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REVIEW ARTICLE

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How people find better lifegoals: The goal breakthrough model and its neuroscientific underpinnings

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Abstract

How do people identify new and better lifegoals for themselves? The goal breakthrough model (GBM) purports to answer this question. The GBM draws from creative process theories of preparation, incubation, illumination, and elaboration to explain how people "cross the Rubicon" to new purposes, in response to felt dissatisfaction. Neuroscience research supporting the GBM is reviewed, highlighting brain-sequences linking Default Mode Network activity, Cognitive Control Network activity, and Salience Network activity. This understanding of the neural basis of creative goal-functioning informs an elaborated version of the GBM, one that is less linear and more dynamic than its predecessor model. Overall, the GBM proposes a novel explanation for how people can actively prompt their nonconscious minds to provide new and better behavioral alternatives to consider.

KEYWORDS
creativity, goal discovery, intrinsic motivation, organismic valuation process, rubicon model, salience network, self-concordance, self-determination theory

[Correction added on 14 June 2024, after the first online publication: The corresponding author information has been changed from Kennon M. Sheldon to Woogul Lee in this version.]

1 | INTRODUCTION

Asking ourselves questions drives much mental activity. One example is when we feel stuck or dissatisfied in what we are doing, and ask ourselves "what do I really want?" Fortunately, people display a surprisingly fruitful capacity to break through their mental fog, to discover satisfying new paths forward for themselves. In the present paper we explain this discovery process using the Goal Breakthrough Model (GBM; Sheldon et al., 2023). The GBM identifies the conscious and nonconscious patterns of mental activity that are involved in recognizing new goals to pursue. This creative process requires a good deal of neural activity to support it, and thus we also describe the brain network interactions that underlie and characterize the GBM. Figure 1 presents the basic GBM.

1.1 | The goal breakthrough model

The GBM combines stage models of the creative process (Hélie & Sun, 2010; Wallas, 1926) with stage models of goal functioning (Gollwitzer, 2012; Sheldon & Elliot, 1999) to explain where new ideas for living come from. Moving from left to right, these new ideas often stem from *dissatisfaction*, defined as sensing that one's current functioning is below a standard of wellness: Am I well? Is what I am doing okay or is there something better? For instance, a person may feel that their work life is not going well. At a certain point the person may begin asking themselves new questions like, "What do I really want? What should I be doing?" In cases where answers are not forthcoming, the person may put the questions aside. Still, the ground has been prepared to begin an *incubation* phase in which implicit or nonconscious cognitive activity may occur. Such activity may lead to *illumination*, as a novel and promising new action idea comes to mind. The person might then cross the Rubicon, as deliberative thinking ("What should I do?") transitions to implemental thinking ("How will I do it?"). In this *elaboration* phase of action, the person begins to pursue the new and hopefully transformational lifegoal.

The GBM model was designed to address an important gap in models of action and personality change, including the Rubicon model of action phases (Gollwitzer, 2012), cybernetic control theory (Carver & Scheier, 1981), the stages of change model (Prochaska et al., 2013), personal growth initiatives research (Robitschek et al., 2019; Weigold al., 2020), and self-leadership models (Manz et al., 2016). That gap concerns how people proactively operate their own minds to provide themselves with novel and revelatory answers to the question of "What should I do?" The proposed GBM capacity gives the conscious mind *purchase*, that is, "a hold or position on something for applying power advantageously." Arguably, this capacity also provides people with some degree of free will, defined in compatibilist philosophy as the complex ability to recruit behavioral alternatives to consider, pick one, and get going (Baumeister, 2014; Dennett, 2003; List, 2019; Sheldon, 2022, 2024).

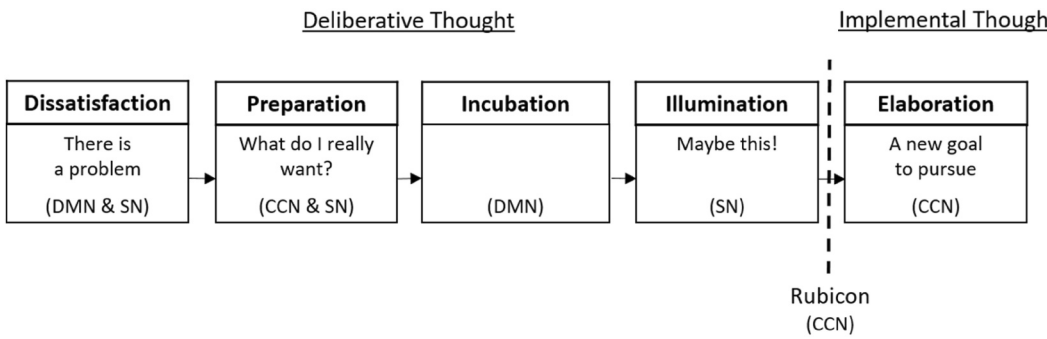

FIGURE 1 The Goal Breakthrough Model with corresponding brain processes. DMN, default mode network; SN, salience network; CCN, cognitive control network.

Below we spell out how the GBM emerged out of existing models of the creative process.

1.1.1 | Creative stage models

Wallas' (1926) creative stage model applies when the would-be creator is trying to solve a problem. They think consciously about the problem but can find no solution, though they may also have a vague sense that a solution is possible. So, they turn their attention elsewhere. During an incubation period, non-conscious thought is presumed to occur, eventually producing hints to a solution which may rise to consciousness and be noticed (the illumination or "aha!" experience). Then the creator tests, elaborates, and implements the new solution. Many prominent examples of this sequence can be found in history, such as Poincare's realizing the link between Fuchsian functions and non-Euclidian geometry while stepping off a bus, and Archimedes' realization, as he stepped into his bath, that the volume of the King's golden crown could be measured by water displacement. To update the Wallas model, Hélie and Sun (2010) provided the explicit-implicit interaction model based on the temporal interplay between implicit and explicit forms of cognition. In that model, explicit cognition drives or primes implicit cognition, which surfaces new possible solutions to the creative problem, after which explicit cognition does further work, in a reciprocal process.

An important aspect of these models is that the would-be creator need not merely wait for inspiration, like a thunderbolt from the sky. Instead, they can labor consciously to find answers, asking themselves questions to which they (yet) have no answers. Eventually, their non-conscious minds, which function more holistically and can integrate much more data, become prepared to make the needed connections (Engel & Singer, 2008). After this it is incumbent upon the creator to *recognize* the suggested solution, and to begin acting. Still, it is equally incumbent on the creator to have *initiated* the process that led them to the solution—specifically, by posing themselves unanswered questions. Via such executive activity, the phenomenal person can "take the reins of their brain."

1.1.2 | Extending creative stage models to goal selection

Imagine a stereotypical stockbroker who, despite his increasing wealth, remains unhappy with his life, although he derives some satisfaction from his volunteer work in the community. The GBM posits that when such people recognize that they are dissatisfied with their current situation or goals, they may start asking themselves questions, such as, "what do I really want?" (preparation). As in creative process models, such questions can drive non-conscious activity while the person's attention is elsewhere (incubation). Eventually such activity may provide potential answers to the problem (illumination), like "maybe I could go back to school and get a new degree?" or "maybe I should start a business?" In the stockbroker's case, he might suddenly envision a new career opportunity to pursue, such as a philanthropical foundation's financial director, that could provide the same feelings of satisfaction his community work is able to provide. This new insight might connect sources of satisfaction in the man's non-work life to his work life, perhaps driving positive changes in his work-life and sense of fulfillment.

The GBM, although based on the Wallas (1926) model, expands it in several ways. In addition to generalizing the creative discovery process to the special case of goal discovery, it also introduces modern conceptions of the interactions between explicit and implicit cognition, as explained above (Hélie & Sun, 2010). Furthermore, the GBM addresses the brain network activity underlying the goal discovery process, as will be explained in later sections.

Another way the GBM extends the Wallas model is that it assumes people have an "organismic valuing process" (Rogers, 1964; Sheldon et al., 2003) which slightly biases implicit cognition towards action alternatives that would be healthy and growth-promoting. To illustrate, Sheldon et al. (2003) found a "biased shift" when people recollect or re-make prior choices, towards intrinsic choices known to be more closely associated with well-being, and away from extrinsic choices that are less relevant to well-being. The organismic valuing process provides the incubating

mind with a metaphorical red light (this feels regressive and wrong) or green light (this feels beneficial and right). When that feeling of "being right" rises to a sufficiently high threshold, an illumination experience tends to occur (Hélie & Sun, 2010, referred to this as the "internal confidence level").

The GBM was originally developed to apply to broad personal goals that organize much of peoples' behavior, although as will be shown below, it may also apply to lower-level problems and commonplace daily pursuits, like how one should respond to a friend's distress. The GBM was also developed to apply both to the problem of initiating a new goal pursuit (i.e., moving from inaction to action), and to the problem of switching from an unsatisfying goal to a more satisfying goal (i.e., moving from action to different action; Brandstätter & Herrmann, 2016; North et al., 2014). In both cases, the person feels "stuck" in a dissatisfied state. By "stuck", we mean that the person wants but does not yet have a satisfying answer to the questions that launch the GBM: What do I really want? What should I be doing? In the case of moving from inaction to action, the person feels bored or restless, but does not yet know what they want (Danckert & Eastwood, 2020). In the case of changing to a different action, the person feels discontented or frustrated, knowing that what they're doing isn't what they want to be doing.

Sheldon et al. (2003) tested the GBM stage model depicted in Figure 1 via two self-report studies. One study was retrospective (i.e., think of a time when you figured out what you really wanted to do in your life), and the other was prospective (i.e., think of a goal breakthrough you would like to make in the next few minutes). In both studies, participants' state of mind was assessed at three different time points: at the beginning of the change process, in the middle of the change process, and at the end of the change process. For example, in Study 2, participants were first told "you will identify a goal breakthrough at the end of the study," then asked to rate the preparation, incubation, and illumination phases of the GBM at that moment ("what were you thinking about just after learning about this assignment?"). Later in the survey, after a distraction segment, participants were asked "what were you thinking about just before this section?" At the end of the survey, they provided a goal breakthrough and then rated their state of mind immediately prior to the breakthrough. In both studies, Sheldon et al. (2023) found evidence for a three-step path model in which the rated intensity of conscious preparation at time 1 predicted the rated intensity of non-conscious thought occurring at time 2 (after the incubation period), which in turn predicted the rated intensity of the "aha" (or illumination) experience that resulted at time 3. Sheldon et al. (2023) also showed that the intensity of the illumination experience predicted feelings of "having become a more integrated and unified person," as well as increases (over baseline) in psychological need-satisfaction, subjective well-being, and felt self-integration. Exciting new ideas for action can satisfy and gratify the person.

2 | NEUROSCIENCE RESEARCH ON ACTION REGULATION

In this section we consider neuroscience concepts and findings that are relevant to the GBM. Because the GBM is newly proposed, there is no neuroscience research that directly tests it. However, extant neuroscience research on creative problem-solving provides insight regarding the neural mechanisms underlying the GBM. Such studies have demonstrated that the generation and evaluation processes of creative cognition are closely linked to dynamic interactions between the Default Mode Network (DMN), the Salience Network (SN), and the Cognitive Control Network (CCN) (Beaty et al., 2016; Kounios & Beeman, 2015; Wiggins,& Bhattacharya, 2014). In the sections below we first describe these three brain networks, before connecting them to the GBM.

2.1 | Default Mode Network activity

Resting-state neural activity has been studied since the early 1990s, with roots going back earlier. This research is based on the observation that some brain regions remain continually active, even when the person is behaviorally

inactive; furthermore, these brain regions tend to continually return to a particular baseline pattern of activity (Andrews-Hanna, 2012), hence the name "Default Mode Network" (DMN). DMN activity is characterized by activations and co-activations of the midline brain regions such as the medial prefrontal cortex and the posterior cingulate cortex. The DMN largely overlaps with the neural system of mentalizing processes (Lieberman, 2012), which means that people can develop trains of thoughts even in resting states. The DMN provides the person with a "mental sketch pad" (Goldman-Rakic et al., 1996), which is partially cut off from physical sensations (Mansell, 2005). This allows the mind to range into the past and future, as well as simulate and explore possible new ideas in the present.

When originally discovered, the DMN was thought to be mere "mind-wandering," with little purpose or goal—what we do when we're zoning out. This inference was based on the empirical observation that the DMN tends to show deactivation while the goal-focused CCN tends to show activation when people engage in cognitively demanding tasks. Now, however, DMN activity is viewed as closely related to goal-directed activity. That is, the DMN can be active not only in a resting state but also in a goal-directed state, when high-level social, autobiographical, or personal information, or higher-order or divergent cognitive processes, are needed to achieve the goal (Immordino-Yang et al., 2012; Lieberman, 2012). In other words, when the task goal requires broader cognition (e.g., taking a step back to consider personal or social-emotional factors), the DMN tends to be activated, under the ultimate direction of CCN activity (Beaty et al., 2016; D'Argembeau, 2020).

2.2 | Salience Network activity

The SN is in charge of recognizing the personal significance of material arising within the DMN. It is comprised by two major brain networks: the anterior cingulate cortex and the anterior insula. The anterior cingulate cortex is known to provide the mental space for detecting discrepancies between actual and desired realities, and to do so, gathers objective environmental information via interacting with diverse neural networks (Bush et al., 2000). The anterior insula enables people to generate subjective feelings by integrating their internal bodily states with information coming from the outside world (Craig, 2009; Damasio, 2003). Together the anterior cingulate cortex and the anterior insula help the person to respond both to the world and to their emerging feelings and cognitions, providing important integrated information for use by executive control functions (i.e., for goal identification and pursuit).

The crucial role of the feeling-based anterior insula in the SN has important implications. First, it means that salience detection can be based on the subjectively perceived needs of the self, not just on the objective characteristics of environmental events (Di Domenico & Ryan, 2017). The anterior insula enables people to monitor their internal bodily states as they interpret the outside world, thereby generating and learning from subjective feelings about what is happening (Craig, 2009; Damasio, 2003).

It is also important to emphasize that the SN deals with both positive and negative valences when detecting salience (Damasio et al., 2000). Together, the anterior cingulate cortex and the anterior insula monitor personally salient satisfactory experiences as well as the dissatisfactory experiences that are focused on by the GBM. In an important sense, the SN enables people to perform the organismic valuing process functions (i.e., metaphoric red and green lights) postulated above, to monitor their feelings and to predict the emotional effects of the various possibilities under consideration (Wilson & Gilbert, 2005).

2.3 | Cognitive Control Network activity

In order to attain a goal (e.g., complete a stock trade or find a more interesting job), people need to keep the goal in mind—to allocate attention to it and to exert effort towards it. A meta-analysis confirmed that, within the CCN, the

prefrontal cortex is critical for such concentrated tasks (Niendam et al., 2012). The prefrontal cortex is also typically viewed as the "driver" of cognitive control (Gratton et al., 2018). That is, the prefrontal cortex orchestrates how other brain regions (e.g., posterior parietal cortex, temporal cortex, and subcortical brain regions) are deployed to attain the goal.

This depiction of the CCN emphasizes its role in enacting and implementing goals after they have been selected (Gollwitzer, 2012). However, the CCN also has potentially important roles to play in the deliberation or goal-selection process. The CCN exerts top-down influences on DMN and SN functioning via conscious and explicit cognition (Beaty et al., 2016; D'Argembeau, 2020). That is, the CCN helps frame subsequent activity within the DMN and the SN, by serving as a prime or prompt that calls for further work.

2.4 | Connecting neuroscience research to the GBM

In this section we explicitly connect the three brain networks described above, to the GBM. For the reader's information, these connections are illustrated in Figure 1.

2.4.1 | From dissatisfaction to preparation

We have argued that the GBM can explain how people think of new purposes for themselves, and that the process begins when the person asks themselves a question or questions. But where do these questions come from? In laboratory creativity research, the experimenter—an outside agent—provides the person with the creative question or problem ("try to solve this anagram;" Kounios & Beeman, 2015). But in daily life, when we might sometimes create or change our own goals, the creative question typically comes from us. Still, that question does not arise in a vacuum. The GBM assumes that, based on dissatisfying experiences arising within the DMN ("I have a sick friend, but I'm not doing anything for them—that's not like me!") the person can begin asking themselves relevant questions (e.g., "what can I do for my friend?"). Dissatisfaction is an alarm. To get the question-asking process started (preparation phase), the person must first *notice* the dissatisfaction—it must rise into focal awareness. This involves the SN, which detects and signals the significance of dissatisfaction (Bush et al., 2000; Damasio et al., 2000).

Notice that this process involved the person consulting their high-level principles and self-images (i.e., "Be there for others!") for guidance (Carver & Scheier, 1981). Fortunately, the DMN is well suited for this task. The DMN has the capacity to access and represent information about the person's chronic goals and values, and to access other autobiographical information that can inform decision processes, including aspects of self-concept and identity. It can also access peoples' self-narratives and life-stories, that are of potential relevance for decisions. In sum, DMN activity provides a way for the person's broadest goals and values to contact and influence their momentary decisions, as when they perceive that they are not (currently) upholding these values.

2.4.2 | From preparation to illumination

According to the GBM, once the person has recognized that they may need to change what they are doing and has thus begun asking themselves questions (the "preparation" stage), they are likely to enter an "incubation" stage, especially when the question is difficult or portentous. Their attention turns to something else, but mental activity can continue behind the scenes, to hopefully spark a new idea in time. Where does such "illumination" come from, and how does it help people cross the Rubicon of decision?

Menon and Uddin (2010) proposed a promising model explaining the SN-mediated transition from deliberation to implementation. In this model, the SN is described as a "gatekeeper" of in-depth executive functioning (Menon & Uddin, 2010; Molnar-Szakacs & Uddin, 2022). That is, the SN enables the switch from DMN activity (i.e., a possibly goal-directed but less focally attentive mental state) to CCN activity (i.e., a definitely goal-directed and more focally attentive mental state). In other words, the material derived from DMN activity can gain access to CCN activity when the SN determines that the input is significant enough considering its objective (i.e., universal significance) and subjective (i.e., personal significance) aspects. Such iterations may continue until the internal confidence level is high enough (Hélie & Sun, 2010), to signal a stable solution.

We suggest that these functional dynamics can also explain the insight-based transition from deliberation to implementation within the GBM. When a newly emerging thought or action possibility is accompanied by a personal sense of value or "rightness," then that possibility may rise to consciousness, as part of an "aha" moment. Returning to the sick friend example: while in a drugstore to pick up a prescription, the person may pass the greeting card section, and realize "I could send my friend a card!" Then the person might select and commit to that possibility.

2.5 | Dynamic extensions of the GBM

Thus far, we have considered how people can find satisfying new goals in life, highlighting the role of spontaneous DMN activity (sometimes prompted by external events) in identifying sources of dissatisfaction in the person's life. Once such feelings become acute enough (SN activity), the preparation phase commences (CCN activity), hopefully leading to illumination after a period of incubation (further DMN and SN activity). The discontented stockbroker recognizes his unhappiness and begins asking himself questions about it. Eventually this might lead to the breakthrough: "I could work for, rather than compete against, this foundation, which has a community-based cause I can believe in!" The Rubicon might then be crossed, to a new goal.

So far, we have assumed that dissatisfaction typically arises when the person is in a resting or DMN state, musing about their life (see Figure 1). However, dissatisfaction can also emerge during cognitive/behavioral sequences, in response to what is happening in the sequence. Figure 2 provides an extended version of the GBM model that differs from the Figure 1 model by adding two backwards-pointing arrows, illustrating two additional paths to dissatisfaction.

The first arrow extends from illumination back to dissatisfaction. It shows that, while a particular moment of intuition may provide significant new information, that information may not yet be sufficient to cross the Rubicon, leading the person to ask themselves for more information. In such cases, the SN does not yet "give the green light"

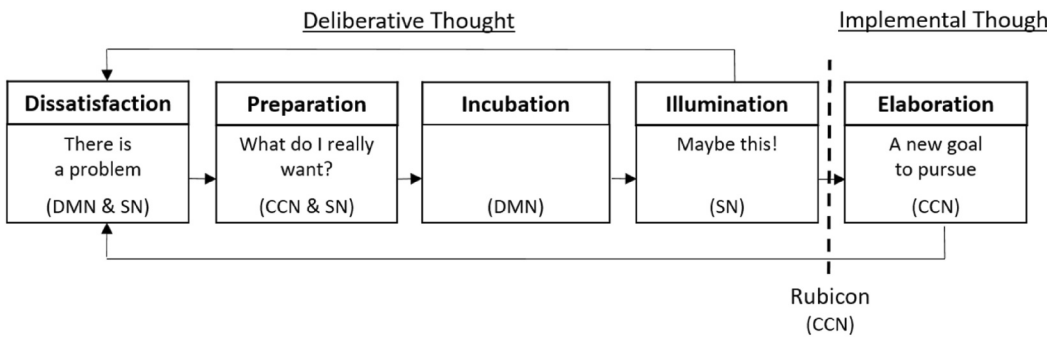

FIGURE 2 Augmented Version of the GBM with additional Paths to Dissatisfaction. DMN, default mode network; SN, salience network; CCN, cognitive control network.

regarding the final solution; instead, its "reddish" light prompts dissatisfaction and further preparation. Via this mechanism, the SN facilitates active back and forth between the DMN and the CCN until the new ideas are creative enough. Demonstrating that such a process occurs, Heinonen et al. (2016) found that the SN facilitates the CCN to engage the DMN in further idea generation, when the person is not ready to decide and needs more information (see also the iterative model of Hélie & Sun, 2010).

The extended GBM also addresses the case when we have already crossed the Rubicon. People can experience unhappiness or dissatisfaction even during active goal striving. For example, although the stockbroker might earn a bonus by achieving a yearly goal, he might yet feel empty, as if something important is still missing. This process is addressed by the second arrow, pointing from elaboration back to dissatisfaction.

In some such cases, negative evaluations may result from failure to achieve or make progress on the goal—the goal is too difficult, so the person abandons it. But according to the self-concordance model of goal striving (Sheldon, 2014; Sheldon & Elliott, 1999), such negative evaluations may also arise from the feeling that the person doesn't really want the goal being pursued, *even if one is doing well at it* (like the stockbroker). Non-concordance often indicates that a consciously chosen goal does not objectively match the person's implicit motives and preferences—they only *think* they wanted it. Learning to recognize one's non-concordance presumably involves the organismic valuing process discussed earlier, in which current choices are assessed regarding their ability to promote health and well-being. In the case of the stockbroker, the huge yearly bonus may feel more and more like an embarrassment, than an accomplishment.

As a more concrete illustration of returning to the beginning of the goal selection process, the person in the earlier example first chose "sending a card" as their way of being there for the sick friend. However, as they began writing the inscription, they might have felt like "that's not good enough," and stopped writing. This dissatisfaction sends them back to the preparation phase. Then, later, while browsing through a cooking magazine, they realized that "baking a cake" is a better option. Obviously, deciding to "bake a cake" rather than "send a card" represents a lower level of action regulation (and creativity) than deciding to change one's lifegoals, that is, from stockbroker to philanthropist. However, in both cases, there was a problem to be solved—a new intention to be discerned and adopted. We believe that the GBM can apply in both cases.

Which comes first, top-down or bottom-up processes? This is a chicken-and-egg question (Grinde, 2022). The GBM specifies that both top-down processes (via CCN activity) and bottom-up processes (via DMN activity) occur, in either directional sequence (Hélie & Sun, 2010). People repeatedly cycle between deliberative and intuitive thought, as they zero in on a solution or possible solutions to their problem.

We readily acknowledge that the model presented here is too simple, and that the GBM will need more elaboration and detail (and perhaps revision), especially from neuroscience research that better details the nature of the nonconscious incubation process and how that incubation process is affected by conscious events. Indeed, much of what happens in the GBM is non-conscious (e.g., incubation, illumination), and current tests of the model have relied on self-reports regarding nonconscious activity, which are obviously problematic. Thus, neuroscientific concepts and processes are fundamentally necessary to explain how one journeys from Dissatisfaction to Elaboration. Hopefully, however, the GBM model supplies a novel point of view that might link internal phenomenology, action phases theory, self-determination theory, decision theory, creativity theory, compatibilist philosophy theory, and brain network theory, in new ways.

2.6 | What conditions support the GBM?

The GBM is designed to explain how a person can "rescue" themselves from dissatisfaction, via the questions they ask themselves. However, in some cases, a very dissatisfied person may never get to the point of question-asking, or to the point of committing to a new possibility that appears (i.e., to crossing the Rubicon). What conditions can

facilitate the operation of the GBM, so that even very distressed people can succeed in finding, and committing to, more fulfilling goals?

Research in self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2017) is relevant. Self-determination theory is an organismically grounded theory of human motivation which is based on the concept of intrinsic motivation, which is behavior that is enacted because it is inherently interesting, challenging, and pleasurable. Intrinsic motivation is associated with countless positive outcomes because it is the prototypical expression of active agency. The intrinsically motivated person is engaged in exploring the world, taking interest in activities, solving problems, learning new skills, and developing themselves in the process (Ryan & Deci, 2017).

The self-concordance theory of goal-striving, mentioned earlier (Sheldon, 2014), relies on intrinsic goal motivation as one indicator that the current goals "fit" the person, expressing their implicit interests and motives. When a person's goals are intrinsically motivated, they already like what they are doing—it feels right, it feels satisfying. Thus, presumably, they have no need to change their goals. It is only when the person's goals are *non*-intrinsically motivated,[1] that the GBM mechanism becomes most relevant. Via the activating effects of felt dissatisfaction, the GBM might provide a route for even the most "stuck" person to find a new course of action that is more personally suitable—a route for radical life-change to occur.

Even though intrinsic motivation may be absent in the domain in which the person is struggling or "stuck," we suggest that intrinsic motivation can still be helpful—for example, if the person manages to find interest and pleasure in other life-domains besides the "stuck" domain. A person languishing in their current career might nevertheless gain internal resources for entering and completing the GBM process, from the energizing pleasures experienced in other aspects of their lives (i.e., in their volunteer work, or in a recreational passion; Vallerand, 2015).

This idea is consistent with past research suggesting that people's previous experiences of intrinsic motivation affect their current motivations in life (Philippe, 2022; Reeve et al., 2015). Lee and Reeve (2020) illustrated this top-down process at work in an fMRI study asking participants to recall and reexperience past intrinsically motivated goal pursuits. They found that this mental activity was supported by the anterior cingulate cortex (SN activity), showing that personal meaning from intrinsically motivated memories can be recruited on demand. Even very distressed individuals have stored experiences that can serve as cues to possible solutions to getting oneself unstuck. In terms of the running example, the unhappy stockbroker who experiences some satisfaction in his volunteer work, might suddenly consider switching to a different career path, like philanthropy, that better expresses their intrinsic desires to serve the community.

Above, we considered how the internally driven factor of "exploring intrinsic motivations in life, outside of the stuck domain" can positively impact the GBM process. But what *external* or *contextual* factors can help people jumpstart the process? According to self-determination theory, a critical factor affecting peoples' intrinsic motivation is receiving autonomy-support from important others (Reeve & Cheon, 2021; Ryan & Deci, 2017). Autonomy support occurs when one person (parent, teacher, boss, counselor, etc.) encourages another (child, student, employee, client, friend, etc.) to identify and pursue their own interests and goals and to make their own choices. Autonomy-supportive teachers might encourage students to explore their options with questions like "What are you interested in? What would you like to do?" (Reeve et al., 2022, p. 63). Such invitational language might help people to learn to ask these same questions of themselves, kick-starting the aforementioned process of "exploratory intrinsic motivations in life" to fuel their capacity to self-generate their own breakthrough moment in which dissatisfaction turns into illumination (Jang et al., 2016).

Finally, we would like to return to the concept of the organismic valuing process, which is said to bias the deliberation process in positive, growth-promoting directions (Sheldon et al., 2003) and to help us recognize which options are more optimal for wellness. The organismic valuing process is based on SN activity, especially activity in the anterior insula but also the anterior cingulate cortex, which together signal inner "rightness" versus "wrongness" (or approach vs. avoidance). Of course, people can remain mired in non-self-concordance for long periods of time; dissatisfaction does not necessarily lead to breakthrough activity, it is merely a persistent potential prompt to such activity. But according to Rogers (1964), the organismic valuing process capacity always remains as a potential

inner voice. Indeed, the GBM may provide an important route by which the organismic valuing process may leak into the person's decision space, helping them to escape even the most difficult quandaries. As a result, they may even use such inner signal to launch themselves into "upward spirals" of new well-being, personality development, and life-transformations (Sheldon & Houser-Marko, 2001).

3 | CONCLUSION

In this article we explained how people can identify new and better goals to pursue: namely, by asking themselves questions, such as "What should I do?" and "What do I want?" According to the GBM, this question-asking drives subsequent mental activity, priming peoples' nonconscious minds to provide them with appealing new suggestions —even though the person does not know about those implicit processes and does not know how they work. We have also shown that the GBM can apply not only to making radical life-transformations ("I'll change my career!"), but also to more mundane daily challenges ("I'll bake a cake!"). The GBM may even show a way for "free will" to operate, defined in compatibilist philosophy terms as the ability to draw multiple action possibilities into mind, select one, and enact it (List, 2019; Sheldon, 2022, 2024). At any level of abstraction, asking ourselves what we want to do, and then acting on our personal choices, is surely part of free will. The GBM may provide a useful roadmap for how free will can be properly operated.

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CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflicts of interest.

DATA AVAILABILITY STATEMENT

No data is reported in the review article.

ENDNOTE

[1] Notably, self-concordance is also operationalized by high identified (meaning-based) motivation and by low external (reward-based) motivation and low introjected (guilt-based) motivation. We believe that deficits in identified (not just intrinsic) motivation could prompt dissatisfaction (both are "autonomous" motivations), whereas surfeits of extrinsic or introjected motivation (both are "controlled" motivations) may prompt dissatisfaction. We focus on intrinsic motivation in this section because it is the most prototypical exemplar of autonomous and creative motivation (Deci & Ryan, 1985).

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