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Approach and Avoidance in Gray's, Higgins', and Elliot's Perspectives: A Theoretical Comparison and Integration of Approach-Avoidance in Motivated Behavior

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Abstract

This article first reviews the main theoretical propositions of Gray's Reinforcer Sensitivity Theory (RST), Higgins' Regulatory Focus Theory (RFT), and Elliot's Achievement Goal Theory (AGT), which all made a significant contribution to our understanding of goal directed behavior from an approach-avoidance perspective. Reviewing these three seminal theoretical frameworks helped us to uncover important areas of conceptual similarities related to overarching goals, trait and states distinctions, motivated behaviors, and approach or avoidance mechanisms. However, some noteworthy differences are also apparent, suggesting that these three theoretical perspectives might be more complementary than interchangeable. To better articulate this similarity, we proposed an

integrated Approach-Avoidance Theory of Motivated Behavior. This integrative theoretical perspective first proposes a combination of key features of Gray', Higgins', and Elliot's models. However, it also goes beyond these models by proposing two new assumptions. First, individuals are seen as driven by an overarching sense of purpose leading them to approach these core goals or end states, rather than to avoid them. Second, individuals are seen as more flexible than previously assumed in their choice of approach or avoidance strategies due to frequent exposure to grey areas within which both types of strategies might contribute to attaining their overarching goals.

Key words. Approach, Avoidance, Motivated behavior, Gray, Higgins, Elliot

Humans seek pleasure and try to minimize pain. This basic hedonistic idea dates back to ancient Greek philosophy (Ryan & Deci, 2001). This natural tendency to approach pleasure and avoid pain lies at the core of a variety of approach-avoidance theories seeking to understand what motivates individuals to choose a specific course of action, or *motivated behavior*, over another. Three approach-avoidance theories stand out in modern psychological research where they have led to significant contributions in our understanding of motivated behavior: Gray's Reinforcer Sensitivity Theory (RST), Higgins' Regulatory Focus Theory (RFT), and Elliot's Achievement Goal Theory (AGT). Although these theories were developed with different aims—Gray tried to understand substance use, Higgins investigated self-regulation in social contexts, and Elliot focused on motivation in achievement contexts—the three of them bear important similarities and are, to some extent, overlapping. Their intertwined nature calls for a formal comparison and integration (Eder, Elliot, & Harmon-Jones, 2013), which is the objective of the present article. In the upcoming pages, we first define terminology that is common to all three theories. Second, we present a brief overview of the core components of each theory. Third, we critically compare these core elements. Finally, we propose a theoretical integration of all three perspectives with the aim of achieving a more complete understanding of motivated behavior through the lens of approach and avoidance tendencies.

Terminology Overview

Approach-Avoidance Motivation. Lewin (1935) proposed a definition of approach and avoidance motivation around which there still seems to be a general agreement. As noted by Elliot (2008, p.3) this perspective states that “Approach motivation may be defined as the energization of behavior by, or the direction of behavior *toward*, positive [desired] stimuli (objects, events, possibilities), whereas avoidance motivation may be defined as the energization of behavior by, or the direction of behavior *away from*, negative [undesired] stimuli (objects, events, possibilities).”

End State. An *end state* is the goal that a behavior seeks to achieve (if driven by an approach motivation), or to avoid (if driven by an avoidance motivation) (Elliot, 2008; Tolman, 1925).

Trait-State Distinction. A *trait* is an enduring personality disposition that is consistent across domains (e.g., achievement, social) and moment-to-moment fluctuations (APA, 2018; Elliot, 2008). This person-specific characteristic determines behaviors over a wide range of situations. A trait is stable and consistent, thus subject to very little, if any, change over time (Elliot, 2008). A *state* defines a person's emotions, cognitions, or behaviors in a specific situation (APA, 2018; Elliot, 2008). These situation-specific emotions, cognitions, or behaviors are temporary, or momentary, and thus subject to change over time. Yet, individuals with certain traits are likely to go through similar cognitive and emotional processes across situations, thus displaying consistent behaviors across states.

Gray's Reinforcer Sensitivity Theory (RST)¹

Although RST is fundamentally a state theory as initially proposed by Gray (e.g., Gray, 1982), others have later developed a trait theory complementing Gray's original propositions (e.g., Corr, 2008; Corr & McNaughton, 2012; Gray & McNaughton, 2000; McNaughton & Corr, 2004). Both the state and trait formulations are still widely used today. Grounded in conditioning theories, RST (which is summarized in Figure 1) proposes that humans are exposed to various stimuli—rewards and punishments—that play a role as external motivational events. Individuals have their own evaluations of various stimuli so that the same stimulus can be perceived either positively or negatively by different individuals. These individual perceptions, which occupy a central position in RST, are referred to as *reinforcers*. This label seeks to convey the idea that the same stimulus can have rewarding or threatening properties in the eyes of distinct individuals, via interpretational processes which can be grounded in innate or learned tendencies. Gray's RST proposes that two consecutive stages lead human action: the valuation-input stage, followed by the motivational-output stage. The perception that each individual has of the reinforcer first operates at the valuation-input stage.

Valuation-Input Stage. The *valuation-input stage* involves the processing of perceptual reinforcers. At this stage, each reinforcer can be interpreted either as a gain, which activates a positive evaluation process, or as a loss, which activates a negative evaluation process. An *attractor* is a

¹ Several authors, in particular Corr and McNaughton, have contributed and added to Gray' original formulation of RST (Corr & Krupic, 2017; Corr & McNaughton, 2012; Gray & McNaughton, 2000; McNaughton & Corr, 2004; 2008). For the sake of brevity, we refer to this model as Gray's model, although we recognize the contribution of several other researchers.

reinforcer evaluated either to be a gain, or the absence of a loss. Individuals are drawn toward attractors, thus try to *approach* them. In contrast, a *repulsor* is a reinforcer interpreted either to be a loss, or the absence of a gain. Individuals are pushed away from repulsors, and thus try to *avoid* them. In some situations, the same reinforcer can bear both attractor and repulsor attributes. When this happens, the exposed individual may evaluate that there are benefits associated with approaching the reinforcer together with benefits associated with its avoidance, leading to an *approach-avoidance conflict*. Approach-avoidance conflicts occur when approach and avoidance tendencies are high and relatively balanced and tend to generate ambivalence (Gray, 1987). To illustrate an approach-avoidance conflict, imagine having to decide how to get to work on a rainy day. Driving would keep you dry, but might involve getting stuck in traffic. Conversely, walking with an umbrella to the train station might not keep you completely dry, but might help you to arrive on time. The result of this initial evaluation process then triggers one of three possible systems at the motivational-output stage.

Motivational-Output Stage. Following this valuation-input stage, the second *motivational-output* stage focuses on the intent underlying the behavior, or action, undertaken as a result of one's initial evaluation of the nature of the reinforcer. The approach (attractor), avoidance (repulsor), and approach-avoidance conflict (attractor and repulsor) evaluations each trigger a different motivational-output. In turn, these motivational-outputs lead to actions, which either take form of a behavior, or of some form of behavioral inhibition.

When facing an attractor, the *Behavioral Activation System* (BAS) is activated (Corr & McNaughton, 2012; Gray, 1975). The BAS is associated with the anticipation of pleasure for attainable rewards or anger for unattainable rewards (Corr, 2008; McNaughton & Corr, 2004). The behavioral markers resulting from the BAS include approach, action, work, or task completion (De Pascalis, Fiore & Sparita, 1996; Gray, 1987).

When facing a repulsor, the *Fight-Flight-Freeze System* (FFFS) is activated (Corr & McNaughton, 2012; Gray, 1975). The FFFS is conceptualized as a fear system in humans, more specifically phobia for avoidable threats (flight) and panic for impending threats (fight, freeze) (Corr, 2008; McNaughton & Corr, 2004). The FFFS controls behaviors aiming to remove oneself from danger and efforts to avoid aversive stimuli. Behavioral markers of the FFFS include escape (e.g., flight) when the repulsor is at an intermediate distance, but also aggressive (e.g., fight) or passive (e.g., freeze) behaviors when the repulsor is closer to oneself and danger is seen as unavoidable (McNaughton & Corr, 2004). These three strategies entail different types of exposure to the aversive stimuli or source of danger, ranging from avoidance to confrontation. The flight strategy allows one to completely avoid aversive stimuli. The freeze strategy can potentially also result in avoidance if the aversive stimulus becomes less threatening or disappears as a result of a lack of action, but might also lead to an even more direct exposure to danger (e.g., such as when a deer freezes in front of a car headlights). The fight strategy, through which the individual directly confronts the aversive stimuli, has the potential to remove it, but can also result in the individual facing greater danger. Importantly, the FFFS may eventually give way to the BAS as the individual approaches safety, seen as a positive reinforcer (Corr & McNaughton, 2012).

Finally, when facing an approach-avoidance conflict (attractor and repulsor), the *Behavioral Inhibition System* (BIS) is activated (Corr & McNaughton, 2012; Gray, 1975). The BIS is activated when there is an incompatible tendency toward the reinforcer, as it is evaluated as one that should be both approached (activating the BAS) and avoided (activating the FFFS) (Corr, McNaughton, Wilson, Hutchison, Burch, & Porpat, 2017). The BIS is associated with anxiety when facing an avoidable threat and depression when facing an impending threat (Corr & McNaughton, 2012). Paradoxically, the BIS increases physiological arousal and attention to negative reinforcers, but decreases the intensity of the resulting behaviors (Corr, 2008; McNaughton & Corr, 2004). Behavioral markers of the BIS include risk assessment, exploration, and internal memory scanning (Corr & McNaughton, 2012), which proceed recursively until the individual ultimately shifts back to the BAS (if the reinforcer seems worth approaching with caution) or the FFFS (if the reinforcer rather seems to be worth avoiding).

Trait Theory. Although Gray's RST was initially proposed as a state theory, Corr and McNaughton (2012) later built the outlines of a trait theory. According to this expanded perspective, traits "reflect long-term stabilities in the operation of state systems responsible for basic here-and-now appetitive (or attractor) and aversive (or repulsor) goals, which lead to corresponding approach and

avoidance behaviors” (Corr & Krupić, 2017, p.15). These RST traits are labeled *sensitivities*, which individuals have for each system proposed in Gray’s theory (i.e., the BAS, the FFFS, and the BIS). Individuals with a *BAS sensitivity* have a natural tendency to be stimulated by rewards or positive goals, which they tend to approach (Corr & McNaughton, 2012; Gray & McNaughton, 2000; McNaughton & Corr, 2004). BAS sensitivity is characterized by optimism, impulsiveness, and, at extreme levels, addictive or high-risk behaviors (Gray & McNaughton, 2000). Individuals with a *FFFS sensitivity* are aroused by threats, which they tend to avoid (Corr & McNaughton, 2012; Gray & McNaughton, 2000; McNaughton & Corr, 2004). FFFS sensitivity is associated with a proneness for fear and avoidance, and at extreme levels, phobia or panic (Gray & McNaughton, 2000). Individuals with a *BIS sensitivity* are naturally aroused by the possibility of threats or uncertain situations, which triggers behavioral inhibition and risk assessment (Corr & McNaughton, 2012; Gray & McNaughton, 2000; McNaughton & Corr, 2004). BIS sensitivity is characterized by a proneness to worry, anxious rumination, and at extreme levels, anxiety disorders (Corr, 2008). Corr et al. (2017) note that individuals tend to be driven by these sensitivities across a range of situations.

Higgins’ Regulatory Focus Theory (RFT)

Higgins’ (1987; also see Cornwell & Higgins, 2015; Higgins & Cornwell, 2016) work takes its roots in the idea that individuals tend to pursue one of two qualitatively different end states, either the *ideal-self* or the *ought-self*. When pursuing the former, individuals seek to achieve their personal hopes and aspirations, whereas when pursuing the latter, individuals seek to fulfill obligations and responsibilities. Importantly, the same end state (e.g., obtaining a diploma), can be seen differently by two individuals, that is either as a personal aspiration (ideal), or as an externally driven obligation (ought) (Higgins & Cornwell, 2016). According to Higgins’ RFT, all individuals are seen as being fundamentally drawn to approach end states, irrespective of whether these states are evaluated as ideals or obligations (Higgins, 1997). However, despite this generalized drive, individuals may use different self-regulation strategies to reach their end states, which can themselves be approach or avoidance oriented. As shown in Figure 2, these self-regulation strategies unfold at three levels: Systemic, strategic, and tactical.

Systemic Level: Promotion and Prevention Foci. At the *systemic level*, self-regulation processes relate to an individual’s overarching concerns or goals (Scholer & Higgins, 2008), which are directed toward desired end states, whether ideals or oughts. At this level, people can follow two possible self-regulation systems. People with a *promotion focus* seek to attain their ideal-self, whereas those with a *prevention focus* seek to attain their ought-self (Higgins, 1997). The *promotion focus* reflects an interest in “nurturance, growth, and advancement from the status quo to better states” (Higgins & Cornwell, 2016, p. 57), encompassing future selves characterized by the fulfillment of personal hopes and aspirations. From a promotion focus perspective, improvements to one’s status quo are seen as a desirable end state (gain) to approach, whereas the status quo itself, just as failures, are seen as non-desirable end-states (non-gain) to avoid (Brendl & Higgins, 1996; Crowe & Higgins, 1997; Higgins & Cornwell, 2016; Higgins, Klein, & Strauman, 1985; Higgins, Roney, Crowe, & Hymes, 1994; Shah, Higgins, & Friedman, 1998).

In contrast, people with a *prevention focus* display an interest in “safety, security, and the maintenance of the status quo against falling to worse states” (Higgins & Cornwell, 2016, p. 57), encompassing future selves characterized by the fulfillment of obligations and responsibilities (Crowe & Higgins, 1997; Higgins et al., 1985, 1994; Shah et al., 1998). From a prevention focus perspective, the maintenance of the status quo is seen as a desirable end state (non-loss) to approach (Cornwell & Higgins, 2015), whereas any shortfall in relation to the status quo are seen as negative end states (loss) to avoid (Brendl & Higgins, 1996).

Trait and State: Chronic and Momentary Foci. In Higgins’ RFT, systemic self-regulation orientations can be manifested either as chronic dispositional traits or as momentary situational states preferences that influence motivated behavior across the lifespan (Higgins, 2000; Higgins et al., 1994; Higgins, Shah, & Friedman, 1997; Higgins & Spiegel, 2004). *Chronic* orientations characterize individual differences that are stable *traits* and natural tendencies. *Momentary* orientations or *states* refer to moment-to-moment inclinations that are temporarily activated by specific situations.

Contrary to momentary states that can change from situation to situation, chronic preferences for a promotion or a prevention focus are shaped over the development by social interactions taking place between developing individuals and their caretakers, friends, partners, etc. (Higgins & Silberman,

1998; Higgins et al., 2001). Specifically, a chronic promotion focus develops when caretakers consistently direct children's attention to the fulfillment of their needs for nurturance and emphasize that aspirations are end states worth striving for (Higgins, 1997; Manian, Papadakis, Strauman, & Essex, 2006). These early social interactions build the foundation for a lifelong preference for end states related to one's ideal-self—in other words, for a chronic promotion focus (Higgins, 1997). Over time, individuals with a chronic promotion focus generally display traits such as ambition, proactivity, and proneness to attaining their objectives. In contrast, a chronic prevention focus develops when caretakers consistently direct children's attention to their needs for security and emphasize the meeting of obligations, responsibilities, and duties as preferred end-states (Higgins, 1997; Manian et al., 2006). These social interactions, in turn, build the foundation for a lifelong preference for fulfilling obligations—in other words, for a chronic prevention focus (Higgins, 1997). Over time, individuals with a chronic prevention focus are generally prone to displaying traits such as a predisposition for avoiding negative consequences or risky endeavors, as well as a high sense of duty and responsibility.

Strategic Level: Eager Approach and Vigilant Avoidance Orientations. The *strategic level* describes the action plan adopted by individuals in order to attain their end states. More precisely, RFT considers that individuals seek to increase the chances of attaining a desired end state or seek to decrease the chances of not attaining a desired end state (Higgins, 1997). To do so, some individuals adopt *eager approach strategies*, whereas others prefer *vigilant avoidance strategies*. Individuals adopting *eager approach strategies* seek to approach desired end states as well as situations that are a mismatch to undesired end states. In contrast, individuals moved by *vigilant avoidance strategies* seek to avoid situations that are a mismatch to desired end states, while also avoiding undesired end states (Crowe & Higgins, 1997; Higgins, 1997, 1998; Higgins et al., 1994).

Scholer and Higgins (2008) note that individuals with a promotion focus generally prefer eager approach strategies, as they reflect a concern for advancement, accomplishment, ideals, and growth. In contrast, individuals driven by a prevention focus generally prefer vigilant avoidance strategies, which are better aligned with their preoccupations for safety and responsibility (Higgins, 2000; Liberman, Molden, Idson & Higgins, 2001). However, despite these natural tendencies to favor one type of strategy over the other, both types of individuals can still switch between these two types of strategies if it proves to be more effective in reaching a desired end state or in avoiding an undesired end state (Higgins, 1997; Scholer, Strossner, & Higgins, 2008; Zou, Scholer & Higgins, 2014).

Tactical Level: Risky and Conservative Tactics. The *tactical level* in Higgins' RFT refers to the behavioral response that follows the plan established at the strategic level. To approach a desired end state, those directed by eager approach strategies tend to use *risky tactics*. They adopt behaviors that, although bearing a high chance of failure, also bear a high chance of success, and which typically results in behavioral activation. In contrast, those driven by vigilant avoidance strategies tend to rely on *conservative tactics*, favoring behaviors that have a low chance of failure and often resulting in behavioral inhibition (Higgins & Spiegel, 2004). Despite these generic tendencies, once again, in some specific situations, risky tactics may operate at the service of vigilance, just like conservative tactics might be used to support eagerness (Scholer & Higgins, 2008; Scholer, Zou, Fujuta, Strossner, Higgins, 2010).

Elliot's Achievement Goal Theory (AGT)

The broad concept of *goals* in Elliot's Achievement Goal Theory (AGT) reflects "a representation of an end state or result that an individual seeks to attain" (Elliot & Thrash, 2001, p.143). The narrower *achievement goal* refers to "a specific type of goal, one in which the focal end state or result is competence" (Elliot & Thrash, 2001, p.144). As such, an achievement goal is a cognitive representation of the competence that an individual wishes to attain (Elliot, 1999). Achievement goals include three components: purpose, standard of evaluation, and orientation (Elliot & Harackiewicz, 1996; Elliot & McGregor, 2001; Elliot, Murayama & Pekrun, 2011).

Purpose. The purpose of a goal refers to the reason why a person engages in a particular behavior. In Elliot's AGT, a person pursues an end state of high achievement with two possible aims: *developing* competence or *demonstrating* competence (Elliot & Thrash, 2001). The former refers to *mastery goals* and the latter to *performance goals* (Elliot & McGregor, 2001). Mastery and performance goals, both directed toward competence, are then specified according to (1) how a person evaluates competence (i.e., the *standard of evaluation*), and (2) the valence this person ascribes to

competence (i.e., the *orientation*).

Standard of Evaluation. Individuals develop their representation, or definition, of competence according to three possible standards of evaluation, or reference points (Elliot & Thrash, 2001; Elliot & McGregor, 2001). First, *absolute standards* refer to individuals' evaluation of their competence on the *task* at hand. Individuals driven by absolute standards strive to fully understand or master tasks and assignments. Second, *intrapersonal standards* refer to individuals' conceptualization of their competence according to themselves. Individuals driven by intrapersonal standards pursue the full development of their performance, skills, or knowledge in relation to their prior, and future, levels of performance. Third, *normative standards* refer to individuals' evaluation of their competence in comparison to that of others. Individuals driven by normative standards feel compelled to perform better or to attain greater skills or knowledge relative to others. Absolute and intrapersonal standards are typically found in individuals pursuing mastery goals, thus seeking to develop their own competence. In contrast, normative standards are typically observed among individuals pursuing performance goals, thus seeking to demonstrate their competence.

Orientation. According to Elliot and Thrash (2010), sensitivities to positive or negative stimuli determine individuals' orientation toward desired achievement or competence goals—an approach orientation—, or away from undesired failures or incompetence—an avoidance orientation (Elliot & McGregor, 2001). These two orientations are seen as grounded in temperament. Temperament is an intrinsic characteristic that energizes and orient motivated behavior and that is genetically and neurobiologically determined, but that can also be influenced by maturation, socialization, and experiences (Elliot & Thrash, 2002, 2010). As temperamental dispositions, approach and avoidance orientations are considered by AGT to represent trait-like propensities, leading to generally consistent behavior patterns across domains (Elliot, 2006; Elliot & McGregor, 2001; Elliot & Thrash, 2002).

An *approach temperament* bears a general neurobiological sensitivity to *positive* stimuli. Individuals driven by an approach temperament show vigilance, affective reactivity, and behavioral predispositions that pushes them *toward* positive stimuli (Elliot & Thrash, 2010). To attain these positive outcomes, they typically display a proactive attitude, persistence, creativity, and inclination to pursue challenging purposes (Elliot & Harackiewicz, 1996). In contrast, an *avoidance temperament* bears a general neurobiological sensitivity to *negative* stimuli. Individuals driven by an avoidance temperament demonstrate vigilance, affective reactivity, and behavioral predispositions that pushes them *away from* negative stimuli (Elliot & Thrash, 2010). These individuals generally perceive themselves as incompetent, leading to feelings of stress and anxiety (Elliot & Harackiewicz, 1996). These negative emotional states in turn generate affective and cognitive self-protection mechanisms, preventing them from fully engaging in a task and leading them away from displaying their perceived incompetence (Elliot & Harackiewicz, 1996).

Combining Purpose and Orientation: The 2 × 2 Model². Elliot and McGregor (2001), as well as Pintrich (2000), proposed to combine the purpose and orientation features of AGT to produce a 2 × 2 model describing four types of goal orientations. (1) In a *mastery-approach* goal orientation, achievement and competence are approached by behaviors seeking to promote learning, understanding, and the development of abilities and competencies. (2) In a *mastery-avoidance* goal orientation, failure and incompetence are avoided by behaviors seeking to preserve already learned, understood, and developed abilities and competencies. (3) In a *performance-approach* goal orientation, achievement and competence are approached by behaviors seeking to outperform others', as well as to have one's competencies and abilities favorably appraised by others. (4) In a *performance-avoidance* goal orientation, failure and incompetence are avoided by behaviors seeking to prevent the demonstration of one's incompetence to others. Further examples of each type of orientations are presented in Table 1.

Combining Purpose, Orientation, and Standards of Evaluation: The 3 × 2 Model. In the 2 × 2 conceptualization, the standards of evaluation of competence for mastery goals (absolute task-based standards versus and intrapersonal self-based standards) are confounded, which has led to a more recent 3 × 2 formulation of AGT (Elliot et al., 2011; Elliot & Thrash, 2001). In this latest conceptualization of AGT, six types of goals are differentiated (Elliot et al., 2011). (1) *Task-approach*

² This four-goal model incorporates the three-goal model, or Trichotomous goal framework, proposed by Elliot and Harackiewicz (1996) which, to avoid redundancies, will not be discussed here.

goals focus on learning, understanding, and mastering a task. (2) *Task-avoidance goals* focus on preventing the loss of knowledge, understanding, and mastery of a task. (3) *Self-approach goals* focus on improving personal knowledge and competence. (4) *Self-avoidance goals* focus on preventing the loss of personal knowledge and competence. (5) *Other-approach goals* focus on outperforming others. (6) *Other-avoidance goals* focus on not having a lower competence than others. Further examples of each type of orientations are presented in Table 1.

Comparing Gray's, Higgins', and Elliot's perspectives

The three theoretical frameworks presented so far share important similarities, in addition to presenting their own specific areas of strengths and limitations. Fortunately, as proposed in the upcoming pages, the limitations of each model are solved by the strengths of the others, which suggest that an integration of these models would provide a balanced theoretical coverage of goal-driven motivated behavior. In this section, we discuss the similarities, differences, strengths, and limitations of these models pertaining to the (1) end state, (2) trait, (3) state, and (4) motivated behavior as defined in each framework.

End State. Higgins' and Elliot's models conceptualize end states in a very similar manner, whereas Gray's model adopts a different perspective. In Higgins' model, the end state refers to the overarching direction toward which a person is drawn, and that ultimately directs behavior. Similarly, in Elliot's model, achievement goals also reflect the direction toward which a person is drawn, although they are slightly more specific to the scholastic, academic, and performance areas. Both end states and goals describe a situation that should be approached, rather than to be avoided³. Indeed, both the ideal- and ought-self from Higgins' perspective, as well as the mastery and performance goals from Elliot's perspective, describe something that individuals strive to attain. Moreover, these four specifications also share additional similarities. The intention underlying ideal-self and mastery goals are alike: Become better at something, whether it is in relation to the mastery of a task itself or to one's personal standards. Likewise, the intention underlying the ought-self and performance goals share important similarities: They both direct individuals toward the fulfillment of social or external standards and expectations, all of which are met when their achievement is recognized by others or in comparison to others. It is only at the trait level of predisposed personality-like tendencies, that working toward these end states or goals gain an approach or avoidance valence.

Contrasting with these two perspectives, in Gray's model, the end state, the goal, or the general direction of one's behavior across situations are not clearly defined. In this perspective, the general orientation of behaviors rather appears to be dependent on each situation-specific evaluation of reinforcers as attractors to approach or as repulsors to avoid. Because reinforcers are environmental, they are unlikely to be stable, consistent, and universal across situations and over time, which is why this theory is blurred regarding the end states or goals that direct behavior. Gray's theory thus gives the impression that people are solely driven by momentary impulse felt when facing different reinforcers, without being guided by any overarching sense of purpose.

Traits. Even if Gray's original RST does not define a general end state, later developments (Corr, 2008; Corr & McNaughton, 2012) have proposed a trait theory extension to Gray's seminal state perspective. This expanded RST theory proposes that repeated occurrences of state-specific responses to reinforcers should lead to the development, or stabilization, of sensitivities into trait-like individual features. Gray's model describes BAS (attractor), FFFS (repulsor), and BIS (conflicted) sensitivities. However, as these sensitivities are not directed toward an overarching end state or goal, a similar problem arises to that discussed in the previous section. This model anticipates that people are typically drawn to feel attracted, repulsed, or conflicted when facing various reinforcers, without being guided by any general sense of purpose. They are moved by a learned process that has occurred via exposure to several moment-to-moment situations, and that has become crystalized over time. However, if the goal is to achieve a complete understanding of motivated behavior, focusing on natural propensities to feel attracted, repulsed, or conflicted across a range of disparate situations without the guidance of overarching end goals, does not appear to be very informative given that individuals will likely end up relying on situation-specific evaluations of each reinforcer.

³ Higgins' RFT states that individuals are fundamentally drawn to approach end states. Elliot's AGT does not make a similar statement for goals. However, end states and goals operate similarly in that they define desirable outcomes toward which individuals are driven.

Higgins' and Elliot's models are more eloquent regarding how trait-like characteristics develop over time and are articulated around end states or goals. In their perspective, some individuals have a trait-like tendency to approach their goals or end states, whereas others tend to avoid their non-goals. In Higgins' perspective, a chronic promotion focus characterizes an approach orientation directed toward an ideal-self, whereas a chronic prevention focus characterizes an avoidance orientation away from a non-ought-self. In contrast, although mastery goals bear similarities to the ideal-self, and performance goals bear similarities to the ought-self, Elliot postulates that mastery and performance goal orientations can each have an approach or avoidance valence, both of which describe two different types of stable temperaments. However, Elliot also notes that some orientations can be situation-specific. For example, mastery-avoidance goals could be specific to situations where a person with an illness wishes to maintain gains (i.e., to avoid losses). Overall, the lack of end states or goals makes Gray's trait-like sensitivities prone to instability in moment-to-moment situations, whereas the approach and avoidance orientations described in Higgins' and Elliot's models are more likely to be stable as they are directed toward a general aim.

States. Even if individuals have a natural propensity to approach or avoid goals or end states across a range of situations, Gray and Higgins both acknowledge that a shift between these tendencies remains possible in some state-specific situations. However, Elliot's AGT remains mostly silent about this state level. Apart from defining general goals and people's orientation toward them (approach-avoidance, mastery-performance), Elliot's model does not account for *how* people meet their goals. Higgins' model is more articulated than Elliot's in terms of how individuals approach gains and non-losses, or avoid losses and non-gains. By specifying the strategic (eager approach and vigilant avoidance) and tactical (risky tactics and conservative tactics) levels, Higgins' model addresses how people can change from a general tendency toward or away from goals, to actually adopting a certain type of state-specific motivated behavior. However, even if Higgins' model addresses *how*, it does not describe *why* individuals may choose a specific behavioral orientation.

Gray's model provides the most complete description of the *how* and *why* processes involved at the state level, via the specification of the valuation-input and the motivational-output stages. First, individuals' interpretations of a reinforcer as either an attractor or as a repulsor addresses the question *why*, in Higgins' perspective, someone may shift from a chronic focus (trait-level) to a non-matching momentary focus (state-level). For example, why would someone typically moved by a chronic promotion focus momentarily shift to a prevention focus? Apart from stating that some situations may demand it, Higgins is not very explicit regarding the reasons for such shifts. In contrast, Gray explicitly notes that it is the evaluation of a reinforcer as not being in alignment with an individual trait-like tendency for approach or avoidance that explains such strategic shifts toward a momentarily non-matching promotion or prevention focus.

Second, Higgins postulates that individuals adopt either eager approach or vigilant avoidance strategies, thus suggesting that every momentary situation will be assessed in a completely black or white manner. Gray's model recognizes that some reinforcers possess shades of grey within which individuals may come to the conclusion that approach (attractor) and avoidance (repulsor) strategies represent equally desirable solutions. These situations will result, according to Gray, in an activation of the BIS, leading to increases in attention and arousal, to a careful evaluation of the pros and cons of each solution, and to the development of a compromise solution to these ambivalent situations.

Thus, Gray's perspective provides the most complete response to the questions of *why* would people move away from their predisposed tendencies (traits), to adopt momentary behaviors inconsistent with these usual habits and of *how* will this shift operate? The addition of the BIS and the associated recognition of possible intra-personal conflicts contribute to enrich Higgins' and Elliot's perspectives by proposing a more refined understanding of the processes involved at the state-level.

Motivated Behavior. Across all models, the distal outcome of these end states, trait-level, and state-level processes is focused on the prediction of motivated behavior. In this respect, Elliot's AGT is mainly silent regarding the specific behaviors individuals will display as a result of their mastery or performance approach or avoidance goals. In AGT, the outcome simply seems to be whatever behavior fits the general purpose and the orientation taken by the person. In contrast, Higgins' and Gray's models are more explicit in this regard. For instance, the added specificity of Higgins' RFT comes from its description of risky and conservative tactics, which are explicitly formulated to describe the nature of the behavior enacted by the person at the end of the motivational process.

Gray's model, however, goes somewhat beyond this by specifying that behavioral avoidance tactics can, and in several situations will, be followed by behavioral approach tactics. Indeed, whereas Higgins and Elliot propose that individuals will naturally tend to approach end goals, Gray adds that both the FFFS and the BIS can later lead to the BAS. In contrast, once the BAS is activated, Gray's model rarely anticipates that it can revert to the FFFS or the BIS without going through the whole process again (Corr and McNaughton, 2012). Gray's perspective thus allows us to propose an integrated approach-avoidance perspective of motivated behavior according to which behavioral outcomes arising from an approach-avoidance motivation process will eventually, despite going through possible stages of avoidance, reach a natural end point characterized by approach types of behaviors.

Toward an Integrative Approach-Avoidance Theory of Motivated Behavior

The aforementioned considerations highlight areas of similarity, and complementarity between Gray's, Higgins', and Elliot's theories, leading to a natural integration of these three theories into an overarching Approach-Avoidance Theory of Motivated Behavior, illustrated in Figure 3.

End States and Goals. Individuals seem to be fundamentally driven toward the adoption of motivated behaviors designed to help them approach their favored end states or goals. Enduring tendencies for motivated behaviors can very rarely be driven by pain, even if only to avoid pain, unless they become pathological in nature (alluding to a breakdown of normative functioning). This proposition moves the approach-avoidance model away from simple hedonistic principles of approaching pleasure and avoiding pain via the recognition that individuals possess a general sense of purpose that moves them toward overarching goals and end states. It is only then that traits and dispositions, innate or learned, may come to play a role in shifting individuals away from this spontaneous approach orientation to an avoidance orientation.

Trait-Level Processes. Depending on their traits and dispositions, some individuals may be prone to evaluate their desired end states from an ideal-self and mastery goal perspective, whereas others may favor evaluating their end states from an ought-self and performance goal perspective. Individuals moved by an ideal-self are likely to conceptualize end states according to the tasks to master, or to becoming a better self. This tendency to evaluate end states from an ideal-self perspective then will be most likely to trigger an approach orientation toward a chronic promotion focus. For an illustration of this process, see the typical path A in Figure 4. In contrast, individuals moved by an ought-self are more likely to conceptualize end states in terms of demonstrating competence to others, fulfilling social standards or achieving a good performance according to normative standards. This tendency to evaluate end states from an ought-self perspective then will be most likely to trigger an avoidance orientation toward a chronic prevention focus. For an illustration of this process, see the typical path B in Figure 4.

State-Level Processes and Resulting Actions. State-level processes are then activated by exposure to a reinforcer. In most cases, a trait-like disposition for an approach orientation should lead to an interpretation of the reinforcer as an attractor, whereas a trait-like disposition for an avoidance orientation should lead to an interpretation of the reinforcer as a repulsor. For example (see Figure 4), two individuals with the same end state of getting a degree, when exposed to the reinforcer *exam*, may end up with two different evaluations. The individual driven by an approach orientation (typical path A) is more likely to evaluate the exam as an attractor, which triggers a momentary promotion focus consistent with this person's chronic promotion focus, leading this individual to aim for high marks on the exam. In contrast, the individual driven by an avoidance orientation (typical path B), is more likely to evaluate the exam as a repulsor, which triggers a momentary prevention focus consistent with this person's chronic prevention focus, leading to a desire to avoid failure (or to avoid scoring lower than others). The first individual, driven by an approach orientation, will thus likely select BAS strategies, such as devising a study schedule. The second individual, driven by an avoidance orientation, will thus likely select FFFS strategies, such as avoiding distracting activities.

However, both individuals are driven by an overarching sense of purpose (i.e., a general end state or goal) that may lead them to select strategies that are not consistent with their trait-like dispositions for approach or avoidance. Thus, both individuals could select FFFS strategies if it helps them to better implement BAS strategies. For instance, avoiding distracting activities might help them to better implement their study schedule. As such, we anticipate that individuals will be more flexible in their selection of approach and avoidance strategies, without feeling an absolute need to match them

to their dispositional preferences, than what was proposed by the three theories. For this reason, we postulate that the BIS will be activated quite frequently in everyday life as several reinforcers are likely to bear both attractor and repulsor properties for most individuals. Thus, an exam can easily be seen both as a challenging opportunity (attractor), while also being seen as a significant source of strain (repulsor). We stress that this proposition applies only to motivated behaviors and may operate differently in other situations.

However, beyond these more typical pathways, alternative pathways can also be followed, especially when individuals are exposed to unusual situations. When this happens, individuals might experience a momentary shift between a promotion and prevention focus if the situation demands it, as anticipated by Higgins (1997). For example, as displayed in the non-typical path C in Figure 4, let's consider *changing schools* as the reinforcer. This reinforcer describes a new situation with a very high level of unpredictability. When exposed to this reinforcer, an individual primarily driven by an approach orientation may adopt a momentary prevention focus to avoid falling behind his/her new peers, while still wishing to achieve high marks (a momentary promotion focus).

Overall, at the motivational-output stage (or strategic level), the BIS is a strategy that allows balancing the pros and cons in order to decide on the best action plan to implement at the tactical level. As an overarching end state or goal drive individuals' motivated behavior, several situations may be accompanied by at least some degree of grey, which may push individuals toward the selection of BAS or FFFS strategies, and which may, in fact, require a combination of both types of strategies. Moreover, in several situations, adopting FFFS strategies will allow individuals to better prepare for the adoption of BAS strategies which more directly underpin motivated behaviors.

Conclusion

This paper is the first to review and contrast the theoretical perspectives of Gray, Higgins, and Elliot on approach-avoidance motivation. The formal comparison of these distinct models uncovered important complementarity, as well as many overlapping areas, and led to the proposition of a theoretical integration of the concepts and assumptions made by the three models. This integrated Approach-Avoidance Theory of Motivated Behavior incorporates two innovative propositions. First, motivated behaviors result from a process intrinsically grounded in approach, rather than avoidance, tendencies. Although displaying motivated behaviors may require the use of avoidance strategies, we anticipate that motivated behaviors driven by an overarching sense of purpose, goal or end state can only be approached. Second, the Approach-Avoidance Theory of Motivated Behavior further assumes that choosing between approach or avoidance strategies will often involve wading through grey areas within which the adoption of approach or avoidance strategies are both likely to prove useful and desirable. As such, this integrated theory anticipates that achieving a comprehensive understanding of motivated behavior requires a conceptualization of human beings as operating in a far more nuanced manner than initially anticipated by Gray, Higgins, and Elliot. Importantly, the proposed Approach-Avoidance Theory of Motivated Behavior results from an attempt to integrate three seminal theoretical perspectives, which have all received substantial empirical support over time. The proposed integration does not stem from any perceived deficiency in any of these theories, but rather to the observation of multiple similarities, and complementarities. As additional empirical work is conducted to operationalize and assess the present proposition, we invite researchers to complement this proposition further as new evidence will start to emerge toward a better understanding of goal directed behaviors.

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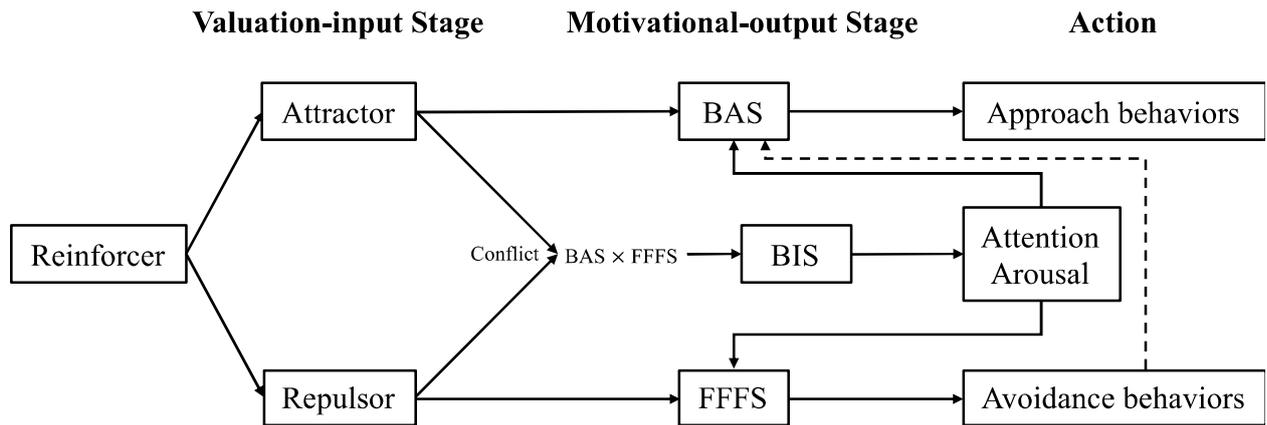


Figure 1. Gray's Reinforcer Sensitivity Theory

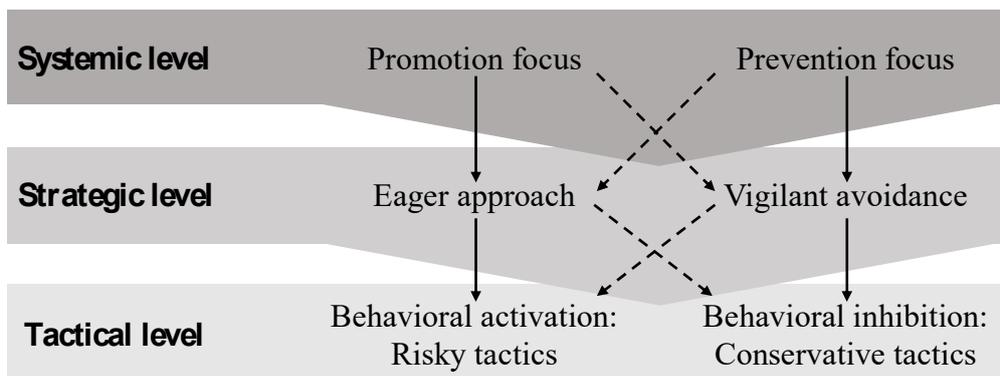


Figure 2. Higgins' Regulatory Focus Theory

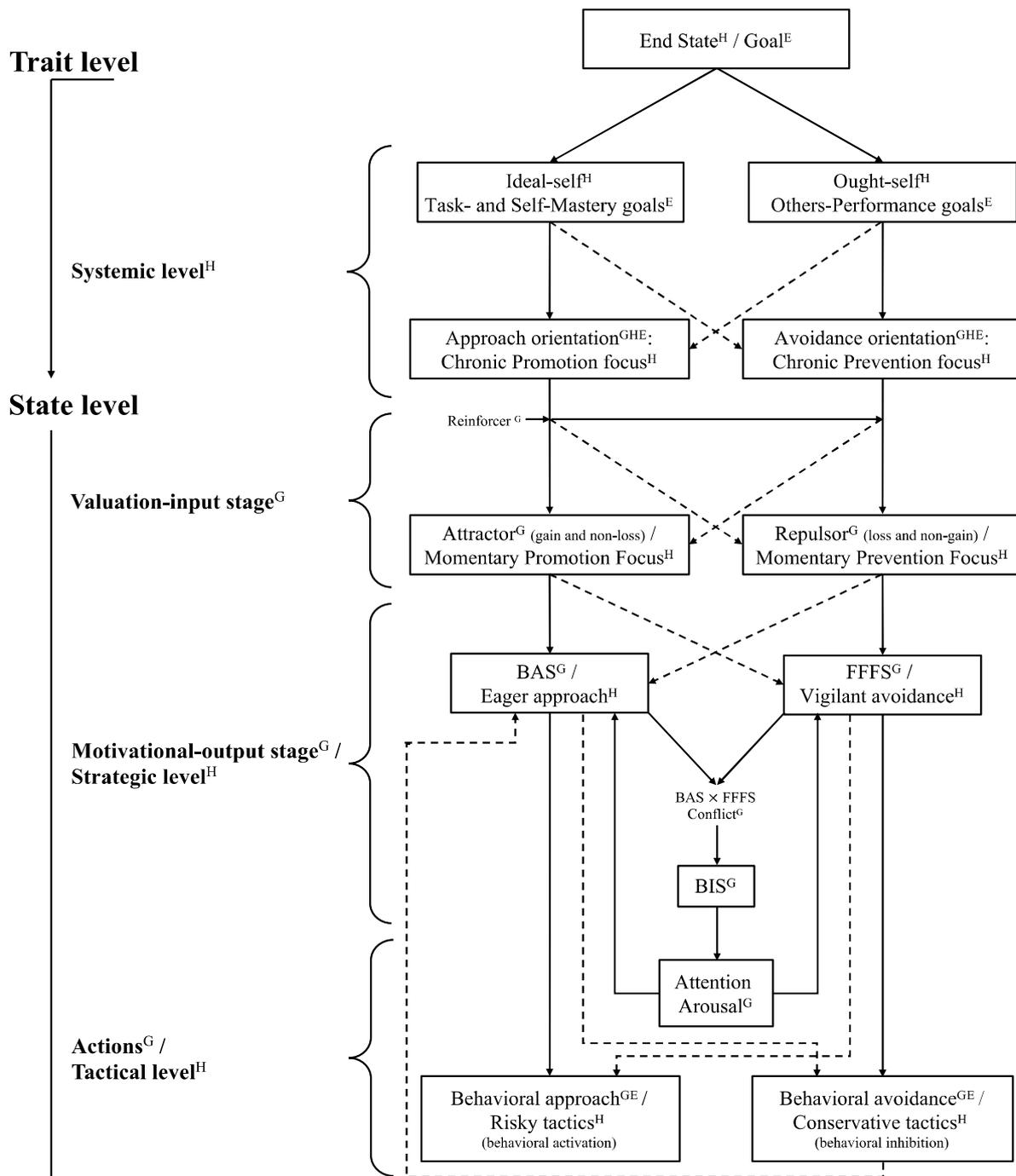


Figure 3. Approach-Avoidance Theory of Motivated Behavior

Note. ^G Gray's Reinforcer Sensitivity Theory; ^H Higgins' Regulatory Focus Theory; ^E Elliot's Achievement Goal Theory. Solid lines represent the most likely paths, dotted lines represent paths that are likely to happen in some circumstances or that are rare but still possible.

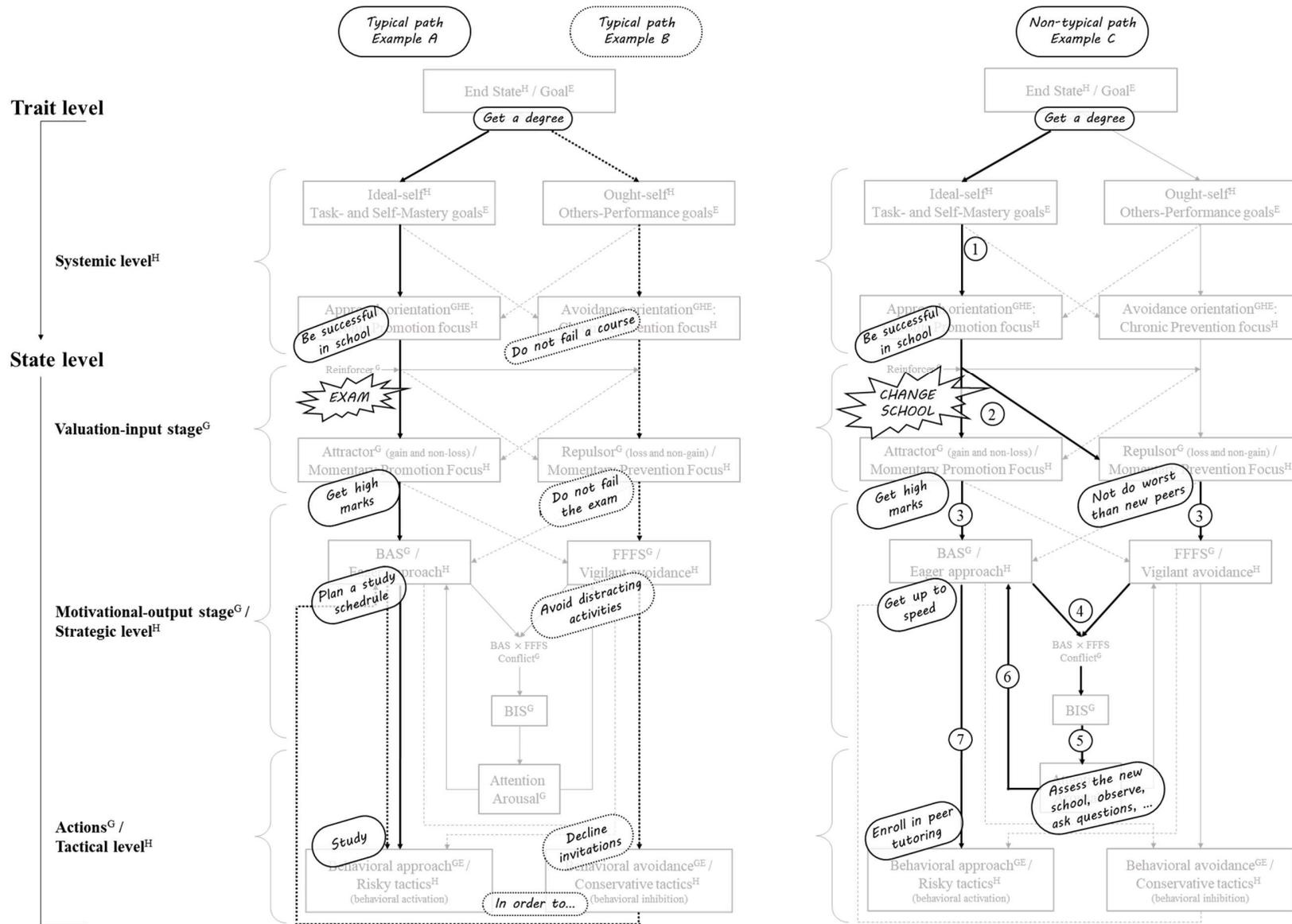


Figure 4. Examples of the Process Anticipated in the Approach-Avoidance Theory of Motivated Behavior.

Table 1. Elliot's Achievement Goal Theory

	The 2 × 2 Model		The 3 × 2 Model		
	(Elliott & McGregor, 2001; Pintrich, 2000)		(Elliot & Thrash, 2001)		
	Mastery	Performance	Mastery		Performance
			Absolute standards (task)	Intraindividual standards (self)	Normative standards (others)
Approach	e.g., learn	e.g., show knowledge	e.g., do a task correctly	e.g., do better than before	e.g., do better than others
Avoidance	e.g., avoid losing knowledge	e.g., avoid showing not knowing	e.g., avoid doing a task incorrectly	e.g., avoid doing worse than before	e.g., avoid doing worse than others