

CHAPTER 2

Action Phases and Mind-Sets

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The focus of this chapter is on the course of action, which is understood to be a temporal, horizontal path starting with a person's desires and ending with the evaluation of the achieved action outcome. The phenomena of choosing an action goal, initiating the appropriate actions, and executing these actions are assumed to be situated in between. This comprehensive perspective conceives of the course of action as a number of consecutive, distinct segments or phases. It raises questions concerning how people *choose* action goals, *plan* and *enact* their execution, and *evaluate* their efforts. The concept of "mind-set" is employed to find answers to these questions in terms of the cognitive processes or orientations that allow for easy completion of the different action phases.

A PHASE MODEL OF ACTION

Goal Setting and Goal Striving

"Being motivated" implies a number of different phenomena. But how many distinct aspects of being motivated to pursue a desired goal are there? Kurt Lewin (Lewin, Dembo, Festinger, & Sears, 1944) made a major distinction between goal striving and goal setting. "Goal striving" is behavior directed toward existing goals, and thus addresses questions of moving toward the chosen goal. "Goal setting," on the other hand, addresses the question of what goals a person will choose, and thus considers the expected value of the available choice options. Noticing the unique nature of both of these problems, Lewin adopted a distinct theoretical perspective for each of them. He referred to an expectancy \times value model when goal setting was at issue—for instance, when he and his colleagues were attempting to explain people's changes in aspiration level (Lewin et al., 1944). Issues of goal striving, however, were explained in terms of his theory of tension systems (Lewin, 1926), through which he tried to discover the forces that move a person toward a chosen goal. Lewin considered the strength of these forces to be related not only to the valence of the chosen goal, but also to the individual's perceived distance from the goal. By introducing the variable of

potency, Lewin (1936) tried to explain which of the many goals people entertain at a given time actually guide their behavior in specific situations.

German researchers studying goal-oriented behavior before Lewin devoted themselves solely to the issue of goal striving by studying the initiation and execution of actions serving chosen goals or instructions given by others. This research tradition has become known as the German "will psychology"; its most prominent figure was Narziss Ach (1905, 1910, 1935). Researchers in this tradition fiercely disagreed on the key questions of will psychology, such as whether intentions specifying an appropriate opportunity to act favor smooth action initiation, regardless of the importance of the respective superordinate goal (Ach, 1935; Selz, 1910). Nevertheless, they unanimously considered goal striving to be different from goal setting, which they referred to as the "battle of motives." For German will psychologists, it was clear that people's goal setting depends primarily on their desires, needs, and interests, whereas a host of additional variables determines whether and how people act on their chosen goals. It was the latter that they tried to identify and that they explored in their theories.

Researchers studying goal-oriented behavior after Lewin shifted their attention from goal striving to goal setting. Stimulated by Lewin's as well as Festinger's work on shifts in the level of aspiration (Festinger, 1942; Lewin et al., 1944), Atkinson (1957) presented a formal model of risk taking that made it possible to compute the motivational tendency to choose tasks representing various difficulty levels. Like Lewin, Atkinson considered goal setting and goal striving to be the two major problems requiring solution in any psychology of motivation:

The first problem is to account for an individual's selection of one path of action among a set of possible alternatives. The second problem is to account for the amplitude of the action tendency once it is initiated, and for its tendency to persist for a time in a given situation. (1957, p. 359)

However, Atkinson hoped that the two distinct problems could be reduced to one and thereby could be accounted for by a single theoretical model. In his view, the theory best suited to accomplish this purpose was the risk-taking model (Atkinson, 1957) or a modified version of it (Atkinson & Reitman, 1956). This model implies that the motivational tendency that makes a person choose a certain task will also account for the effort the person exerts when working on the chosen task and for the quality of the achieved performance.

Empirical studies investigating this implication sometimes observed the predicted performance-enhancing effects of motivation, but more often failed to do so (see Atkinson, 1974, for a review). Atkinson attributed the "now you see it, now you don't" character of this effect to what he called "overmotivation" (and its opposite, "undermotivation"). Referring to the Yerkes-Dodson law (Yerkes & Dodson, 1908), he postulated that there should be an ideal motivational tendency for each individual task. Tasks differ with respect to the amount of motivation that leads to most efficient performance: Low levels of motivation are more

appropriate for some tasks, whereas medium or high levels are more appropriate for others. Since which tasks belong to which category was unknown, Atkinson suggested establishing this classification empirically. Once it was known what level of motivation is ideal for a given task, researchers would finally be able to develop valid predictions of task performance, based solely on their knowledge of the individual's motivation.

As compared to this empirical Sisyphus-like work, a more theoretical solution to the troublesome motivation–performance issue certainly exists. That is, one can re-establish the old distinction between goal setting and goal striving. Eric Klinger (1977) recognized this possibility when he introduced his concept of “current concerns.” He pointed out (1977, pp. 22–24, 329–330) that expectancy \times value theories have been only very modestly successful in predicting vital aspects of goal striving, such as work effort and quality of performance. Consequently, his theory of current concerns focuses solely on issues of goal striving. This theory has no difficulties in accounting for the commonly observed invigoration of activity in the face of obstacles en route to a chosen goal—a phenomenon that cannot be explained by expectancy–value theories, because the setback must be assumed to reduce the expectancy of achieving the goal and thus the individual's motivation to work for it.

Kuhl (1983) also re-established the classic distinction by introducing the concepts of “choice motivation” and “control motivation.” In his opinion, models of choice motivation relate to goal setting, and he saw Atkinson's risk-taking model and its many reformulations and extensions (e.g., Feather, 1967; Heckhausen, 1977; Raynor, 1969; Weiner, 1974) as more or less valid examples of such models. Kuhl noted a lack of theories on goal striving and offered his own model, which he labeled “control theory” (Kuhl, 1984). Stimulated by Atkinson and Birch's (1970) assumption that a person is always affected by numerous motivational tendencies, all in constant flux, Kuhl saw effective goal striving as dependent on people's efforts to shield it from competing action tendencies. Accordingly, whether people make progress with respect to a chosen goal is no longer seen as dependent only on the motivation that originally made them choose this goal. Rather, it is also a question of how successfully people shield (control) the actions that lead to goal achievement.

The Rubicon Model of Action Phases

The “Rubicon model” of action phases (Heckhausen, 1987b; Heckhausen & Gollwitzer, 1986, 1987) goes beyond the useful conceptual distinction between goal setting and goal striving. Although the model keeps these two problems of goal-oriented behavior separate, it encompasses both within a single theoretical model, thus permitting them to be analyzed in relation to each other. Furthermore, it provides a temporal perspective that begins with the awakening of a person's wishes prior to goal setting and continues through the evaluative thoughts entertained after goal striving has ended.

Separating the sequence of events occurring within this comprehensive time frame into discrete phenomena, the model posits four distinct phases: first, the predecisional phase; second, the postdecisional but still preactional phase; third, the actional phase; and last, the postactional phase. These phases are separated by three clear boundaries or transition points: the making of a decision, the initiation of respective actions, and the conclusion of these actions. But what distinct phenomena are associated with each phase?

Predecisional Action Phase

The first phase is characterized by wishing and deliberating. People's motives (McClelland, 1980) produce certain wishes: For instance, a person with a strong power motive and a weak affiliation motive is expected to experience more wishes related to power than to affiliation. However, people cannot act on all of their wishes but must choose among them, because some wishes may contradict each other, others are too difficult to implement, and life is simply too short to follow all of one's wishes. People have to deliberate over which of their many wishes they prefer to pursue.

How can people establish such preferences? They may employ the criteria of feasibility and desirability. With respect to feasibility, people may contemplate whether they can obtain the outcome implied by a given wish through their own activity and whether the situational context they face is facilitating or impeding. Accordingly, they should also become concerned with questions such as whether they will find enough time to strive for the desired outcomes and whether the necessary means or opportunities will be available.

The desirability of the wanted outcome is determined by reflecting on its expected value. The expected value is derived by estimating the pleasantness-unpleasantness of potential short-term and long-term consequences and by assessing the probability that achieving the desired outcome will lead to these consequences. Such consequences include the following: a positive or negative self-evaluation, a positive or negative evaluation by significant others, progress toward some important life goal, or some pleasant or unpleasant side effects unrelated to the specific wish that initially started the person's striving (Heckhausen, 1977). In addition, incentives associated with the process of achieving the desired outcome (e.g., joy experienced while trying to establish the desired outcome) should also be relevant when the desirability of a given wish is deliberated.

Proper assessment of the feasibility and desirability of a given wish, however, requires that this wish be seen in relation to other wishes. A wish associated with many attractive consequences may suddenly appear less desirable when scrutinized in the light of a superordinate wish (e.g., the wish to dine in fine restaurants becomes less desirable when it conflicts with the wish to buy a house). Or it might become more feasible when contemplated in connection with the realization of other wishes (e.g., a busy person's wish to learn to play tennis may appear more feasible when it is contemplated together with the wish to take an extended vacation).

Making a Decision and the Preactional Phase

Even when a wish is accorded high desirability and feasibility and thus is given highest preference, the model of action phases assumes that wish fulfillment further demands transforming the wish into an intention. Phenomenologically, this transformation is characterized as a resolution resulting in a feeling of determination to fulfill the wish (or at least a feeling of assurance that one will act on the wish at hand; Michotte & Prüm, 1910). The goal state or desired outcome specified by the wish thus becomes an end state that the individual feels committed to achieve. The model describes this sense of obligation in stating that the individual has acquired a "goal intention." To catch the flavor of this transition from the fluid state of deliberation to a firm sense of commitment, Heckhausen (1987b) employed the metaphor of "crossing the Rubicon."

After forming a goal intention, people move to the preactional phase. The phenomenon associated with this action phase is planning. Planning is often necessary because newly formed goal intentions cannot be implemented immediately if the individual is engaged in alternative activities that first need to be completed or if relevant opportunities to act are not yet available. In addition, most goal intentions specify goal states (e.g., to graduate from college) that cannot be achieved in a single step. Consequently, the individual is interrupted (or must pause) repeatedly and is forced to await future opportunities to work towards this goal.

The model of action phases assumes that people do *not* use these time breaks or pauses to weigh the positive or negative consequences of goal achievement; rather, the feeling of obligation associated with the goal intention makes people concerned with the issue of how to promote achieving the chosen goal. Accordingly, they should address questions of *when* and *where* to start acting, *how* to act, and *how long* to act. Whenever people anticipate difficulties with respect to any of these implementational issues, they should commit themselves to one of the many possible ways of initiating, executing, and terminating a relevant course of action.

Committing oneself to a particular implementational course constitutes forming behavioral intentions. These behavioral intentions (i.e., initiation intentions, execution intentions, and termination intentions) focus on a person's behavior in pursuing the chosen goal. The model distinguishes behavioral intentions from goal intentions, since the latter focus on desired goal states. In line with the ideas of German will psychology (Ach, 1935), it is assumed that behavioral intentions promote the smooth initiation, execution, and termination of activities in pursuing a person's goal intentions.

Action Initiation and the Actional Phase

When does a goal intention lead to initiating relevant actions? It primarily depends on the goal intention's volitional strength—that is, how strongly a person is committed to implementing the chosen goal. The genuine amount of volitional strength is considered to be a positive function of the goal's desirability and feasibility as perceived prior to choosing this goal. However, this volitional

strength may vary, depending on a person's experiences with attempting to initiate relevant actions. If a person repeatedly ignores good opportunities to initiate relevant actions, volitional strength may decrease over time. On the other hand, volitional strength may spontaneously and momentarily increase when the individual encounters obstacles.

More importantly, goal intentions and their effects on the initiation of relevant actions cannot be discussed without considering that many different goal intentions may compete for implementation at any given point in time. One would expect that under these circumstances the intention with the comparatively highest volitional strength would prevail. However, the situation at hand may not be equally conducive to implementing all of these competing intentions; it may favor implementing some of these intentions more than others. In addition, for some intentions the situation at hand may be better suited for smooth implementation than any future situation for which the individual hopes. Consequently, the individual may be very eager to take the opportunity at hand and to postpone the implementation of competing intentions, even if these intentions are associated with comparatively higher volitional strength.

To summarize: Whether a given goal intention leads to the initiation of relevant actions depends on its volitional strength (as compared with that of other competing goal intentions) *and* on how favorable the situation is for readily initiating the particular goal intention (as compared with initiating competing goal intentions *and* as compared with relevant future opportunities one hopes to encounter). Finally, a goal intention that has been furnished with initiation intentions during the postdecisional (preactional) phase should have an additional advantage over competing goal intentions, given that the opportunity specified by the initiation intention is present. In this case, the opportunity to act should be more easily recognized and, once recognized, should elicit a special impulse to start acting on it.

Action initiation is the demarcation line signaling the transition to the actional phase. The phenomenon characteristic of this phase is acting toward goal achievement. A person's efforts to pursue a goal intention are again assumed to be related to the goal intention's volitional strength. The amount of volitional strength serves as a kind of threshold value for the individual's effort exertion. This threshold, however, may be spontaneously moved upward if hindrances are encountered, thus allowing for a reactive, momentary increase in volitional strength. Spontaneous nonconscious increases in effort exertion were originally reported by German will psychologists (Ach, 1935; Hillgruber, 1912), who interpreted these reactive responses of the individual as attempts to hold on to one's goal commitment. These ideas should *not* be confused with considerations expressed by models of effort calculation. For example, Brehm, Wright, Solomon, Silka, and Greenberg (1983), Kukla (1972), and Meyer (1973) specified how the reflective appraisal of perceived ability, perceived difficulty, and subjective value of goal attainment determine a person's effort exertion.

Heckhausen (1987a) assumed that the course of action is directed by the mental representation of the goal, and that determination to achieve a goal

originates from the mental goal representation even when the goal itself is outside of conscious awareness. The goal may be defined at various levels of abstraction (i.e., at the lowest level to the intricacies of the actions to be executed, at an intermediate level to the intended outcome, and at the highest level to the consequences that this outcome is expected to mediate), depending on the difficulties the person encounters when acting on it. In line with Vallacher and Wegner's (1987) action identification theory, goals are assumed to be defined on low levels of abstraction (i.e., necessary implementational steps as compared to the intended outcome and its desired consequences) when smooth goal pursuit is thwarted.

Goal Achievement and the Postactional Phase

The phenomenon associated with the final action phase is evaluating the question of whether one's goal striving has succeeded. What criteria govern this evaluation? Two successive evaluative questions must be answered by the individual. First is the question of whether the intended outcome has been achieved, so that the individual may stop acting and await the desired consequences. This question is easily answered whenever the outcome is a discrete performance (e.g., to send a birthday gift to a friend). It becomes a problem difficult to solve and full of uncertainty whenever the intended outcome can be continuously improved or extended (e.g., to prepare well for a mathematics test). In the latter case, the individual may resort to termination intentions (e.g., "I will work through the practice examples twice" or "I will stop when I succeed in solving every other practice problem"), thus defining clear standards regarding when the intended outcome is achieved.

Second, the individual must address the question of whether the actual value of the goal striving matches its expected value. This implies that the individual must wait for the desired consequences of the achieved outcome before this question can be answered. Only then will the individual be in a position to compare the actual value with the desired value, regardless of whether the desired consequences are a positive self-evaluation, positive evaluation by others, progress toward some superordinate goal, or some pleasant side effects. In reality, the actual value may not measure up to the expected value as assessed during predecisional deliberation. The desirability of the goal may have been overestimated because certain negative consequences were neglected or underestimated, whereas positive consequences were overestimated. Future predecisional deliberation should benefit from such evaluations; that is, the estimation of expected values should become more accurate. In this sense, postactional individuals look not only back into the past, but also to the future.

Postactional evaluation may not only benefit future deliberation, but may also help a person's future planning. Whenever the individual recognizes that the achieved outcome does not meet the intended standards or that the achieved outcome is not good enough to lead to the desired consequences, the individual may furnish the goal intention with new initiation and execution intentions, thus improving the chances of successful implementation. Or the person may lower

the standards related to the quality of the outcome or the attractiveness of its consequences. If such measures are not taken or if all of these efforts fail, the goal intention may linger on without successful implementation. Whenever a situation is encountered that could be perceived as conducive to implementing the goal intention, it still should become activated, although chances to implement it are rather slim. Since this activation occupies cognitive capacity, it may even hinder the implementation of competing goal intentions, thus turning the individual into a procrastinator who keeps failing to act on his or her intentions.

Summary and Discussion

The Rubicon model of action phases takes a comprehensive temporal (horizontal) perspective on the course of action, and thus differs from most current models of action. The latter are of a strict vertical, hierarchical nature (e.g., Carver & Scheier, 1981; Gallistel, 1980, 1985; Hacker, 1985; Semmer & Frese, 1985); they assume that the individual, when executing a course of action, advances from a concern with abstract, superordinate, higher-level goals to concrete, subordinate, lower-level goals. The temporal dimension of action is addressed solely with respect to the organization of single acts or action units within the course of action (von Cranach, 1982).

The horizontal perspective as suggested by the model of action phases has so far not been very popular in psychology. The German philosopher and psychologist Christoph Sigwart (1889) introduced this perspective prior to the heyday of will psychology. Although his work did not stimulate any systematic research, it at least prevented German will psychologists from confounding problems of goal setting (which they referred to as problems of motivation) with goal striving (which they referred to as problems of willing or volition). Recently, Heckhausen and Kuhl (1985) employed a horizontal perspective when they reflected on the long way from a person's wishes to the execution of relevant actions. Although their primary focus was on the mental examinations that wishes must pass before winning access to a person's behavior, they made a strong distinction between pre- and postintentional processes, which they also referred to as motivational and volitional processes, respectively.

The Rubicon model of action phases incorporates this distinction; however, instead of focusing on a person's mental efforts (or blocks) in turning a wish into relevant action, it attempts to delineate distinct phenomena of goal-oriented behavior whose functioning obeys distinct principles. In temporal order, these phenomena are deliberating, planning, acting, and evaluating. The Rubicon model may lead to a number of misconceptions if taken too literally. These misconceptions are as follows:

1. The model does *not* imply that every single initiation of action is directly preceded by deliberation of the desirability and feasibility of the underlying goal and the forming of a goal intention. Many initiations of action are simply resumptions of activities that were started some time before; forming the underlying goal intention anew is therefore unnecessary. The same is true for action initiations postponed because of a lack of opportunities to act. Finally, people

entertain goal intentions that imply superordinate, identity-related goals, such as becoming a psychologist. These identity intentions (Gollwitzer, 1987) lead to initiating relevant actions without prior reflection on the desirability and feasibility of the underlying goal; the individual needs only to check whether a given opportunity is conducive to pursuing this goal.

2. The model does *not* imply that forming a goal intention is necessarily followed by intense planning concerning where, when, how, and how long to implement the chosen goal. It is rather assumed that such concerns originate *only* when smooth implementation of the goal intention is threatened. Initiation may be cumbersome (a) whenever special circumstances or means are required that still need to be developed or created; (b) whenever the critical opportunity may be missed because it is difficult to recognize, happens infrequently, or presents itself only for a short moment; and (c) when competing goal intentions continue to block implementing the critical goal intention. Execution is hampered when the course of action runs into difficulties because the individual does not possess the necessary competencies or fails to focus attention on the goal pursuit when conscious control of the activity is needed. Finally, termination of the implementational activities becomes problematic whenever it is unclear exactly what suffices as the intended outcome. In all of these cases pertaining to the initiation, execution, and termination of implementational actions, planning that results in the formation of the respective behavioral intentions is to be expected.

3. The model of action phases does *not* exclude the possibility of overlap between action phases. In the predecisional phase, deliberation of wishes concerning a goal can easily be interrupted so that actions in the service of other already chosen goals may be planned, initiated, completed, or evaluated. Also, in the postdecisional (preactional) phase, the individual may deliberate various wishes and evaluate some completed goal pursuit while waiting for the opportunity to act on a chosen goal; the individual may even act on some other goal when these actions do not demand much cognitive capacity (i.e., when they are automatized). Similarly, during the execution of goal-related actions, individuals may deliberate wishes, ready themselves for implementing other goals, or evaluate some terminated goal pursuit as long as executing the critical actions is largely automatized.

4. The model of action phases does *not* ignore the fact that goal striving is hierarchically organized. This is most evident in the model's distinction between goal intentions and behavioral intentions. Behavioral intentions are supplements to goal intentions and serve to promote the implementation of goal intentions. Accordingly, the formation of a goal intention precedes the formation of behavioral intentions, and the latter are justified by the former. But not all of the intentions formed subordinately to some goal intention must be behavioral intentions. People frequently form goal intentions in the service of other (superordinate) goal intentions (e.g., when a person who has decided to become a psychologist makes up his or her mind to go to school abroad). In this case, the formation of the subordinate goal (i.e., going to school abroad) should be preceded by a concern not only for the feasibility of this goal, but also for its desirability.

5. The model uses the metaphor of crossing the Rubicon to describe forming a goal intention. The allusion is not so much to having gone beyond a point of no return as it is to putting incessant deliberation to a rest. The model assumes that making a goal decision stops the "babble of competing inner voices" (Jones & Gerard, 1967, p. 181). After the decision has been made, but prior to the initiation of actions, no deliberation of the pros and cons relative to the chosen goal is expected to occur; rather, the individual is assumed to explore efficient implementation of the chosen goal (Beckmann & Gollwitzer, 1987).

Still, the model assumes that making a goal decision creates a rather durable commitment to pursue this goal, so that hindrances to one's goal pursuit do not lead to immediate retreat. Rather, the individual is expected to attempt to conquer hindrances by spontaneously increasing effort, employing different means, taking more time to overcome these hindrances, or trying to get around them by taking alternative routes to goal achievement (Gollwitzer & Wicklund, 1985). Obviously, the concept of commitment employed by the Rubicon model of action phases is dissimilar to commitment notions that link commitment to the execution of action, as conceived by dissonance researchers (Brehm & Cohen, 1962; Wicklund & Brehm, 1976), and also by Brockner and Rubin (1985), Farrell and Rusbult (1981), Kiesler (1971), and Salancik (1977). Since behavior is less revocable than thoughts (Jones & Gerard, 1967), the latter conceptualization furnishes commitment with a point-of-no-return quality. Contrary to this approach, the action phases model conceptualizes commitment in terms of an obligation to a goal, as portrayed in research on maintaining relationships (Kanter, 1972; Kelley, 1983; Lund, 1985; Rosenblatt, 1977), on identification with an organization (Buchanan, 1974; Mowday, Porter, & Steers, 1982; O'Reilly & Chatman, 1986), and on self-defining goals (Wicklund & Gollwitzer, 1982) or personal strivings (Emmons, 1989).

At the core of the Rubicon model of action phases is the assumption that the realm of goal-oriented behavior comprises various phenomena (deliberating, planning, acting, evaluating) that are ruled by different principles. But how is it possible to specify these principles so that one may test postulated differences? In the next section, I show that employing the concept of mind-set provides an interesting solution to this problem.

THE CONCEPT OF MIND-SET

If we assume that the phenomena associated with each phase of the Rubicon model are efforts at solving distinct tasks, we may try to specify the tasks to be solved at each of the four phases of the model. In the predecisional phase, the person's task is to make the best possible choice between potential action goals, whereas in the postdecisional (preactional) phase the task is to promote the initiation of actions that imply moving toward the chosen goal. In the actional phase the person faces the task of efficiently executing such actions, whereas the task in the postactional phase may best be described as trying to determine