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Mindset Theory

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Synonyms

[MAP](#); [Mindset theory of action phases](#)

Definition

According to the mindset theory of action phases (i.e., MAP), goal pursuit can be divided into four successive but distinct action phases, each posing its unique demands and challenges to the individual. Overcoming these challenges is facilitated by the activation of a certain mindset (i.e., a set of activated cognitive procedures), each having its unique features. Mindset theory of action phases is further based on the clear-cut distinction between motivational (i.e., the predecisional and the postactional phases, where the why of pursuing a goal is at issue) and volitional phases (i.e., the preactional and the actional phases, where the how of pursuing a goal is the central question). In the predecisional phase, individuals have to choose between many potential goals (wishes)

and thus have to deliberate on feasibility- and desirability-related information, which benefits heavily from the activation of a deliberative mindset. By making a decision to pursue a certain goal, individuals are crossing the metaphorical Rubicon and move on to the preactional phase, where identifying opportunities to act in the future and the choice among strategies (i.e., planning out when, where, and how to act) is of high priority, and therefore an implemental mindset is beneficial. In the subsequent actional phase, individuals act toward the attainment of their chosen goal and direct their attention to cues that signal opportunities to act. In this phase, an actional mindset is activated. Finally, in the postactional phase, individuals evaluate their goal-striving efforts to make an informed decision about whether sufficient progress has been made to claim goal attainment or whether further action is needed, which necessitates an evaluative mindset. The most striking quality of all of these mindsets is their ability to carry over from being elicited during a given individual goal pursuit to unrelated tasks and demands.

Introduction

To successfully attain your goals, you have to tackle a series of challenges. First, you may have a number of wishes at the same time for which pursuing seems worthwhile. Due to the limited amount of time, applicable effort, or other

resources, however, you have to decide on which of the many wishes you want to act. Therefore, you should think about both their respective desirability and feasibility. Further, after having made the decision in favor of one wish thus turning it into a goal that you want to attain, you have to plan your actions. By spending time on identifying both suitable means as well as opportunities to act, you heighten your chance of successful goal attainment substantially. This is why explicitly planning out when, where, and how to act after having set a goal increases your chance of getting started on time and staying on track (see research on specific if-then plans, so-called implementation intentions; e.g., Gollwitzer 1999; Gollwitzer and Sheeran 2006; and their combination with another self-regulatory strategy, so-called mental contrasting; e.g., Oettingen 2012; Oettingen and Gollwitzer 2010). As a next step, you have to actually engage in goal-directed behavior and bring it to a successful ending. Finally, your progress toward goal attainment is to be evaluated. Did you do enough and did you reach your goal? Was it worth the effort? These questions have to be answered next so that you make adjustments or new plans for the current goal (if still unfinished) or your upcoming new goals.

In research on mindset theory of action phases (MAP; Gollwitzer 1990, 2012), it is observed that participants may process available information (e.g., Fujita et al. 2007) or estimate their control over desired outcomes quite differently (e.g., Gollwitzer and Kinney 1989), depending on where they stand in their goal pursuits. MAP suggests that to meet the demands and master the challenges described above, goal-striving individuals attune their mind in a phase-typical manner, this configuration of matching cognitive procedures being the predominant mindset. For example, to master the challenges of successful goal setting in the predecisional action phase, the mind of the goal striver is thought to attune to an open-minded consideration of the many pros and cons of pursuing and attaining one's wishes.

Task Sets and Mindsets

In its foundation, MAP relies on the distinction between task sets and mindsets (Gollwitzer 1991).

A task set is the intentional attuning of cognitive procedures (e.g., adding up numbers) in order to master a given task in an effective way; it is commonly confined to the task at hand (e.g., a summation task). Mindsets, in contrast, describe configurations of cognitive procedures (e.g., being open-minded) that go beyond mere task sets by carrying over to subsequent tasks (e.g., deciding on which college one wants to attend) unrelated to the task that evoked them (e.g., deciding on whether or not to go on a vacation).

This moment of inertia can be used in two ways. In the first generation of research on MAP, which is summarized in the following section, the carry-over effect of mindsets on unrelated tasks and demands were used to investigate and establish the characteristics of the different mindsets related to the various action phases. So, it was used to explore whether individuals indeed change and adapt information processing during the various phases of goal pursuit. More recently, the second generation of research on MAP used this inertia as an opportunity to study how unrelated goal pursuits can facilitate or hamper a person's performance on a given task. This research is summarized thereafter.

Deliberative Versus Implemental Mindsets

Research on MAP primarily focuses on the characteristics of the first two action phases and their corresponding mindsets, namely, the predecisional and preactional phases with the deliberative and implemental mindsets, respectively. Before making a decision, pondering over the respective desirability and feasibility of potential goals (wishes) evokes a deliberative mindset that is marked by the following features: open-mindedness (i.e., even peripheral, incidental information is processed; Fujita et al. 2007), impartial processing of desirability-related information (i.e., pros and cons are given equal weight; Bayer and Gollwitzer 2005), and objective judgments of feasibility (i.e., realistic judgments of difficulty and probability of success; Puca 2001).

When deliberation is coming to an end and a decision is made, the preactional phase is entered and people start planning the implementation of their set goal, namely, the when, where, and how

to act to attain their desired outcome. This planning evokes an implemental mindset which is characterized by mostly the opposite features: optimistic judgments about feasibility (i.e., increase in perceived control over outcomes; Gollwitzer and Kinney 1989), partial processing of information (i.e., pros receive more weight than cons; Taylor and Gollwitzer 1995), and relative closed-mindedness (i.e., peripheral information is ignored; Bayer and Gollwitzer 2005; Fujita et al. 2007). However, these qualities are helpful and beneficial for successful goal pursuit, indicated by, for example, the heightened persistence exhibited by individuals in an implemental mindset in the face of difficulties (Brandstätter and Frank 2002). Furthermore, individuals in an implemental mindset seem more eager to work on their goals, expressed in both shorter-time predictions with respect to goal attainment and actual shorter time needed for task completion (Brandstätter et al. 2015).

In experiments, the deliberative mindset is evoked by asking participants to (a) first name an unresolved, important personal problem that is causing rumination but for which they have not made a decision yet and then (b) reflect on whether to take action or not. Research suggests that pondering more complex and important problems leads to stronger mindset effects (Taylor and Gollwitzer 1995), and this is why participants are commonly asked to refrain from naming easily solvable or mundane problems. Further, to enhance the depth of reflection, participants are commonly requested to list a number of positive and negative, short- and long-term consequences of both deciding to act and deciding to maintain the status quo (i.e., deciding not to act); indicating the probability of the occurrence of each of these consequences is also required. In contrast, the implemental mindset is evoked by asking participants to think of a personal project for which they have already made the decision to act but did not initiate any action yet. Subsequently, participants are asked to list the steps necessary for successful goal attainment and to plan out in detail when, where, and how they intend to act on each of these steps.

Recent Developments in MAP

Investigating the consequences of inducing deliberative vs. implemental mindsets on visual attention, Büttner and colleagues (2014) observed that participants in an implemental mindset do not only exhibit relative closed-mindedness with respect to processing new information (Fujita et al. 2007) but also show a narrower breadth of visual attention compared to participants in a deliberative mindset. The authors designed x-winged Müller-Lyer figures allowing for both over- and underestimation of an x-winged target line when comparing it in terms of length to a comparison line with an equal length but without any wings. Depending on whether participants focus on the inward wings (leading to an underestimation of the target line's length) or process the target line more globally and thereby also attend to the outward wings (leading to an overestimation of the target line's length), participants' estimates with respect to the target line's length varied as a function of mindset induction. Critically, when participants were in an implemental mindset, they were more likely to underestimate the target line's length (thereby indicating that they focused on the inward wings) than when they were in a deliberative mindset. Moreover, the authors further consolidated this finding by tracking eye movements while participants processed visual scenes; again, participants in an implemental mindset exhibited a narrower breadth of visual attention by focusing on foreground objects while participants in a deliberative mindset were more likely to process the whole scene more evenly. These results suggest that mindsets not only lead to closed-mindedness when it comes to the processing of new information but already operate at the level of visual attention.

MAP, Confidence, and Susceptibility to External Influences

In line with mindset effects on illusory feelings of control observed by Gollwitzer and Kinney (1989), Hügelschäfer and Achtziger (2014) observed that participants in an implemental

mindset were more confident in having correctly answered questions in a general knowledge test than did participants in a deliberative mindset. When it comes to overconfidence, a striking difference between men and women is reported in the literature: men tend to be overconfident about their own performance, while women tend to be less confident, by exhibiting realistic estimates or underestimating their own performance (Barber and Odean 2001). Interestingly, however, mindset effects were strong enough to overcome this gender difference: male participants in a deliberative mindset were now (only) as confident as female participants in an implemental mindset, and both of these conditions (i.e., males in a deliberative and females in an implemental mindset) were expressing realistic estimates of their own performance. However, because confidence was bolstered in the implemental mindset condition and diminished in the deliberative mindset condition, female participants in a deliberative mindset still underestimated their own performance, while male participants in an implemental mindset still overestimated their performance significantly.

Besides internal factors like visual attention and confidence, numerous external factors are known to influence decision-making in everyday life. Recent research on MAP investigated the moderating effects of mindset induction on the strength of such misleading or threatening influences by studying the anchoring fallacy and stereotype threat. The anchoring fallacy describes the influence of irrelevant reference points on one's judgments (Tversky and Kahneman 1974). For instance, researchers may first ask people whether a prominent person is x years old or not with x being either an invalid, unrealistically low or an invalid, unrealistically high value. Subsequently, when people are asked to state the correct age, they tend to be influenced by the irrelevant and invalid reference point expressed in the first question and thus make biased guesses. Investigating the moderating role of mindsets on the anchoring fallacy, Hügelschäfer and Achtziger (2014) observed that both male and female participants in an implemental mindset and women in a deliberative mindset more readily fell prey to the

anchoring fallacy. Men in the deliberative mindset condition, however, were relatively unaffected by the irrelevant reference points provided.

Stereotype threat describes the (adversely) affected performance following the activation of a social identity and its associated stereotypes. For instance, researchers observed poorer math performance in female students when they reminded them of the stereotypical view that men outperform women on solving mathematical problems (Spencer et al. 1999). As this lowered performance seems linked to fear of failure, Dennehy et al. (2014) hypothesized that an implemental mindset might help to shield oneself from the detrimental effects of stereotype threat. To test this hypothesis, the authors compared participants from low and high socioeconomic status (SES) backgrounds in a speeded mental arithmetic task known to elicit performance anxiety. Indeed, the authors found that participants from a high SES background outperformed participants from a low SES background. However, the induction of an implemental mindset helped participants from a low SES background to overcome this difference, while it did not boost the performance of participants from a high SES background. So, the authors conclude that asking individuals to plan out when, where, and how to act on a personal but unrelated project may in fact help participants to shield themselves from the detrimental influences of stereotype threat.

MAP and Risk

Can the observed increase in optimism, confidence, and illusory feelings of control following the induction of an implemental mindset lead to altered risk perceptions, affect decision-making under risk, or even influence risk-taking behavior?

Concerning risk perceptions, Keller and Gollwitzer (2016) as well as Taylor and Gollwitzer (1995) observed an implemental mindset-related increase in the tendency to see one's own future (compared to that of one's peers) more positively regarding the exposure to negative life events. Participants were asked to indicate how likely it is that (a) a peer and

(b) they themselves encounter various negative life events (e.g., getting the flu, developing a drinking problem). Three studies showed that participants in an implemental mindset felt more invulnerable with respect to encountering negative life events than did participants in a deliberative mindset. Moreover, the more controllable the negative life event was perceived to be in respective pretests (e.g., developing a drinking problem is seen as controllable, while getting the flu is seen as rather uncontrollable), the stronger the tendency to see oneself as invulnerable to encountering the negative life event and the larger the difference between both mindset conditions. These results suggest that participants in an implemental mindset do overestimate the extent to which they are in control of avoiding negative future outcomes.

Concerning decision-making under risk, Hügelschäfer and Achtziger (2014) observed that inducing implemental vs. deliberative mindsets affected risk preferences in hypothetical financial gambles (i.e., the gambles were not related to the participants' actual payoff). In these financial gambles, participants were presented with the choice between one safe gamble and another gamble that always had a higher expected payoff but also a comparatively higher probability of ending up with nothing. Female participants in an implemental mindset subsequently exerted more risk taking by deciding in favor of the riskier option more often than female participants in a deliberative mindset. This pattern of results, however, was reversed for male participants. Male participants in a deliberative mindset were more likely to choose the riskier option compared to male participants in an implemental mindset. Furthermore, the commonly observed gender difference in risk taking (i.e., men are usually more willing to take risks than women; Eckel and Grossman 2008) was only observable in the deliberative mindset, which the authors interpret as evidence for the predominance of the deliberative mindset or its status as a default mindset.

Concerning risk-taking behavior, Keller and Gollwitzer (2016) observed that compared to participants in a deliberative mindset, participants in

an implemental mindset exert more risk-taking behavior in an established computerized risk-taking measure, the Balloon Analogue Risk Task (BART; Lejuez et al. 2002). In the BART, participants have to decide after each pump whether to go on pumping a balloon one more time or to save its current value and end the trial. By going on, participants increase the balloon's current value by a fixed amount but also increasingly risk the balloon's popping and thereby the loss of the balloon's current value. Using pumping up a balloon as a model, the BART mirrors risk taking in the real world quite well (i.e., has a high ecological validity), as it is, for instance, able to differentiate smokers from nonsmokers (Lejuez et al. 2003). With respect to the effects of deliberative and implemental mindsets, Keller and Gollwitzer (2016) found that participants in a deliberative mindset on average stopped pumping about eight pumps earlier on each balloon than participants in an implemental mindset, thus saving more balloons but also pocketing less money in this incentivized risk-taking measure.

In sum, the deliberation of taking action or not vs. the planning out of when, where, and how to act seems to impact both how we think about our individual risks and to which degree we are willing to tolerate risk in financial decisions. Most interesting, deliberative and implemental mindsets also affected risk-taking behavior in a risk-taking measure that is ecologically valid.

Deliberation After Having Crossed the Rubicon

In the work summarized above, researchers have focussed on deliberative vs. implemental mindsets and their differential effects, ranging from early visual attention to how we perceive risks or perform in threatening contexts. Two recent lines of research describing further phenomena related to MAP, however, must not be neglected. Both are focusing on the later action phases of MAP, when a goal has been set and the metaphorical Rubicon has been crossed. Thus, we will now turn to recent research on the tendency to defend a set goal when asked to deliberate it anew

and recent research on disengagement from a goal for which goal striving has proven ineffective.

Early research on MAP (Gagné and Lydon 2001; Taylor and Gollwitzer 1995, Study 3) already suggested that it is the predominant action phase and its related mindset that determines whether individuals weigh the pros and cons impartially when asked to deliberate. Compared to individuals in the predecisional phase (i.e., in a deliberative mindset), individuals in the preactional phase (i.e., in an implemental mindset) were found to focus on pros for the decision they had made while neglecting or underestimating potential cons.

In a more recent study, Nenkov and Gollwitzer (2012) observed that participants who received the explicit instructions to deliberate a set goal (i.e., asking them to deliberate on the positive and negative, immediate and long-term consequences of making a change or preserving the status quo) were subsequently more committed to their goal than before. These participants turned out to use deliberation to justify and bolster commitment to their initial decision, thus exhibiting what the authors termed *postdecisional defensiveness*. In contrast, participants who had not yet made a decision to pursue a certain goal were less inclined to pursue it after deliberating the pros and cons of pursuing it. The increase in commitment observed as a consequence of postdecisional defensiveness did not only translate into a heightened planning intensity but also into an increased effort to search for information helping to attain the goal; participants exhibiting postdecisional defensiveness were 3.5 times more likely to visit a website offering instrumental information.

In their research on goal pursuit, Brandstätter et al. (2013) posit the emergence of an intrapsychic conflict if progress toward reaching a set goal turns out to be dissatisfying or the chosen means prove ineffective. This conflict, termed *action crisis*, is thought to be characterized by the renewed deliberation on whether to continue goal striving or to abandon the goal altogether; in other words, an action crisis is a motivational phenomenon emerging in a volitional action phase (i.e., the actional phase). In a longitudinal study with over

200 freshmen at a Swiss university and a dozen of measurement points over the course of 18 months, Herrmann and Brandstätter (2015) observed that the severity of respective action crises at the beginning of the study predicted disengagement from an academic goal as well as two idiosyncratic personal goals. More specifically, the more the students experienced an action crisis with respect to their academic goal at the beginning of the study, the fewer courses they completed during their first college year and the earlier they disengaged completely. Importantly, and as MAP would suggest, desirability and feasibility of the goals did not play a significant role in predicting goal disengagement. Apparently, desirability and feasibility only play a role when people deliberate on whether or not to pursue certain wishes, but not when they have made a decision in favor of one wish, thus turning it into a binding goal.

While in both of these lines of research individuals redeliberate set goals at some point in their goal striving, they differ in terms of what triggers the redeliberation. In Nenkov and Gollwitzer's (2012) work, participants were asked to redeliberate a chosen goal anew. This assigned deliberation leads to increased commitment, planning intensity, and eventual goal-directed behavior. However, Herrmann and Brandstätter (2015) focus on the redeliberation of set goals that turn out to be more difficult or more frustrating to attain than expected; as the set goals are still highly valued, an action crisis is experienced which sets the stage for a renewed deliberation over pursuing it or not, which then can ultimately lead to abandoning it.

Conclusion

Earlier research on MAP focused on the cognitive procedures of the mindsets associated with certain action phases and how these mindsets benefit goal setting and goal striving. Adding to this, recent research on MAP was able to identify various critical task contexts to which the established characteristics of deliberative and implemental mindsets can carry over. These include contexts where a specific mindset facilitates performance

(e.g., the implemental mindset's blocking of the detrimental influence of stereotype threat) or contexts where mindsets hamper optimal decision-making (e.g., because of the narrower breadth of visual attention associated with an implemental mindset). Importantly, the apparent lack of research on the actional and the evaluative mindsets associated with the actional and postactional phases, respectively, calls for more research addressing these action phases. MAP offers interesting insights and applications for these action phases and respective mindsets as well. Underlining this, recent research on deliberation during goal striving (i.e., in the preactional and actional phase) proved worthwhile, offering a new perspective on defensive processing and disengagement from futile goals.

Cross-References

- ▶ [Goals by Tang, C.](#)
- ▶ [Overconfidence by Moore, D.](#)
- ▶ [Intrinsic and Extrinsic Motivation by Legault, L.](#)
- ▶ [Self-protective motives by Giacomini, M., Jordan, C.](#)

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