck and Anseel (2013), Sedikides and Strube (1997), Strube et al. (1986), and Trope (1986), as well as empirical studies of when and why people seek feedback in organizational or achievement contexts (e.g., Tuckey et al., 2002). Specifically, we use a self-motives framework to suggest that the interaction among four different motives – self-assessment, self-improvement, self-enhancement, and self-verification – determines the nature and extent of goal progress monitoring.

The *self-assessment motive* – that is, the desire to obtain accurate knowledge about current goal progress – is perhaps the most obvious motive underlying the decision to seek information about goal progress. People are motivated to ask questions such as "How am I doing?" both to inform self-representations (e.g., the "monitored self": Higgins, 1996) and goal pursuit. In addition, the self-assessment motive can be triggered by the desire to better the self in some way, which is known as the *self-improvement motive*. By way of illustration, someone who is keen to reduce his/her environmental impact may decide to record the number of journeys that are made by car and how much imported food is bought when grocery shopping. In short, we suggest that the ostrich problem is less likely when self-assessment or self-improvement motives are at the fore.

Self-assessment and improvement motives can, however, conflict with the *self-enhancement motive*, which refers to the idea that people want to maintain a favorable view of themselves.[3] When the self-enhancement motive is at the fore, people may bury their heads in the sand when they expect that goal progress could be poor because poor progress may reflect negatively on the self and is, therefore, psychologically unpleasant. For example, Peel et al. (2007) quotes a person with diabetes who has stopped self-monitoring blood glucose: the device is "telling me I'm being bad maybe or not keeping—not being strict enough—and I think, "Oh oh, I ain't using you [the blood glucose meter] today" (p. 4). Similarly, Zuckerman et al. (1979) found that

participants who were led to believe that they had performed poorly on an initial anagram task were less likely to select anagrams that were potentially diagnostic of their ability in a subsequent task. This finding suggests that when participants expect that they have performed poorly, they do not wish to have this information confirmed (see also Carlson, 2013; Karlsson et al., 2009; Moss et al., 2009; Moss et al., 2003; Northcraft & Ashford, 1990; Tuckey et al., 2002).

Avoiding monitoring may also allow people to escape from negative feelings associated with holding or pursuing certain goals. For example, Candib (2008) suggested that "self-monitoring of blood glucose throws it in your face … you must admit again and again that you have diabetes" (p. 1263). Avoiding monitoring allows people to avoid these negative feelings. As another example, surveys of travel habits suggest that, although people are concerned about climate change, they view going on holiday as an escape from reality and everything that comes with it – including thinking about climate change (Costley & Matthews, 2009).

Finally, people may avoid monitoring goal progress or reject progress information when they believe that the information will be inconsistent with their view of themselves. This desire to maintain a coherent self-representation is known as the *self-verification motive* (Swann, 1983) and has been shown to influence the nature and likelihood of progress monitoring. Swann and Read (1981) found that participants spent less time reading social feedback that was inconsistent with their self-conceptions than feedback that was consistent. While the self-verification motive is related to self-enhancement (Gregg et al., 2011), the self-verification motive is distinct because it does not necessarily entail that people will avoid monitoring information that reflects poorly on the self (as predicted by the self-enhancement motive). Rather, the self-verification motive will lead people to avoid information that is inconsistent with self-views, even if that information is positive (see Rosen et al., 2013).

Conflict among the four self-motives can result in a dilemma over whether or not to monitor goal progress. While the self-assessment motive might favor repeated monitoring, the self-enhancement motive might discourage it if disappointing knowledge might be obtained. Thus, in many instances, people may be torn between obtaining information that might be useful, but psychologically unpleasant, and avoiding that information in order to feel better. So what determines how this dilemma is resolved? Research on decision-making and choice implicates self-control as an important factor determining the resolution of choice conflicts (e.g., Vohs et al., 2008). Self-control is likely required to overcome proximal concerns (such as those related to the implications of negative progress information) in order to advance more distal goals (e.g., self-improvement) (Fujita, 2011). Therefore, when the decision to monitor goal progress poses a self-control dilemma and the person is not able or motivated to exert self-control, then we contend that he or she is likely to exhibit the ostrich problem.

One important strategy or means by which motives such as self-enhancement can find expression is self-deception. Self-deception refers to instances in which people are motivated to consciously disavow something that they know unconsciously (Greenwald, 1997). The classic example is the patient with cancer who knows that his/her condition is terminal yet manages not to consciously acknowledge this fact. Our contention is that similar processes can operate when people monitor goal progress, such that people may take steps to prevent goal-relevant information (that they have some inkling of) from reaching consciousness. One possible instance might be when passive forms of monitoring provide clear information on progress (e.g., a bank card is refused at a store due to lack of funds), but the person explicitly avoids more active forms of monitoring (e.g., going into the bank to request a balance) so as not to confirm an unfortunate state of financial affairs. In this respect, the ostrich problem includes instances when people deceive themselves with respect to their goal progress.

Consequences of the Ostrich Problem

Given the importance of monitoring for selecting appropriate courses of action, it is likely that avoiding or rejecting relevant information will undermine effective self-regulation and, thus, goal attainment. For example, someone who holds the goal of saving energy, but does not monitor his/her household electricity consumption, may be less likely to know which appliances use the most electricity and so is less able to act in order to reduce his/her consumption (Karjalainen, 2011). Similarly, a man who ignores problems in his relationship avoids accurately appraising the situation and thus misses opportunities for remedial action when it is desirable for the relationship. Stated in other terms, monitoring goal progress helps people to identify discrepancies between their current and desired states that warrant action (Carver & Scheier, 1982; Fishbach et al., 2012; Myrseth & Fishbach, 2009). Therefore, avoiding monitoring makes it difficult to identify: (i) the need to act and (ii) the most appropriate way to do so. Liberman and Dar (2009) also suggest that more relaxed monitoring may reduce one's focus on the goal and increase the likelihood of being sidetracked by irrelevant activities.

Empirical research is consistent with this analysis. For example, Polivy et al. (1986, Study 1) found that female dieters ate fewer chocolates during a taste test when they were asked to leave their wrappers on the table (and so, presumably, found it easy to monitor how many chocolates they had eaten) than those who were asked to put their wrappers in a wastebasket. Evidence in educational domains also suggests that interventions designed to promote self-monitoring have positive effects. For instance, Broden et al. (1971) found that a schoolgirl who wanted to do better at school studied more when she recorded whether or not she was studying (see also Coughlin et al., 2012; Schmitz & Perels, 2011; Schunk, 1982). In a meta-analysis of exercise promotion programs for adults with chronic illnesses, Conn et al. (2008) found that interventions that prompted participants to monitor their physical activity levels led to better outcomes than those that did not include a self-monitoring component. Similarly, Michie et al. (2009) reported that when self-monitoring (e.g., by means of food diaries) was used in combination with at least one other technique from control theory (i.e., prompting intention formation, specific goal setting, providing feedback on performance, or prompting review of behavioral goals), the interventions had a medium-size effect on outcomes ($d_+ = 0.54$). In summary, studies that prompt monitoring of goal progress tend to find that people who monitor their current standing are better able to achieve their goals than those who do not, at least on average.

Qualifications to the recommendation to always monitor goal progress can be found. Specifically, selectively attending to some information and/or rejecting other information could permit a biased view of goal progress that, in turn, can serve self-regulatory functions. For example, Huang et al. (2012) found that people who are far away from achieving a goal exaggerate their progress, while people who are close to achieving a goal downplay their progress. Huang et al. further found that these biased views of progress serve to maintain motivation that, in turn, increases effort expended in pursuing the relevant goal (relative to those not possessing such a biased view of goal progress). Similarly, Finkelstein and Fishbach (2012) demonstrated that novices prefer to receive information indicating positive progress because it helps them to stay motivated, presumably by reinforcing their commitment to the respective goal. Therefore, people may avoid certain types of information in order to maintain a view of goal progress that best serves self-regulation. The decision to avoid monitoring one goal may also serve other goals. For example, a person striving for work-related goals may avoid monitoring the environmental impact of his or her business trips. In these situations at least, avoiding monitoring appears to be functional.

Given the preceding analysis, an important question concerns the conditions that dictate whether monitoring progress is beneficial or not. We believe that the answer to this question

depends on the relative costs versus benefits of monitoring progress in a given situation. Theoretical models point to the self-regulatory benefits of monitoring (e.g., identifying the need to act, the most appropriate way to do so, and maintaining concentration on the focal goal). Therefore, in the majority of instances, we contend that avoiding monitoring is a problem for the self-regulating person. However, the recent research by Huang et al. (2012) and Finkelstein and Fishbach (2012) suggests that there are also instances where an accurate appraisal of goal progress is costly in the sense that it can undermine motivation. Active forms of progress monitoring (e.g., keeping a diary of food consumption) may also consume regulatory resources that may be needed for other tasks (Muraven et al., 1999). Finally, monitoring goal progress can be costly in terms of implications for the self. In short, the extent to which progress monitoring benefits or hampers self-regulation likely depends on the extent to which the self-regulatory benefits of monitoring outweigh its costs.

Integrating the Ostrich Problem into Models of Self-Regulation

Current theoretical frameworks highlight the importance of monitoring goal progress. One of the most influential frameworks to date – Control Theory (Carver & Scheier, 1982) – suggests that once goals have been formed, a cognitive 'comparator' monitors the relation between the current rate of goal progress and the desired rate. This monitoring process serves to identify the situation as one that requires self-control (Fishbach et al., 2012; Myrseth & Fishbach, 2009). When a discrepancy is identified, the person makes efforts to reduce this discrepancy (in particular, by performing goal-directed action or by revising the goal). In turn, the outputs of doing so influence the correspondence between the current rate of goal progress and the desired rate of goal progress (as measured by the monitoring system) and so ensues a new loop of self-regulation by discrepancy reduction. According to Control Theory, therefore, the idea of monitoring goal progress is central to effective self-regulation (see also Ford, 1987; Louro et al., 2007; Miller et al., 1960; Powers, 1973; Powers et al., 1960a; Powers et al., 1960b). However, revisions to theoretical models of self-regulation are needed to (i) account for the difficulties that people experience monitoring goal progress and (ii) identify the motives that influence the decision to monitor progress versus not.

Figure 1 depicts a revised framework for self-regulation, based on Control Theory (Carver & Scheier, 1982, 1990), that takes into account the ostrich problem and explicitly identifies the motives that influence progress monitoring. There are two main contributions. First, monitoring goal progress is viewed as a variable that can differ in both nature and extent. At the simplest level, monitoring can be construed as a dichotomy – people can either monitor their progress toward their goals (such that the comparator is activated) or avoid monitoring goal progress, leading to the ostrich problem. Similarly, people can either accept the information derived from monitoring or reject it, with the latter case leading to the ostrich problem. However, monitoring can also vary in its extent and so is best viewed as a continuum along which some point is optimal for the person, situation, and target goal. The second contribution of the revised framework is to identify the motivational processes that influence how the comparator functions. Specifically, we posit that the interaction between four different self-motives – self-assessment, self-improvement, self-enhancement, and self-verification – influences whether people monitor their goal progress as well as how they interpret the information derived from progress monitoring.

Current explanations of self-regulatory failure tend to focus on how properties of the goal (e.g., viability, activation, elaboration: Sheeran et al., 2005) and the persons' ability to act when needed (e.g., self-regulatory strength: Baumeister et al., 2007; Hagger et al., 2010) influence whether self-regulation is successful or not (for a review, see Baumeister et al., 1994).

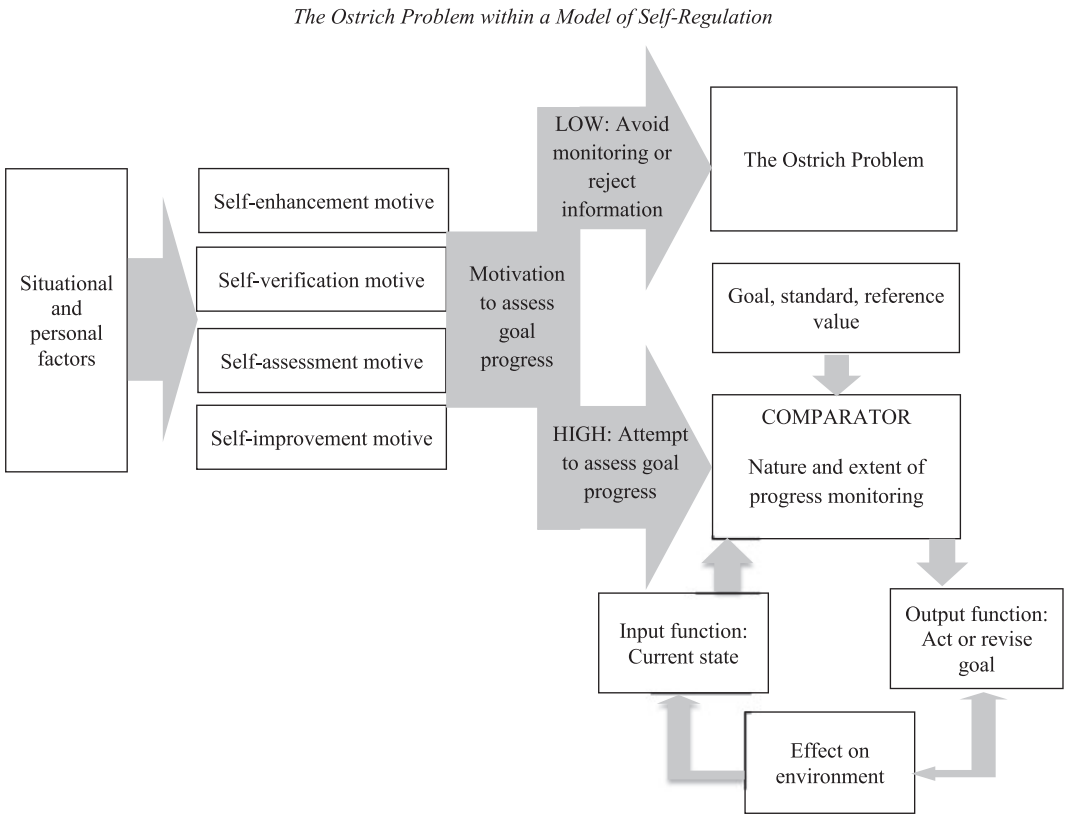

Figure 1. The ostrich problem within a model of self-regulation.

However, deficient monitoring of goal progress has received less research attention. In addition, reviews of self-monitoring tend to focus on the effects of interventions (e.g., Bravata et al., 2007; Dombrowski et al., 2012; Greaves et al., 2011; Michie et al., 2009) rather than the extent to which people experience problems with monitoring, with attendant implications of this for goal-striving success (however, see Liberman & Dar, 2009, for an exception). We argue that problems with progress monitoring are an important explanation for the difficulties that people experience when translating goals into action (for reviews, see Gollwitzer & Sheeran, 2006; Sheeran, 2002; Webb & Sheeran, 2006). Our delineation of the ostrich problem will hopefully provide a catalyst for future research into the frequency and nature of goal progress monitoring in different domains.

Issues and Questions for Future Research

Models like Control Theory (Carver & Scheier, 1982) predict that people will monitor their rate of progress toward goals that are important and salient to them. In support of this idea, Karoly and Ruehlman (1995) found that measures of value (e.g., "This goal is valuable to me") correlated with measures of self-monitoring (e.g., "I keep track of my overall progress toward this goal"). However, there is currently little information on what types of information people monitor when they hold a particular goal (e.g., to save energy at home, to be a good person), how they go about doing so, and how the nature and frequency of monitoring is shaped by individual differences and other factors. Thus, a primary aim for future research

should be to obtain direct evidence regarding the extent to which people do, or do not, monitor their progress with respect to their goals across a variety of domains. For example, how often do people check their bank balances when they are trying to save money? How often do people avoid looking at their utility bills?

Future research could also further examine the nature of the ostrich problem. For example, it would be useful to find out whether the ostrich problem is the result of a conscious, intentional strategy (i.e., people decide whether or not to monitor their progress toward goals) and/or unconscious, unintentional biases. Current conceptions are unclear on this point. Karlsson et al. (2009) suggest that

> people may delay acquiring information, even when doing so degrades the quality of decision-making, if knowing the information forces them to confront and internalize possible disappointments they would mentally prefer to avoid. (p. 97)

But it is unclear whether people are aware that they are doing this. Many of the ways in which people defend themselves against threats (and here, one might view acknowledging poor goal progress as a threat to self-integrity) are the result of unintentional biases (e.g., defensive inattention; Bohner & Wänke, 2002). It is therefore possible that people effectively bury their heads in the sand, despite thinking that they do not. Future research should examine the extent to which people are aware of their own monitoring behavior and the extent to which deficient monitoring is an intentional strategy.

Future research should also investigate the circumstances in which the ostrich problem is most likely to occur. The self-motives framework outlined above suggests that the nature and extent of progress monitoring are the result of an interaction between a set of sometimes discrepant motives. Future research might measure (see Gregg et al., 2011) or manipulate (see Tuckey et al., 2002, or Wilson & Ross, 2000) the strength or salience of these motives and examine their effects on subsequent progress monitoring. Given that the different motives underpinning progress monitoring can present a conflict that requires self-control to resolve, future research might also examine which variables influence how that conflict is resolved. The strength model of self-control (Baumeister et al., 2007) suggests that self-control is a limited resource, with the consequence that exerting self-control leads to a temporary depletion in subsequent self-control performance, a phenomenon termed ego depletion (for reviews, see Baumeister et al., 2007; Hagger et al., 2010). While there is debate over the mechanisms responsible for this effect (e.g., Inzlicht & Schmeichel, 2012; Molden et al., 2012; Vohs et al., 2012), it is clear that depleted people are less willing or able to deal with self-control dilemmas (Hagger et al., 2010). Therefore, people whose self-control resources are depleted may be less likely to attend to information that they expect will be psychologically uncomfortable. This might explain why prompting participants to monitor their performance against a standard reduces the negative impact of ego depletion on task performance (Wan & Sternthal, 2008), in that monitoring may not be a default under such circumstances. It is also possible that some forms of monitoring, or monitoring related to some goals, are less likely to be affected by prior exertions of self-control. [4] For example, there is evidence that self-control that is supported by autonomous motivation (Moller et al., 2006) or motivated by strong incentives (e.g., money: Muraven & Slessareva, 2003) is less susceptible to the depleting effects of prior control attempts. Therefore, continued monitoring in spite of regulatory depletion may be possible if the person is sufficiently motivated.

Finally, given the importance of monitoring in promoting effective goal striving and instances in which people fail to monitor their actions, it is crucial to consider how the ostrich problem can be overcome. How can people's heads be pulled out of the sand in order to promote effective self-regulation and sustainable behavior change? A large number of

interventions have used different approaches to prompt progress monitoring (e.g., providing participants with forms on which to record their diet and exercise: Madsen et al., 1993; home energy monitors: Abrahamse et al., 2005; van Dam et al., 2010; or pedometers: Chan et al., 2004). Ironically, however, it seems as though research on progress monitoring has worked backwards. That is, we know more about how monitoring can be promoted than about the problems in monitoring that such interventions address. Thus, we need more knowledge concerning the psychological factors that impede monitoring in the first place.

Indeed, research that can identify why people do not monitor and then target interventions toward these determinants may hold the promise of longer-lasting behavior change. For example, Crommelinck and Anseel (2013) proposed that people with low performance expectations might be encouraged to seek feedback if it was emphasized to them that errors are a normal part of the learning process. Trope and colleagues demonstrated that people are more willing to seek negative feedback after a positive mood manipulation (Trope & Neter, 1994) and/or after having succeeded on an unrelated task (Trope & Neter, 1994; Trope & Pomerantz, 1998), suggesting that positive emotions reduce the weight of ego-defensive motives in feedback seeking. Finally, techniques such as mindfulness and self-compassion may also help people to deal with the negative implications of (anticipated) poor progress and thus prompt monitoring. Consistent with this idea, Carlson (2013) suggests that mindfulness can overcome ego-protective motives that affect how people process information about themselves (for other examples, see Neely et al., 2009; Neff et al., 2005).

Conclusions

Both theoretical frameworks and empirical research suggest that monitoring goal progress can facilitate effective goal striving. However, the present review posits that, in many instances, people avoid or reject information that would help them to assess their goal progress. For example, people with diabetes do not always monitor their blood glucose, and few people monitor their household energy consumption, check their bank balances, and so on. While there may be practical reasons why people do not monitor their progress, our thinking about the ostrich problem suggests that there are also motivated reasons for avoiding information as well. To some extent, avoidance of monitoring is part of popular culture (hence, the existence of idioms like "bury your head in the sand" and "ignorance is bliss"), yet current scientific perspectives are not explicit about the ostrich problem. The present review seeks to advance our understanding of the nature of intentionally deficient monitoring and open up future research into the processes and determinants of monitoring, and not monitoring, goal progress.

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Short Biographies

Thomas Webb is a social and health psychologist. His early research focused on the role of motivation in shaping behavior change. After finding that changes in motivation have only a

small effect on behavior, he studied how the effects of motivation can be boosted by forming specific plans known as "implementation intentions". His current research (funded by the European Research Council) investigates the role of monitoring progress in goal striving. Thomas holds a BA in psychology (Sheffield), an MSc in research methods (Bristol), and a PhD in psychology (Sheffield). Following two years lecturing at the University of Manchester, he returned to the Department of Psychology at the University of Sheffield in 2006.

Betty Chang has a background in cognitive and social psychology. Her interests focus on emotion regulation, motivation, memory, and attention. Her early research concerned attentional processes that underlie performance on an indirect measure of attitudes, the Implicit Association Test. Her current research examines how people evaluate their goal progress, including individual and situational factors that facilitate or undermine this process. Betty holds a Bachelor of Psychology (Honors) and a PhD in psychology from the University of New South Wales. She is currently working as a postdoctoral researcher at the University of Sheffield.

Yael Benn has a background in Cognitive Neuroscience. Her interests focus on the neural and cognitive markers of higher order cognition. Her research to date has investigated the role of language and linguistic brain structures in functions such as mathematics and communication skills, in healthy individuals, and in those with severe aphasia. Yael has a BSc in computer science and software engineering (Strathclyde) and a PhD in cognitive neuroscience (Sheffield). She is currently working as a research associate at the University of Sheffield.

Endnotes

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[1] The term "ostrich effect" can be traced back to an article by Edwin Diamond (1976) describing neglected news stories. It has even been described as "head-in-sanditis" (Whitney, 2006). Popular references to the stereotyped, but not accurate, depiction of the behavior of ostriches have no doubt preceded these scientific articles.

[2] The ostrich problem can pertain to both active and passive forms of monitoring, but in slightly different ways. In passive monitoring the ostrich problem would involve rejecting (passively) received information as uninformative. In active monitoring the ostrich problem would involve deliberately avoiding potentially relevant information on goal progress.

[3] Self-protective motives can be viewed as a corollary of self-enhancement (Alicke & Sedikides, 2010).

[4] We thank an anonymous reviewer for this suggestion.

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