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## **Acting the same but different: The origins and dynamics of habits and routines**

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### **Abstract**

Recurrent action patterns of individuals (habits) combine into collective recurrent action patterns (routines). Among their other functions, habits and collective performances underpin patterns of stability and novelty at both the individual and organizational levels of analysis. In order to understand the interaction between these two levels of action, scholars research their origins and dynamics. This paper does so as well. However, in contrast to much prior theorizing on this subject, I adopt a social cognitive perspective on human personality and individual psychology. In doing so, I problematize assumed ontological distinctions between individuals and collectives, and between the means and ends of goal pursuit. From this perspective, social context and situational contingency become central factors in the explanation of personality and organization. Complex intra- and inter-personal processes also play a central role. The resulting theory proposes that both individual habits and collective performances evolve from patterns of situated behavior that are mediated by complex cognitive-affective processes. And when outcome behaviors significantly enhance the value experience of individuals and/or collectives, they are encoded as habits and/or routines respectively. Among its major contributions, my theory offers an explanation for the origin and adaptation of habit and routine, as well as the role of recurrent action patterns in the generation of behavioral variation and novelty. My theory thereby addresses a number of persistent questions regarding the mechanisms whereby habits are transformed into routines, and how these mechanisms support both organizational stability and novelty.

## **ACTING THE SAME BUT DIFFERENT: THE ORIGINS AND DYNAMICS OF HABITS AND ROUTINES**

In goal pursuit, the capacity to adapt is critical for success, especially in a world of increasing complexity, dynamism and uncertainty. As contexts change and evolve, actors must adapt in response. At the same time, goal pursuits often rely on recurrent patterns of action in order to progress effectively and efficiently. To the degree that contexts are repetitive, effective action can be repetitive as well. This is true at the individual level of habitual action and the collective level of routine action (Bargh & Williams, 2006; Becker, Lazaric, Nelson, & Winter, 2005). Patterns of action must therefore be simultaneously stable and flexible, or in other words, the same but different. Goal pursuits rely on adaptive habits and routines combining stability and change, where habits and routines are defined as recurrent action patterns at the individual and collective levels respectively, and actions are defined as specific instances of goal directed behavior (Feldman & Pentland, 2003; Wood & Neal, 2007). Moreover the two levels of action are deeply intertwined. Collective action is compounded of individuals' actions, and individual action often mimics patterns of collective action (Cohen, Levinthal, & Warglien, 2014; Lazaric, 2003). Yet despite progress in understanding these phenomena, the mechanisms whereby habits and routines originate and interact remain obscure (Winter, 2013). Most importantly, it is not yet clear how individual habits aggregate or combine in routines, nor how changes at either level influence changes at the other. In this paper, I propose a new theory of habits and routines which addresses these outstanding questions.

Like other scholars (e.g., Cohen, 2006; Mischel, 2004), I argue that answering these questions calls for a fresh perspective on individual and collective psychology, one that more fully integrates cognitive and affective factors, and focuses on persons in context. Adopting this perspective, leading psychologists reject fixed personality traits or types, and view individual personality and behavior as deeply contextual, complex and contingent (Cervone, 2005; Shoda &

Mischel, 2006). Some organizational and social psychologists agree and view collective agency and behavior as inherently contextual, complex and contingent (Cohen et al., 2014; Wood & Beckmann, 2006). Uniting these complementary perspectives, I develop a novel theory of the origins and dynamics of habits and routines, including behavioral stability, variation and novelty.

As noted earlier, a major challenge is to specify the mechanisms by which habits at the individual level aggregate or combine into routines at the collective level (Felin, Foss, & Ployhart, 2015; Winter, 2013). How this happens is not yet clear. My theory resolves this puzzle by exposing a deeper level of intra- and inter-personal analysis which underpins both individual and collective action patterns (Salvato & Rerup, 2011). I do so by drawing on Mischel and Shoda's (1995, 1998) theory of Cognitive Affective Personality Systems (CAPS), and argue that habits and routines co-exist as nested systems of cognitive-affective processes, not as distinct ontologically categories. Similarly, natural variations at the individual level of habit co-evolve with novelty at the collective routine level. The resulting theory integrates psychological phenomena across both levels of analysis. It conceives of individual persons and organized collectives as inter-dependent, mediated systems of situation-behavior processing (see Cohen et al., 2014). Thus I problematize the traditional ontological distinction between individual and collective levels of analysis (Winter, 2013).

Furthermore, I argue that the key mechanism which drives habit and routine formation is the value experience of goal pursuit. Here I draw on Higgins' (2006) Regulatory Engagement Theory (RET) which explains task engagement in relation to motivation and value. Building on his earlier theories of self-regulation (1998, 2005), Higgins explains how the experienced value of goals as ends combines with the value experience of exercising appropriate goal pursuit means to generate a value force of attraction or repulsion. In my theory, I argue that habit and routine action are driven by such value forces. Recurrent action patterns (habits and routines) emerge when

agents are strongly, consistently and frequently attracted or repulsed by a goal and its related pursuit means.

Moreover, the CAPS and RET theories are highly complementary. Both are social cognitive in nature, view persons in context, treat the same constructs as fundamental, and view personality as a complex adaptive system. Each theory also addresses an enduring problematic in the social sciences: to what degree is goal seeking behavior explained and justified by means and/or ends (Eckhardt & Shane, 2013; March, 2003; Wijen, 2014)? In RET, means and ends are explicitly integrated as explanatory factors (Higgins, 2006). While in CAPS, outcome behaviors are not simply explained in terms goals as ends, but by a range of interacting cognitive-affective factors, including encodings, values, beliefs, affects, self-regulatory plans, as well as goals (Mischel et al., 1998). Hence both theories problematize the traditional distinction between ends and means, in which goals as ends are typically prioritized and means are subordinate. Indeed, in many social sciences, including psychology, sociology, economics and management, the assessment of rational or justified behavior often privileges goals as consequential ends (Higgins, Cornwell, & Franks, 2014; March, 2006; Sen, 1997). Scholars assume that rational adaptive behavior is that which prioritizes the attainment of desired endstates or goals, often conceived as utilities. Pursuit means are then seen as contingent and subordinate to the achievement of ends. In contrast, CAPS, RET and my own theory reject the privileging of ends over means, and vice versa.

My theory's major contribution is to the literature which seeks to integrate habit and routine, offering a new explanation of their origins and adaptation (Cohen et al., 2014; Winter, 2013). I model habit and routine as nested situation-behavior systems, mediated by cognitive-affective processes. In this fashion, the core stabilities of habits and routines can be explained, while at the same time accommodating their inherent variability. Change and stability, as well as behavioral novelty, become inherent qualities of nested systems. My theory also incorporates the value force experience

of attraction or repulsion as the mechanism whereby some action patterns are encoded as routine and/or habit.

As its second major contribution, my theory resolves the problems of aggregation and combinatorics between individual habit and collective routine. This is achieved by exposing the deeper level of cognitive-affective processing which underpins both patterns of recurrent action. Third, my theory contributes by integrating means and ends as explanatory factors in recurrent action. Drawing on RET, I explain how recurrent action is motivated and justified by (a) the anticipated value deriving from the attainment of preferred goals as consequential ends, as well as (b) the anticipated value deriving from the exercise of proper or appropriate means of goal pursuit.

To develop my theory, I first review the relevant literatures on habit, routine and social cognitive psychology. Drawing on these literatures, I problematize widely assumed distinctions between individuals and collectives, as well as between ends and means, and propose an alternative conception of persons in relation to collectives, and means in relation to the ends of goal pursuit. I then specify mechanisms of habitualization and routinization, giving examples of each. The paper concludes by discussing implications for future research into habit, routine and behavioral topics.

### **THE ORIGINS OF HABITS AND ROUTINES**

Routines are defined as repeated sequences of action or as recurrent action patterns (Becker, 2005; Cohen, 2006; Feldman et al., 2003). Viewed from both capability and practice perspectives, routines play an important role in organizational life, connecting and coordinating groups of people within systems of collective meaning, cognition and goal directed behavior (Feldman & Rafaeli, 2002; Parmigiani & Howard-Grenville, 2011; Winter, 2000). Habits can also be defined as repeated sequences of actions or recurrent action patterns, although in contrast to routines, habits are associated with individuals rather than collectives. Indeed, habits support the stability and continuity of individual personality. As William James (1890: 3) noted, people can be described as “bundles of

habits”. In similar fashion, routines support the stability and continuity of organized collectives (Cohen et al., 2014). Nelson and Winter (1982: 96) write that routines are the “source of continuity in the behavioral patterns of organizations.” That said, habits and routines also change and adapt in response to exogenous and endogenous factors: new situational stimuli and altered inter- and intra-personal states may emerge; behaviors may recombine into new action patterns; and there is a constant degree of variance and incomplete replication (Becker, Knudsen, & March, 2006).

It is also well established that collective routines can be viewed through an evolutionary lens. For example, Nelson and Winter (1982:400) write that “routines in general play the role of genes in our evolutionary theory.” They argue that routines are a central unit of economic variation, whereby organizations adapt procedures and processes in response to a changing industrial environment (Becker, Lazaric, Nelson, & Winter, 2005). From this perspective, the variation of routines is viewed as analogous to genetic mutation in biological evolution. Organizations embody systems of routines, just as living organisms embody systems of genes. Regarding habits, they can be viewed through an evolutionary lens as well. Evolutionary psychologists argue that habitual patterns of recurrent action develop through a process of variation, selection and replication, as individuals strive for behavioral fitness (Hodgson, 2010; Workman & Reader, 2014). The origins and adaptation of both habits and routines can thus be understood in evolutionary terms.

Habits and routines also require little if any deliberation (Bargh et al., 2006). Both types of recurrent action are typically procedural and executed with limited mindfulness and effortful control, although scholars continue to debate degrees of mindfulness in routine action (Levinthal & Rerup, 2006; Verplanken, Friborg, Wang, Trafimow, & Woolf, 2007). Neuroscientific evidence adds to this debate: studies show that brain injured patients with significant loss of memory and deliberative capacities can still acquire new habits and perform them successfully (Cohen, Ylvisaker, Hamilton, Kemp, & Claiman, 2010). That said, some habits and routines also exhibit a degree of conscious

deliberate processing (Glăveanu, 2012; Zollo & Winter, 2002). Other neuroscientific studies support these findings. Laureiro-Martinez (2014), for example, shows that people possess a neurological propensity for routinization which interacts with deliberative executive control in decision making.

Any theory of these phenomena must also tackle the issues of adaptation and novelty raised earlier. How do relatively automatic patterns of recurrent action contribute to behavioral variation and novelty (March, 2006)? Considered at separate levels of analysis, variation may be accounted for. First, at the individual level of analysis, psychologists explain that personal habits support creativity (Glăveanu, 2012) and variation is inherent in human personality (Mischel, 2004). Second, at the collective level, the imperfect replication of routines, their dynamic re-combination, plus situational and social contingency, all help to explain routine variation and adaptation (Becker et al., 2006; Feldman et al., 2003; Tsoukas & Chia, 2002). Once again, the challenge is to integrate the individual and collective levels of analysis.

Furthermore, a particular recurrent action pattern may be simultaneously viewed as both habit and routine: habit when viewed in relation to an individual's performance, and routine when viewed in relation to a collective (Cohen et al., 2014; Winter, 2013). However, as noted earlier, the relationship between individual and collective levels remains difficult to explain (Felin et al., 2015). Many propose some type of aggregation mechanism, but most of these attempts exhibit ontological limitations: either individuals' psychological states and habits are viewed as fundamental (methodological individualism) and routines are reduced to epiphenomenal status, or organizational forms and routines are viewed as fundamental (methodological collectivism) and individual psychology is secondary. The deeper and more important challenge is to explain how individual persons and organized collectives co-evolve and interact within social contexts (Salvato et al., 2011). This calls for a more pluralistic ontology, in which no single level of observed reality is privileged

over others, whether it be at the individual, group or organizational level (Winter, 2013). Consequently, we must reconsider psychological foundations.

### **Psychological Assumptions**

Much research into habits and routines assumes—explicitly or implicitly—one or other dominant theory of individual psychology, namely trait-based, behaviorist or type theories (Cohen et al., 1996; Winter, 2011, 2013). In particular, the Five Factor Model trait theory of personality has almost attained normative status, especially within management and organizational scholarship, and few would question its validity (e.g., Judge & Zapata, 2014; Klein, Beng-Chong, Saltz, & Mayer, 2004; McCrae & Costa, 1997). Not surprisingly, therefore, this theory is invoked in research on the microfoundations of routines (e.g., Felin, Foss, Heimeriks, & Madsen, 2012). Yet while these widely assumed theories of personality demonstrate explanatory power, they fail to acknowledge and account for the deeper complexities of human personality and behavior (Camic, 1986; Lazarus, 1991). They cannot explain the contingency of subjectivity, the contextual variability of behavior, the role of emotion, and the continuum of automaticity and deliberation in human action (Cohen, 2006; Fiedler & Wanke, 2009; Liljenfors & Lundh, 2015). Instead, behavioral variance is often problematized, and researchers then try to uncover reasons why individuals deviate from assumed norms (Wood et al., 2006). Consequently, some scholars call for reform of the psychological basis of microfoundational theories, ensuring they are “more extensively grounded in sound contemporary psychology” (Cohen et al., 2014: 334). Winter (2013: 126) also writes, we need “microfoundations that offer an alternative to the standard brand “individuals” of economic theory.”

For these reasons, a significant group of social-cognitive psychologists questions the validity of trait-based, behaviorist and type theories, and regards them as over-simplifications (Bandura, 2015; Cervone, 2005; Mischel, 2004; Wood et al., 2006). Instead, they argue for more complex theories in which contextual and intra-personal factors constantly interact, and they reject theories

which assume stable, universal determinants of individual personality and behavior. This reformist thinking reflects a wider trend towards viewing persons in context within the psychological and sociological sciences (Frie & Coburn, 2011; Michel, 2014). Some organizational scholars share this perspective with regard to the microfoundations of routines, advocating a richer, contextual treatment of individual psychology (Cohen et al., 2014; Winter, 2013). Collective behavior, including routines, entails more complex psychological and situational factors, interacting across different levels of analysis. I adopt such a perspective as well.

From this perspective, the observed stabilities of personality are understood as recurrent patterns of situated behavior, mediated by complex intra-personal processes. Personality traits and types are viewed as epiphenomenal relative to the underlying processing system. The focus of analysis thereby shifts to a deeper level, to more complex interactions between cognitive-affective processes and the situational context. Notably, a comparable shift can be observed in related fields of organizational and sociological research. From a range of perspectives, researchers call for a richer appreciation of the social nature of persons in routine action (e.g., Dionysiou & Tsoukas, 2013; Parmigiani et al., 2011). Sociologists use comparable concepts such as “habitus” and “structuration” to describe processes whereby the social context and experience within it give rise to social forms, patterns of cognition and behavior (e.g., Bourdieu, 1977; Giddens, 1984; Leonardi & Barley, 2010). In the field of personality psychology, Mischel and Shoda’s (1995, 1998) theory of Cognitive-Affective Processing Systems (CAPS) exemplifies this approach.

### **The CAPS Theory of Personality**

The CAPS theory of personality is representative of the broad attempt to reconfigure our understanding of individual psychology from a social-cognitive perspective, viewing persons in context (Bandura, 1997; Cervone, 2005; Mischel, 2004). Mischel and Shoda (1995) derived the theory after an in-depth field study of behaviors at a six-week summer camp attended by children

aged 7-13, with an average of 167 hours of observation per participant. Detailed data were gathered about patterns of behavior within a wide range of contexts. The resulting theory conceives of personality as grounded in the distinctive interrelations between situational stimuli, intra-personal processes and resulting behaviors including goal-directed action. In explaining the theory, Mischel and Shoda (1995: 253) analogize to the development of cognitive science and computing in the late twentieth century: the CAPS theory “is consistent with a new kind of revolution that has been occurring in cognitive and neuroscience in the last decade which shifts from the serial, centralized processing that had been modelled after the architecture of traditional digital computers to a more paralleled, distributed model.” However, their thinking about “situation” and “stimulus” differ from classic behaviorism. Situational stimuli are not the sole determinants of personality; behavioral responses are not the mechanical results of conditioning. Rather, features of situations activate complex and variable intra-personal processes within persons, both cognitive and affective, which reflect a person’s prior experience and dispositions. These intra-personal processes involve five categories of cognitive-affective mediating units: encodings, expectancies and beliefs, affects, goals and values, and competencies and self-regulatory plans (Mischel et al., 1995: 253).

Mischel and Shoda (1995) therefore conceive of individual personality as a situation-behavior system (or a system of “if...then...” situation-behavior responses), mediated by an organized network of cognitive-affective processing units. Personality is thus understood as an organized, adaptive system, not a fixed set of universal traits or types. And while broad behavioral similarities do exist between persons, they reflect the unique, relatively stable cognitive-affective subsystems which embody individual difference.

Figure 1 shows a schematic version of the CAPS model. Stimuli shown on the left of the figure trigger cognitive-affective processing shown in the center; there are many possible relations among these cognitive-affective processing units, but only some are functionally important in any

context; units that become activated in the personality system activate other units through their distinctive organization in a network of relations, ultimately generating observable behaviors shown on the right of Figure 1; feedback activations occur that sustain patterns of activation over time, shown by the encoding process at the base of the figure (Mischel et al., 1995).

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Insert Figure 1 about here  
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Via feedback encoding, triggering stimuli are also encoded into the situational context, and associated cognitive-affective processes are encoded into a person's neurocognitive system. In this way, certain behaviors become recurrent: when repeat situations occur, encoded situational stimuli trigger encoded cognitive-affective processes which result in recurrent patterns of behavior (Mischel et al., 1998). Clearly, the model entails that some behaviors become recurrent and hence habitual. However, Mischel and Shoda do not fully explain this process. So we are left to ask: what are the mechanisms of selection and encoding of habituation action? Another novel theory in social cognitive psychology provides a solution to this question, namely Higgins' Regulatory Engagement Theory (RET).

### **Regulatory Engagement Theory**

Higgins and Scholer (2006; 2009) argue that engagement (the degree to which one is engrossed or occupied in goal pursuit) is strengthened by the use of appropriate or proper goal pursuit means, as well as by the inherent properties of goals conceived as value targets. In terms of pursuit means, they show that people feel more engaged when opposing interfering forces and overcoming internal existence. Engagement is further strengthened by the sense of value and fit which derives from acting in accordance with one's self-regulatory orientation, or as Higgins defines it, by the use of proper means. For example, when seeking positive gains, acting with eager exploratory means will generate a sense of value from fit and strengthen engagement. And this

occurs independently of the consequential ends of goal pursuit, because exercising proper pursuit means is rewarding in itself (e.g., Brockner, Higgins, & Low, 2004; Hjorth, 2007). Figure 2 shows the main elements and relationships of the RET model. It is important to note that many of the key constructs within RET are also central to CAPS: value, goals, beliefs and self-regulatory plans. The major difference between the two theories is that RET organizes such factors into a model of engagement strength and value experience, whereas CAPS organizes them into a general model of personality. The process modeled by RET can therefore be seen as a universally shared sub-system of the cognitive-affective processes modeled by CAPS. And because Higgins and Mischel are also persons in context, it is worth noting that they have been colleagues at Columbia University in New York for many years. In the following sections, I discuss each element of the RET model, moving from left to right in Figure 2.

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Insert Figure 2 about here  
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Beginning at the top left of Figure 2 are the subjective pleasure/pain properties of the endstate or value target, also conceived as the desired consequential ends of goal pursuit. Additional properties of value targets are (a) shared beliefs with others about what's desired and what's accepted (that is, standards), at both interpersonal and even broader societal levels, and (b) need satisfaction, even if it does not produce a significant hedonic pain or pleasure experience (e.g., the value target is being able to eat lunch daily, or to earn a salary that covers living expenses). Moving further to the right, Figure 2 shows the hedonic experience related to pursuing a value target, that is, the experience of pleasure or pain associated with a specific value target.

Importantly, Figure 2 also depicts several other sources of engagement strength which relate to the processes and means of goal pursuit, as distinct from ends. These include opposition to interfering forces (reflecting task difficulty), overcoming personal resistance (negative attitudes

or dispositions), regulatory fit, (acting in a way that fits one's operative self-regulatory orientation), the use of proper means (which creates a sense of value), and the perceived likelihood of success. As Figure 2 further depicts, these sources of engagement strength influence the motivation and value experience of actors, and thereby play a significant role in guiding future action. Hence goal directed action is not solely determined by the anticipated value or utility of consequential ends, but also by the inherent value of exercising proper means. In part, therefore, action may be explained by the desire to exercise proper means, not only by the attainment of endstates. And if the priority attached to the exercise of proper means sometimes contradicts the attainment of ends or utility optimization, this is not necessarily evidence of dysfunctional motivation or reasoning (Higgins, 2006). As Higgins notes, it's not only winning or losing that matters (attaining desired ends), but how you play the game (exercising proper means).

### **Habitual cognitive-affective processes**

To explain habitual cognitive-affective processes in greater depth, consider the following example. David is interviewing a potential job candidate named Bill for the first time. Bill arrives promptly and has a thick black moustache. His appearance triggers memories for David, of an aggressive and abusive teacher in high school who had a very similar moustache. These memories cause negative affect, and as a result, David feels uncomfortable and even somewhat threatened. In fact, David has encountered these situations before, and consistently feels repulsion towards men with similar moustaches. By overcoming internal resistance in this context and using proper means, David may feel highly engaged in goal pursuit. Nevertheless, and still consistent with his strong task engagement, he immediately forms a negative impression of Bill and greets him in an unfriendly fashion. This scenario is depicted by the cognitive-affective interactions labelled A in Figure 3. It shows that the situational cues of Bill's appearance trigger a flow of cognitive-affective processing which results in David's unfriendly response (see Mischel et al., 1998).

Furthermore, each temporal phase of David's cognitive-affective processing system will include an embedded regulatory engagement sub-system of the kind explained by RET. Although the full details of these RET sub-systems are not depicted. I next argue that, depending on the consistency, frequency and strength of the value forces which arise from any situation-behavior (attraction or repulsion forces), the resulting behavior will become encoded as habit. In this case, David will be habitually unfriendly towards men with thick black moustaches. This mechanism is a type of feedback reinforcement or encoding, which is common in many theories of psychological development and change (Cohen et al., 1996; Kareev, Avrahami, & Fiedler, 2014; Wang, 2006). Via feedback encoding, an outcome at one time influences a subsequent process, in this case a repetitive process. Comparable mechanisms are included in individual and organizational theories of performance feedback, aspirational discrepancy reduction and learning (Bandura & Locke, 2003; Levitt & March, 1988; Shinkle, 2012). Importantly, Higgins (2006) also argues that regulatory engagement outcomes will have feedback effects on subsequent goal pursuit.

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Insert Figure 3 about here  
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Higgins also highlights the complementary role of ends and means in goal pursuit. Both are sources of value experience. For this reason, I argue that habits have two fundamental components: (a) desired endstates or value targets which are encoded as aspirations, and (b) proper means of goal pursuit which are encoded as procedures. Hence habits have two basic components, aspirational ends and related procedural means. This accords with much prior research which show that aspirations and procedures are indeed fundamental to habits (Cohen & Bacdayan, 1994; Fehr & Gächter, 2002; Stutzer, 2004).

Now consider the second scenario in Figure 3. David is interviewing a different job candidate named Mark for the first time. He also arrives promptly, but without a moustache and wearing a pink

shirt with blue neck tie, which are David's favorite colors. In these situations, David feels attracted towards the candidate. And even if he experiences less internal resistance, David still uses proper means, perhaps feels a higher likelihood of success, and is therefore engaged in the task. Overall, David feels comfortable and greets Bill in a friendly fashion. This scenario is depicted by the cognitive-affective interactions labelled B in Figure 3. It shows that the situational cues of Mark's appearance trigger a flow of cognitive-affective processing which results in David's friendly response. Assuming adequate consistency, frequency and strength of such reactions, David will be habitually friendly towards people who wear his favorite colors.

While the scenarios A and B in Figure 3 are very similar, they depict two different, stable cognitive-affective subsystems, which are triggered by different situational cues and result in different value forces and behaviors: David experiences recurrent repulsion towards men with heavy black moustaches, but is recurrently attracted towards people who wear his favorite colors. Both also reflect different personal habits, even though each habit is associated with the same core action of interviewing a job candidate, also depicted in Figure 3. In fact, David's overall cognitive-affective system is composed of multiple subsystems of this kind, and different situational cues result in different value force outcomes and behavioral responses. Moreover, again assuming an embedded regulatory engagement process, I argue that depending on the consistency, frequency and strength of the value forces which arise from these situation-behaviors, they will be encoded as habits and underpin the stability and variability of David's personality. Moreover, when viewed at the population level, across a wide range of situational contexts, general processing patterns approximate the appearance of universal personality traits (Mischel, Shoda, & Mendoza-Denton, 2002). For example, David's aversion to thick black moustaches would probably be classified as an instance of the personality trait known as neuroticism.

Integrating the CAPS and RET theories, therefore, cognitive-affective processing subsystems are the mediators of individual personality, the habitual stability of which is conditional on the consistency, frequency and strength of the value force experiences associated with patterns of situation-behavior. Individual differences in personality are then re-conceived as variable patterns of this kind, rather than as different combinations of universal personality traits or types. Indeed, variance is inherent to the CAPS theory, both within and between persons (Mischel et al., 1995). A degree of variation is inherent within personality, not a deviation from the norm. Human evolution may largely explain this: in the risky primal world of jungles and tundra, where life could be brutal and short, the inherent variability of cognitive-affective processing in response to different situational conditions supports behavioral plasticity with adaptive advantages (Mayr, 2002).

Considered at an individual level of analysis, therefore, certain actions are positively selected and likely to become habitual. Although, this neither implies that all habits are inherently attraction or repulsion oriented, nor invariant. So-called bad habits can develop and move people further away from their valued endstates. For example, the regular consumption of alcohol may move a person toward a valued endstate in the short-term (feeling relaxed), but the acquired habit may have the opposite effect over time (mental disorder owing to alcoholism) (Wood et al., 2007). Value targets may alter as well. Perhaps a new religious belief prohibits the consumption of alcohol, leading to a fundamental change in the cognitive-affective subsystem related to drinking habits. Moreover, the inherent variability of situations means that encoded habits often entail different cognitive-affective processes. Drinking alcohol may be acceptable after work, but not during. David's initial meetings with Bill and Mark depicted in Figure 3 demonstrate comparable variability. In summary, the mediators of recurrent action are consistently dynamic.

It is important to emphasize once again, that not all of the cognitive-affective processing units indicated by the small circles within the oval shapes depicted in Figure 3 will be consistently

activated in B's habit processing. Similarly, in the recurrent performance of any habit, the situational stimuli and resultant behaviors are rarely fully identical. A degree of variance is common. What makes each performance an example of the same habit is the recurrence of a consistent core pattern of stimuli, a core cognitive-affective subsystem linking aspirations and procedures, plus the action outcome (Cohen et al., 2014). In the case of interviewing habits, for example, the consistent stimuli would probably include a resume, although the specific time, date and context of any interview will vary. There may also be significant variance in cognitive-affective processing: sometimes a person is optimistic after reading the resume and hopes to attract the candidate; other times he or she is ambivalent and foresees a higher chance of rejection.

Common habitual behaviors of this kind are ubiquitous: when the pedestrian traffic light turns green, most people cross the road; when the telephone rings, the majority of people answer it. Indeed, consistent habitual responses to situational stimuli are universally observed. Yet internal to individuals' psychological systems, the related cognitive-affective processes are rarely identical across all instances of the behavior. Crossing the road at traffic lights may entail significant goal-related processing on some occasions (being late for an important meeting), but not always; while a ringing telephone may trigger strong affective processes (a lover is calling), but often it does not. Therefore, just as personality systems are responsive to situational context, individual habits are too. This explains the relative variability of habitual action at the individual person level. In summary, the mechanism of habituation can be explained as follows:

**Proposition 1a.** An action (defined as a specific instance of goal directed behavior) is encoded into an individual's situation-behavior system as habit (recurrent action pattern), conditional on the consistency, frequency and strength of the action's associated value force experience (attraction or repulsion).

**Proposition 1b.** Conditional on the consistency, frequency and strength of an action's associated value force experience (attraction or repulsion), value targets and valued means are encoded as habit: value targeted are encoded as aspirational ends, and proper goal pursuit means are encoded as procedures.

Moreover, many recurrent behaviors are relatively instinctual or automatic, in that little deliberate intervention occurs in their enactment (Bargh et al., 2006). Habits are this type of system (Wood, Quinn, & Kashy, 2002). Yet this does not mean that habits are fully non-deliberative. There can be habits of mind, after all. Nor do I thereby subscribe to strict dual processing theories, in which emotive and intuitive processing are classified as distinct from deliberative and calculative processing (e.g., Kahneman, 2011). Rather, I subscribe to the view that cognitive-affective processing systems are contextual, in which different degrees of calculative and emotional processing combine, depending on the situational context, capability of the agent and related ecological factors (Cervone, 2005; Fiedler et al., 2009). For the same reason, I do not assume that habits are necessarily accompanied by non-deliberative modes of reasoning (see Winter, 2013); rather, I argue that habits are typically accompanied by little, if any, deliberative processing.

### **Routine cognitive-affective processes**

Evidence shows that groups of persons often share very similar (although not identical) patterns of situational stimuli and behavioral response (Higgins, 2008; Mischel, 2004). For example, almost all people who recruit new employees share a common goal: to identify and recruit suitable candidates. However, their intra-personal processes are neither fully consistent nor identical. Some people will have stronger affective states when interviewing candidates, becoming more elated or anxious, while others do not. David's reactions depicted in Figure 3 are an example of such affects; another recruiter may experience very different affects in these situations. Nevertheless, as in the example of recruitment interviewing, some recurrent situation-behaviors will form a stable core of

cognitive-affective processing which is common among a group of persons. In the case of recruiters, the common cognitive-affective core will mediate the basic cognitions and behaviors required to assess candidates' skills, experience and career goals; but judging someone's facial hair or color preferences are personal, and very unlikely to be core processes.

Figure 4 depicts this type of system. The first stage of the figure on the left, labelled "Features of situations" and indicated by the letters "a...g", is similar to the original CAPS model in Figure 1, where features of situations may include a variety of environmental, social and organizational conditions. Flowing from the first stage, stimuli trigger the second stage of the system labelled "Cognitive-affective processes". In Figure 4, these processes mediate three personalities (A, B and C). The third stage on the right of the figure shows outcome behaviors, indicated by the letters "m...s". Each person is responding to the same situational stimuli (labelled "d"), which triggers similar (although not identical) cognitive-affective processing within each person, resulting in a similar behavioral response (labelled "p"). Hence, Figure 4 includes all features of the basic CAPS model in Figure 1, but incorporates three personalities (A, B and C).

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Insert Figure 4 about here  
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The first important component of Figure 4 is its depiction of a habit system. This is indicated by the dotted line encompassing situational feature "d" which triggers cognitive-affective processing within person B, resulting in behavioral response "p." If this situation-behavior system results in a value force experience with sufficient strength, consistency and frequency, then the system will be encoded via feedback and become a habit for person B. That is, whenever situation "d" arises (as contextual and/or intra-psychoic stimuli), then a regular pattern of cognitive- affective processing and behavioral response "p" will follow. In the case of David cited earlier, the situational stimulus of a black moustache triggers cognitive-affective processing which results in unfriendly behavior.

Figure 4 also shows that similar cognitive-affective subsystems can occur for all three persons. For example, assume persons A, B and C are each recruiters. Stage two of the system in Figure 4 can then depict the processing similarities between persons A, B and C. They possess very similar (but not identical) cognitive-affective processing subsystems in relation to the same situational stimuli. Candidates arrive and the three recruiters will all ask questions about experience, skills and career goals. Outcome behaviors are similar as well. Each recruiter will recommend or reject the candidate, at least partially owing to the candidate's experience, skills and career goals. The figure also depicts the feedback process, whereby behaviors are encoded into the collective situation-behavior system, conditional on the consistency, frequency and strength of the attraction or repulsion forces which the agents all experience. Once again, I assume an embedded regulatory engagement process, similar to the process of habitualization. Desired ends will be encoded as the aspirational components of routine, while the proper means will be encoded as its procedural components. Prior research also supports the fundamental role of aspirational ends and procedural means in routine dynamics (Becker, 2005; Cohen et al., 1994; Cyert & March, 1992; Winter, 2000).

**Proposition 2a.** An action (defined as a specific type of goal directed behavior) is encoded into a collective's common situation-behavior system as routine (a recurrent action pattern), conditional on the consistency, frequency and strength of the action's value force effects for the collective (attraction or repulsion).

**Proposition 2b.** Conditional on the consistency, frequency and strength of an action's value force experience for a collective (attraction or repulsion), value targets and valued means are encoded as routine: value targets are encoded as aspirational ends, and proper goal pursuit means are encoded as the procedures.

### **Cognitive-affective routine processing**

Importantly, however, only a subset of each person's habitual cognitive-affective processing is common in routine processing; that is, only part of an individual's habit processing is invoked in routine processing. These distinctions are depicted in Figure 5, which expands the cognitive-affective processes in stage 2 of Figure 4. Figure 5 shows two scenarios of cognitive-affective processing for persons A, B and C, who share similar habits and a common routine. Scenario 1 depicts the different habit processing subsystem for each person, shown by the shaded and non-shaded processing units; but only a common subset of habit processing is activated in common routine processing, shown by the shaded units. For example, scenario 1 could symbolize the common, core processing of an interview greeting phase. Yet each person's habit subsystem differs—perhaps each has different affects, values or encodings of the self—but the shaded routine subsystem is the same for each person.

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Insert Figure 5 about here  
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Scenario 2 in Figure 5 goes further and depicts variations in habit processing. It shows variations in each person's habit system, depicted by the dashed connectors between units. As discussed earlier, these variations could be owing to changes in the situational context, intra-personal states, or inter-personal relations. Yet in this case, the changes in habit processing are relatively moderate, such that the shaded routine processing subsystem remains the same. Hence, Figure 5 depicts the source of routine stability in consistent core processing at the collective level, despite variance at the habit level. Features of routine stability are then encoded into the socio-material and organizational environment as artefacts, data stores, technological systems and standard operating procedures (Dosi & Marengo, 2007; Nelson et al., 1982; Winter, 2013).

Of course, routines are ubiquitous in social settings: when the school bell rings, students enter or leave the classroom; when a delivery of parts arrives at a factory, workers will unload and store the inventory. A core system of stimulus, cognitive-affective processing and responsive action is common to all, although each person will differ in terms of their complete cognitive-affective processing systems at the level of individual habit. For example, a group of students will share the routine of exiting the classroom, as well as common beliefs about the school timetable. However, each student will have variable affects, goals and encodings of self, and these states will vary over time. Therefore, while the broad situational stimuli, core cognitive-affective processes and routine behaviors may be equivalent (supporting stability), overall intra-personal processes often vary at the level of individual habits (supporting variation).

It is important to emphasize this point once again: the common core cognitive-affective subsystem which mediates a collective routine only comprises a subset of individuals' processing subsystems for their corresponding habits. In terms of the school bell example explained above, all students (acting as a collective) share a stable core subsystem of cognitive-affective processing associated with the routine of leaving the classroom, but each student has a more complex subsystem which mediates individual habit. For example, one student may be eager to do homework, while another looks forward to football; but both exit the classroom.

In addition, because habits and routines are grounded in the same network of situation-behavior systems, we can now explain the mechanism of routine aggregation. Simply put, aggregation occurs at the level of cognitive-affective subsystems, not at the level of habits as such. Moreover, these subsystems are not aggregated in a simple additive sense; rather, there exists a nested pattern of processing subsystems, such that a common core integrates the related habits of individuals with collective routines. A minimal set of situational stimuli is also consistent for both, as well as a consistent pattern of resulting action. For these reasons, the models in Figures 4 and 5

entail neither methodological individualism nor collectivism, but rather assume ontological pluralism (see Winter, 2013). Habits and routines are nested within a wider system of situation-behavior. Given this perspective, if one tried fully to capture the complexity of individual action in relation to routines, the description would need to explain how everyday activities constitute the variability of social life, and that agents are unique, having different intentions, motivations and understandings (Parmigiani et al., 2011).

### **MECHANISMS OF VARIATION AND ADAPTATION**

As noted earlier, variation is an inherent feature of personality systems, when viewed through a social-cognitive lens (Cervone, 2005; Mischel, 2004). Intra- and inter-personal variations consistently arise for a range of reasons. First, situational conditions will often vary, triggering different cognitive-affective processes. David's initial responses to Bill and Mark demonstrate such variability (see figure 3); David's behaviors are inherently variable, as he encounters different and often novel situations. Second, cognitive-affective subsystems may vary in terms of their component features, or in their combinations. Every person's cognitive-affective system is inherently dynamic as well, for example, owing to changes in cognitive capabilities, affective disposition, mental or physical health, or personal goals. Citing the example of David once again, perhaps he decides to meet new candidates via video-conferencing techniques, requiring him to incorporate new patterns of situational stimuli. These stimuli then trigger novel cognitive-affective processes which may result in behavioral variations. For example, if David initially met Bill via videoconference, the black mustache may be less intimidating, leading to a weaker repulsion force and a more friendly response, despite the fact that he retains his antipathy towards such facial features. In summary, variation in situation-behavior systems is inherent and continuous. In response, cognitive-affective subsystems combine and recombine in response to novel situational cues and intra- and inter-personal variations.

### **Adaptation Mechanisms**

The core mechanisms of adaptation are similar to those for habitualization and routinization discussed in previous sections, except that adaptation occurs in relation to pre-existing habits and routines. To begin with, as explained above, variations consistently arise in the the situational context and/or the inter- and intra-psychic states of persons. These variations trigger changes in pre-existing cognitive-affective processes, which mediate changes in pre-existing patterns of goal directed behavior or action. Some of these variations may alter the value forces relating to aspirational ends and procedural means, and if they are associated with an enhanced value force experience, they will lead to a change in recurrent action patterns. Thus adaptation occurs. Moreover, this general mechanism occurs in the adaptation of both habitual and routine patterns of action.

However, variation at one level is not always translated to other levels; that is, variations and enhanced value forces may differ between the individual and collective levels, that is, between habit and routine. For example, consider an individual who experiences enhanced value experience by adopting a new belief or value and then acting upon it. Perhaps an employee embraces new beliefs about workers' rights, and thus reduces his or her readiness to work during the allocated lunch period without additional compensation. But what if the resulting action by this individual is inconsistent with the actions required for achieving collective aspirational ends and following collective procedural norms. The work team is then less effective and engaged in its assigned tasks, because of the individual's amended behavior. In this way, although the individual employee experiences enhanced value experience from an amended habit, collective value experience is degraded. In this instance, the routine would be disrupted but not adapted.

Nevertheless, over time, repeated iterations of the individual's amended habit may be copied by other workers; all may come to embrace the amended belief and refuse to work during lunch without additional compensation. In this way, collective aspirations may adjust, resulting in an

amended work procedure. Routine adaptation does now occur. In fact, it may lead to organizational conflict and a failed truce (see Zbaracki & Bergen, 2010). Moreover, the iterative process is critical, as it allows an amended action to diffuse among a collective. Temporality is thus fundamental to these processes. Habits and routines are part of the temporal process of learning and change (Levitt et al., 1988; Tobias, 2009; Wood et al., 2007).

**Proposition 3a.** Variations in habits and routines originate from the inherent variability of individual and collective cognitive-affective processes, as well as the contingency of contextual stimuli, whereby changes at one level may lead to adaptations at the other.

**Proposition 3b.** Habits and routines adapt as a result of novel actions (defined as specific types of goal directed behavior) which enhance collective value experience, and are then encoded into pre-existing routine systems of aspirational ends and procedural means.

## DISCUSSION

Individuals and collectives co-evolve within the social world. Consistent features of that world stimulate cognitive-affective processes which result in recurrent patterns of action. The overall system is an ecology of situated behavior. Moreover, owing to shared aspirational ends and procedural means, people develop similar habits and collective routines, yet with varying degrees of coordination, deliberation and repetition. Thus conceived, the explanation of recurrent action patterns requires neither the reduction of individual psychology to mechanistic determinants, nor the prioritizing of ends over means as explanatory factors. Neither the individual nor collective level of analysis occupies a privileged ontological status. Instead, individuals and collectives are complementary systems within an ecology of situation-behavior in which personal autonomy and inter-personal relatedness co-exist with comparable significance (Mischel, 2004). From this perspective, both individuals and collectives can be seen as mediated, complex adaptive systems, linking persons in context (Latour, 2005). Classical distinctions between the individual and

collective levels of analysis are thereby relaxed. Ontology is flattened and more relational. In particular, the traditional empirical realist conception of the individual is reinterpreted as epiphenomenal relative to an underlying network of intra- and inter-personal processing (see Wegner, 2002). It is no longer necessary to choose between methodological individualism and collectivism. Each perspective is in fact a reification of one or other level of deeper cognitive-affective processing.

I acknowledge that this critique is challenging in its implications, yet ontological revisions of this kind are a consistent feature of empirical science. In numerous fields of enquiry, and over many years, intuited ontological distinctions have been diluted or displaced, once the underlying phenomena and their mechanisms of interaction and transformation became clear. Consistent with this trend, my theory implies that classical problematic distinctions between individuals and collectives, as well as between ends and means, will dilute as well.

### **Habits and Routines**

My theory's primary contribution is to the literature on habit and routine. I integrate Mischel and Shoda's (1995) CAPS theory of personality with Higgins' RET theory of engagement in goal pursuit, to model habit and routine as nested situation-behavior systems, mediated by cognitive-affective processes. As an original extension of the CAPS theory, I incorporate RET's concept of value force experience as the mechanism whereby some situation-behaviors are selected and encoded as habit and routine, and also why they adapt over time. Regarding individual persons, the theory explains how situation-behavior systems underpin personality and individual habits; while for collectives, the same situation-behavior systems underpin organized goal pursuit and collective routines, albeit with a reduced core subsystem of cognitive-affective processing. Moreover, the core processes of routines are inherently more stable at the collective level, while the extended processes of habit are more stable at the individual level. Variation at either level may therefore lead to changes

at the other. Indeed, variation is inherent to both individuals and collectives, and a consistent source of behavioral novelty. The stability and variability of habit and routine are thus more clearly explained, opening up new potential opportunities to predict and manage these critical processes.

My theory also suggests a new understanding of the aggregation and combinatorics of recurrent action, that is, a new understanding of the mechanisms by which cognitive, affective and behavioral factors combine and recombine in habits and routines (Becker et al., 2006). In contrast to prior thinking on these topics, my theory proposes that the fundamental units of aggregation and combination are the cognitive-affective processes which mediate individual and collective situation-behavior systems. Adopting this perspective, habit and routine are complementary systems of ends and means within an ecology of cognitive-affective processing. The problem of aggregation is reconceived. Freed from traditional ontological distinctions between individuals and collectives, my theory refers to a deeper level of analysis which supports both.

Another contribution is to explain the imperfect replication of routines as a pre-condition of organizational novelty, adaptive learning and innovation (Becker et al., 2006). As Mischel and Shoda (1995) argue, the cognitive-affective processes that comprise personality are subject to constant variation in response to situational and psychological factors. Indeed, even the most stable cognitive-affective processing systems are prone to regular variation. Exact replication of habits and routines is therefore unlikely. Moreover, it is only when these dynamics are exposed, that the consequences of imperfect replication as a source of behavioral novelty can be understood (Becker et al., 2006). Future research should investigate these processes in greater detail, by researching the specific types of variation within and between cognitive-affective subsystems, and how they generate behavioral novelty. Such research could mirror the original study by Mischel and Shoda (1995): for example, a research team could conduct an extended field study of patterns of recurrent action among an

organized collective, in a variety of situational contexts, to identify how specific situational conditions lead to behavioral variations which cascade into routine adaptation.

By problematizing traditional, ontological distinctions between individuals and collectives, my theory also suggests a new way to view the collective agency of routine action: collective agency can be reconceived as a network of activated cognitive-affective subsystems among a group of persons (but not full personalities), who share common aspirations and procedures, resulting in recurrent patterns of responsive action (Becker et al., 2006). Importantly, however, this conception does not imply the existence of a collective agent as such. Rather, by unpacking the deeper level of intra- and inter-personal cognitive-affective processing, we can explain collective agency without ascribing a fully agentic identity to the collective. Collective agency is the shared activation of a common subsystem of cognitive-affective processes, but without implying the involvement of persons' full personality systems.

Furthermore, by grounding my theory in the CAPS theory of personality and RET theory of engagement in goal pursuit, I incorporate a wider range of psychological factors into the study of habit and routine, namely the five cognitive-affective processing categories of CAPS: encodings, goals and values, affects, expectancies and beliefs, competencies and self-regulatory plans; plus the concepts of standards, needs and engagement strength from RET. In this way, my theory responds to the call for a more sophisticated, contextual appreciation of human psychology (Cohen, 2006; Winter, 2013). Future research into these categories may help to explain the origins and dynamics of a range of organizational phenomena, for example, collective consciousness and identity, organizational climate and culture, collective decision-making, cognition and capabilities.

Future development of my theory may also illuminate other features of routines. In particular, leading scholars in the practice tradition argue that routines possess two major components or expressions: (a) ostensive rules of routine action, and (b) performative instances of routine enactment

(Feldman et al., 2003). Adopting my theory, these features of routine can be reframed. First, the patterns of stimuli, ends and means which are encoded in socio-material form and procedural memory—in material artefacts, data stores, technological systems, cultural symbols, documented operating procedures—these may correspond to the ostensive aspect of routines. Second, the variable cognitive-affective processes which are triggered by such stimuli and result in action, these may correspond to the performative aspect of routines (Latour, 2005; Pentland & Feldman, 2005).

### **Behavioral Theories**

My theory also has implications for behavioral theories of organizations and management, because all share a deep commitment to exposing the social and psychological mechanisms of individual and collective action (Felin et al., 2015). At a general level, my theory provides a new set of mechanisms for explaining organizational phenomena which are deeply dependent on habit and routine, such as exploration and exploitation, collective attention, mindfulness and aspiration levels, and problemistic search. Building on the theory I present here, future research could investigate the specific situation-behaviors and cognitive-affective subsystems involved in the evolution and adaptation of such phenomena. For example, more mindful states may be associated with complex patterns of processing, and less mindful states with simpler processing (Levinthal et al., 2006).

Furthermore, if we assume that routines are constitutive of firm capabilities conceived as repertoires of coordinated action (Felin & Foss, 2009; Winter, 2013), then my theory also opens up new ways to research and potentially explain capabilities as bundles of routines. This would involve deeper theorizing and empirics about the integrated situation-behavior systems which constitute routines, and the way in which networks of cognitive-affective subsystems cohere into capabilities conceived as meta-routines. Here my distinction between the two major complements of routines may be especially salient: routines are the collective pursuit of aspirational consequential ends, while also exercising appropriate or proper procedural means. In fact, it may be reasonable to conceive of

whole organizations in these terms: just as the CAPS theory explains personalities as integrated situation-behavior systems related to individual aspirations and proper means, so organizations might then be understood as integrated situation-behavior systems related to the pursuit of collective aspirations and the exercise of shared procedural means. Supporting this projection, substantial evidence shows that major organizational phenomena correspond to the five cognitive-affective processing categories of the CAPS theory: encodings are fundamental to identity routines and collective categorization (Feldman et al., 2002); values and beliefs form the basis of cultural routines and institutional norms (Scott & Davis, 2007); goals support the collective aspirations which are central to organizational action (Shinkle, 2012); affects underpin collective mood and organizational climate (Dasborough, Ashkanasy, Tee, & Tse, 2009); and organizational capabilities are grounded in competencies and self-regulatory plans (Winter, 2013). In summary, my theory contributes a richer vision of human psychology to behavioral theory, thereby contributing to the rejuvenation of the Carnegie Tradition (Cohen et al., 2014; Gavetti, Levinthal, & Ocasio, 2007).

Once elaborated and tested, my theory may also lead to significant practical benefits in the design and management of organizations. For example, it is known that inflexible routines can lead to competency traps and myopias which stifle learning and adaptation (March, 1991). Indeed, inflexible and routines are major obstacles to effective organizational change (Tripsas & Gavetti, 2000; Zbaracki et al., 2010). My theory suggests that this problematic can be restated as follows: in many contexts, the value experience of exercising proper means (the procedural aspects of routine) prevents adaptation to changes in aspirations (the consequential ends aspect of routine). To paraphrase the saying quoted earlier, how one plays the game can be more valued than winning. But once understood, it may be possible to amend such systems by targeted interventions which alter core cognitive-affective processing. Duhigg (2012) provides an example of such a process. The CEO of Alcoa aluminium, Paul O'Neill, triggered significant routine adaptation by connecting change to

employees' deeply felt concern for shared safety and well-being. By doing so, he deliberately touched widely held values and beliefs, thereby joining proposed changes to important personal and collective aspirations. Managing the micro-level mediators of collective cognitive-affective processing may significantly enhance organizational flexibility and learning.

### **Conclusion**

Mechanisms of behavioral adaptation support stability and change within both individuals and organizations. In increasingly volatile and complex environments, it is important to understand and potentially manage these processes, and especially the relationship between individual habit and collective routine. However, past research on these topics has been inconclusive, hampered by limiting theories of personality and organizational psychology: trait theories of personality and behaviorist theories of organizations exemplify these limited approaches. Ontological and methodological individualism and collectivism are reflective of such psychology. This paper presents a fresh approach, adopting novel social-cognitive perspectives on personality and goal-directed behavior. In doing so, I expose the deeper level of intra- and inter-personal cognitive-affective processing which supports both habitual and routine patterns of action, as well as individual and collective forms of agency. Building on this foundation, I propose an integrated system of mechanisms which can explain the origin and dynamics of habit and routine, now understood as nested situation-behavior systems. I further theorize that actions are selected and encoded as individual habits and collective routines, conditional on the associated value force experience of attraction or repulsion. Iteration of the same basic mechanism generates variations which may lead to behavioral novelty and adaptation. Habit and routine are thus reconceived as complementary systems of aspirational ends and procedural means within an ecology of situation-behavior, relaxing traditional distinctions between individual and collective levels of analysis, and between the means and ends of goal pursuit.

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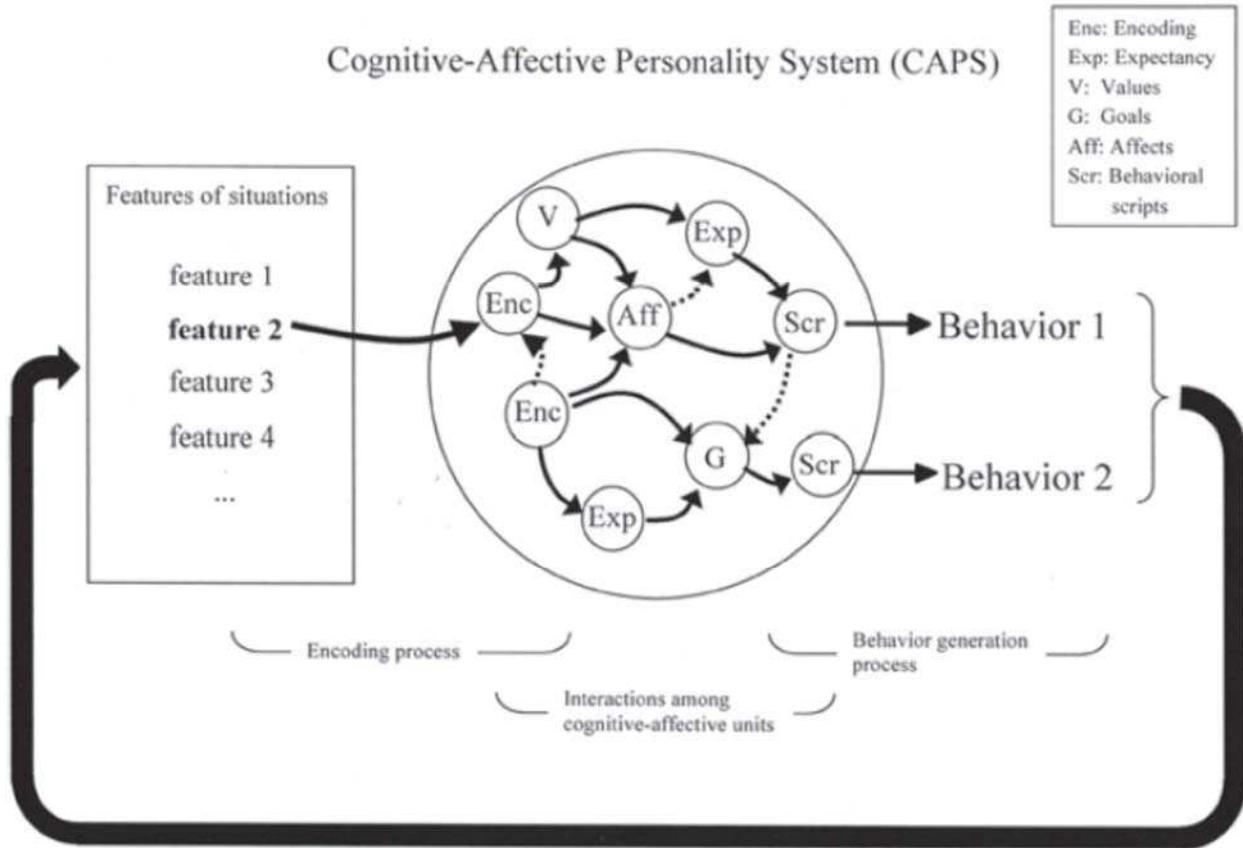


Figure 1  
Cognitive-Affective Personality System (CAPS)  
(From Mischel & Shoda, 2010: 159)

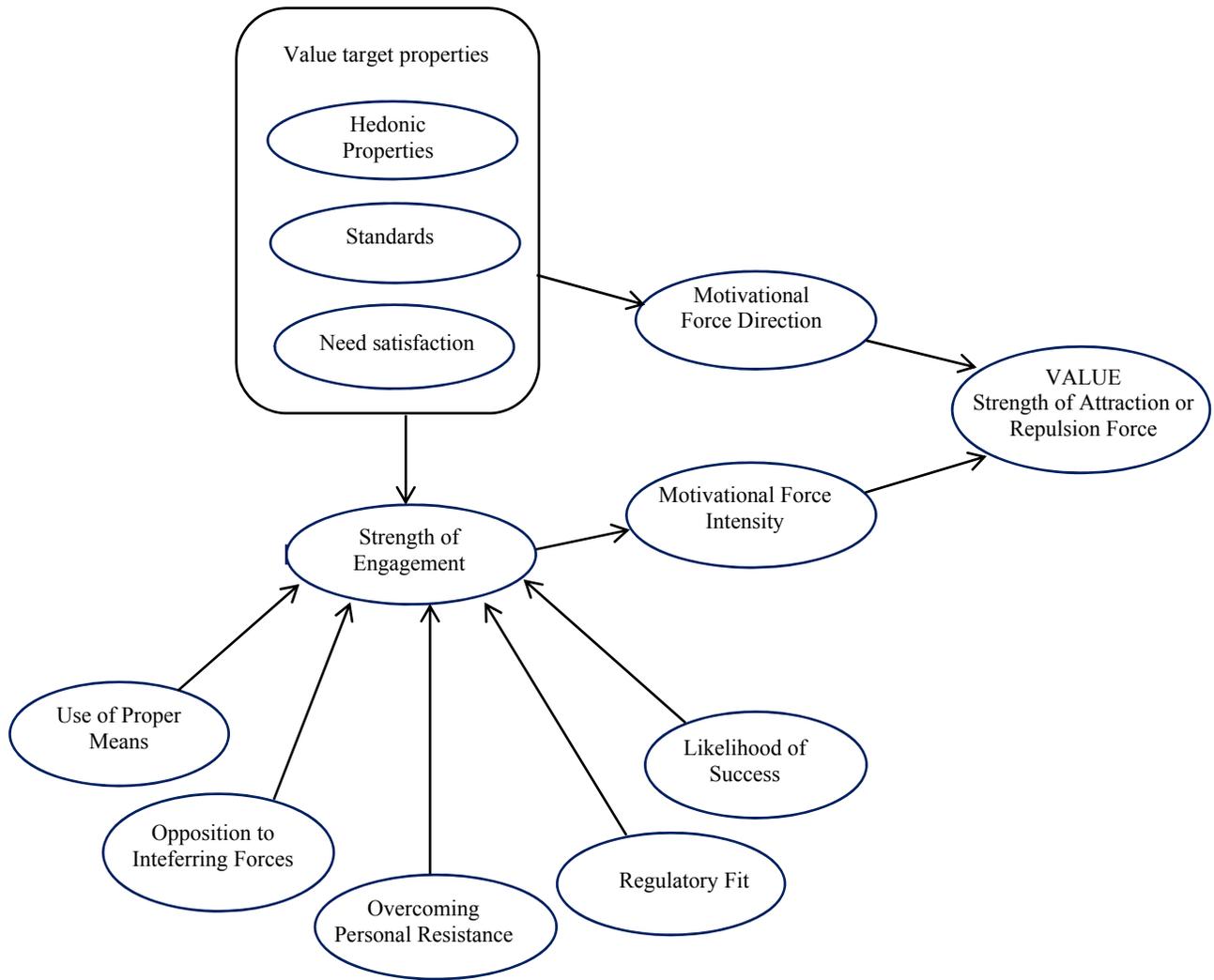


FIGURE 2

Illustration of relational influences among variables contributing to the value force experience (Higgins, 2006: 441; Higgins et al., 2009: 101)

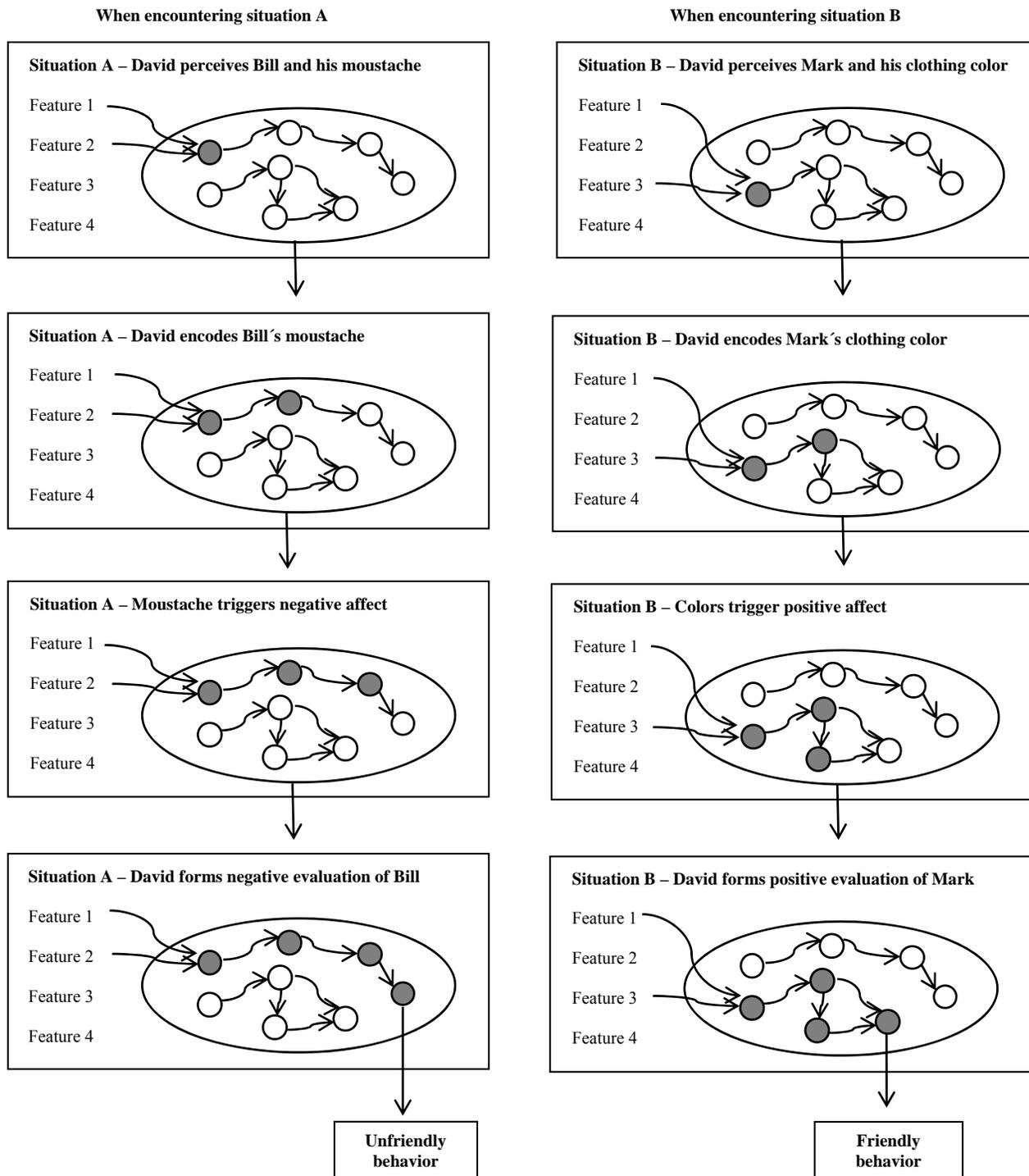
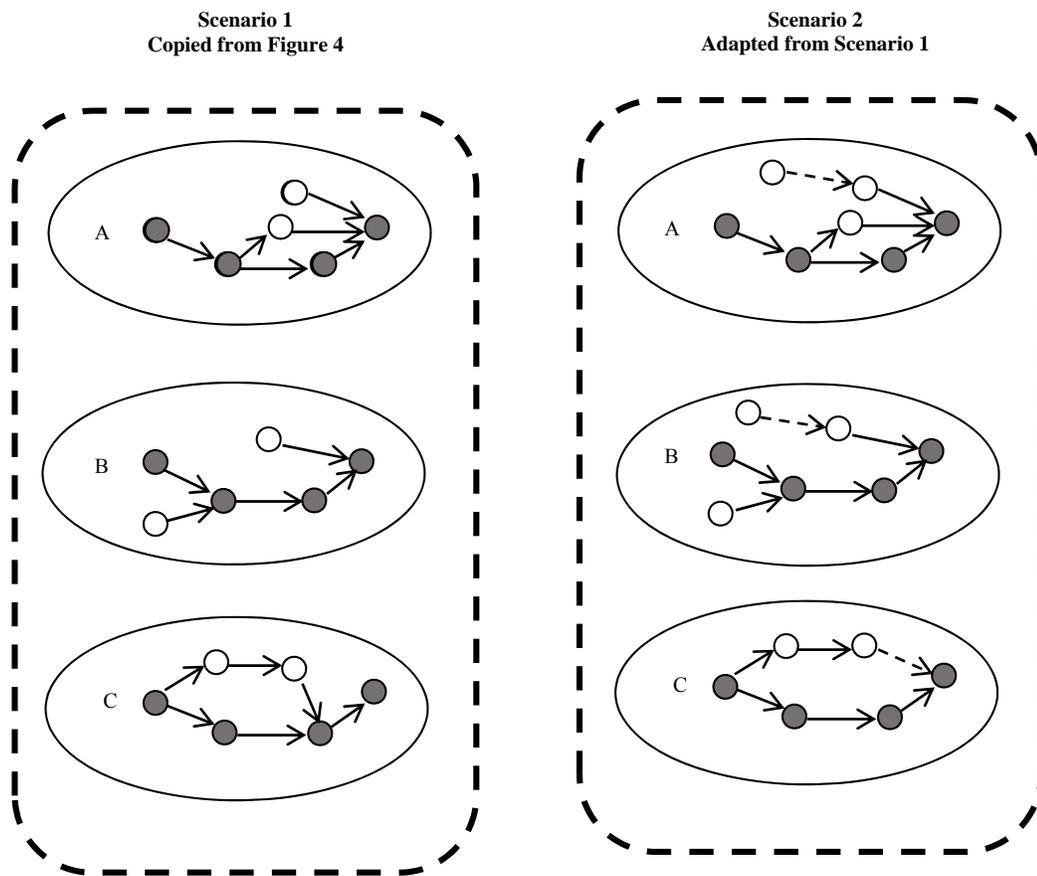


Figure 3  
 Illustration of Cognitive-Affective Processing Subsystems





- Shaded circles in Scenarios 1 and 2 represent cognitive-affective processing of the same routine for persons A, B and C
- Shaded plus unshaded circles in Scenarios 1 and 2 represent cognitive-affective processing of similar but not identical habits for persons A, B and C
- Dashed lines in Scenario 2 represent altered cognitive-affective processing of similar but not identical habits for persons A, B and C, compared to Scenario 1. The routine processes remain stable.

Figure 5

Variable habits related to a stable routine