First pub. in: A century of psychology /Ray Fuller, ed. - London: Routledge, 1997, pp. 224-240

The history of the concept of goals

Peter M. Gollwitzer

Research and theorizing on goals and their effects on thought, affect and behaviour have become very popular in social psychology, as documented by many recently edited books (e.g. Frese and Sabini 1985; Gollwitzer and Bargh 1996; Halisch and Kuhl 1987; Kuhl and Beckmann 1985; Pervin 1989) and review chapters (e.g. Gollwitzer and Moskowitz 1996; Karniol and Ross 1996; Karoly 1993). The reasons for this are manifold. Some are rooted in theoretical developments in the psychology of motivation (see Heckhausen 1991; Geen 1995; Gollwitzer 1990, 1993; Kuhl 1984) which has moved beyond explaining the choice of actions to the wilful control of actions. This new interest in volition has led to the embracing of the goal concept, as goals are at the starting point of any volitional control of action.

But the renaissance of the concept of goals is also promoted by recent developments in the field of social psychology known as 'social cognition'. First, following William James' (1890) observation that 'my thinking is first and always for the sake of my doing', it is increasingly recognized that much of people's thinking is to control their actions. Second, the metaphor that governs current theorizing on human information processing is changing from the 'faulty computer' or the 'cognitive miser' to the 'flexible strategist' (Fiske 1993). All this has created a tremendous interest in issues of volition. Thus the goal concept, allowing a cognitive analysis and being at the core of the volitional control of behaviour, is also embraced by researchers interested in social cognition.

HISTORICAL BACKGROUND

According to the behaviourists, goal-directed behaviour is easily recognized by a number of observable features. Besides persistence, the main feature mentioned by Tolman (1925), researchers pointed to the appropriateness of goal-directed behaviour in the sense that the goal-directed organism adopts an effective course of action in response to variations in the stimuli connected with the goal. If, for instance, one route to goal attainment is blocked, another course of action to the same goal is taken. Or if the goal changes in its location (for example, a rat trying

to escape a cat), the goal-directed organism (i.e. the cat) readily adapts to these changes by actions that correspond to the variations of the goal. Finally, besides persistence and appropriateness, goal-directed organisms are also found to show hyperactivity when exposed to the stimuli associated with a previously experienced goal. This restlessness is commonly referred to as searching for the goal.

The behaviourists spelled out the observable features of goal-directed behaviour (i.e. persistence, appropriateness and searching); but what qualifies as an actual goal? Goals specify powerful incentives, where incentives are defined as objects and events that affect an organism's behaviour radically and reliably (such as food, sexual stimulation, sudden loud noise, and so forth). Whether an object or event is treated as a goal or an incentive, however, depends solely on the investigator's perspective on the organism's behaviours. If the investigator selects a certain incentive as the reference point for the description of behaviour, this incentive becomes a goal. In the behaviourist tradition, the reference point for goal-directed behaviour is apparently not the intention or the goal set by the organisms themselves (see Bindra 1959).

The reference point of modern goal theories is, in contrast to the behaviouristic view, the internal subjective goal. Goal-directed behaviour is studied in relation to goals held by the individual (for example, a person's goal to stop smoking serves as a reference point for his or her efforts to achieve this goal). Research questions focus on whether and how setting personal goals affects a person's behaviours. This theoretical orientation has its own historical precursors which reach back far beyond the heydays of behaviourism. William James (1890), in his *Principles of Psychology*, included a chapter on the will, in which he discussed the following questions: How is it possible that a behaviour that a person intends to perform (i.e. has been set as a goal by this person) fails to be executed? James referred to such problems as issues of the *obstructed will*, but he also raised questions related to what he called issues of the *explosive will* (i.e. how is it possible that an undesired behaviour is performed even though we have set ourselves the goal to suppress it?).

James' theorizing rests on the assumption that behaviour can potentially be regulated by a person's resolutions (or intentions or subjective goals) even though in certain situations and at certain times it may be difficult for such resolutions to come true. In any case, the individual's subjective goal is the reference point for the goal-directed action and not a powerful incentive focused on by an outside observer (or scientist). The question raised by James is whether people meet their goals in their actions, not whether their actions towards an incentive carry features of persistence, appropriateness and searching.

A further prominent historical figure in theorizing about subjective goals and their effects on behaviour is William McDougall. In his *Social Psychology* (1931) he was so intrigued by the issue of purposeful or goal-directed behaviour that he proposed a novel psychological theorizing (i.e. hormic psychology – see McDougall 1931). McDougall explicitly saw the reference point for goal-directed behaviour in a person's subjective purpose or goal. He postulated that

subjective goals guide a person's behaviour. This guidance is thought to be achieved through cognitive activity that pertains to the analysis of the present situational context and the envisioned event or goal state to be realized. Furthermore, progress towards and attainment of the goal are seen as pleasurable experiences, and thwarting and failure are seen as painful or disagreeable. With respect to the observable features of goal-directed activity, however, McDougall referred to the same aspects as the behaviourists (for example, persistence and appropriateness).

In the history of German psychology, the issue of goal-directedness of behaviour played a particularly prominent role and resulted in an intensive exchange of opinions. This controversy began at the beginning of this century and lasted up to the 1930s. The main protagonists were Ach on the one hand (for a summary, see Ach 1935), and Lewin (1926) on the other. In an attempt to establish a scientific analysis of the phenomenon of volitional action or willing (*Willenspsychologie*), Ach employed a very simple experimental paradigm. Subjects were trained to respond repeatedly and consistently to specific stimuli (for example, numbers or meaningless syllables) with certain responses (for example, to add or to rhyme, respectively). When these responses had become habitual, subjects were instructed to employ their will and execute antagonistic responses (for example, to subtract or read, respectively). Ach discovered that forming the intention to respond to the critical stimuli with an antagonistic response helps 'to get one's will'.

The theorizing on how an intention achieves the reliable execution of the intended action was based on the concept of *determination*. Ach assumed that linking in one's mind an anticipated situation to a concrete intended behaviour creates what he called a determination, and that this determination in turn would urge the person to execute the intended action once the specified situational stimulus is encountered. The strength of the determination should depend on how concretely people specify the intended action and the respective situation; concreteness was thought to intensify determination. Moreover, the intensity of the act of intending (willing) should also increase determination, because intensive willing induces a heightened commitment ('I really will do it!'). Determination was expected to elicit directly the intended behaviour without a person's conscious intent to get started. Ach speculated that determination may affect perceptual and attentional processes so that the specified situation is cognized in a way which favours the initiation of the intended action.

Kurt Lewin (1926), who scornfully termed Ach's ideas a 'linkage theory of intention', proposed a 'need' theory of goal striving. Intentions, like needs, assign a valence (in German: *Aufforderungscharakter*) to objects and events in people's social and non-social surroundings. For a person who intends to mail a letter (i.e. Lewin's favourite example!), a mailbox entices (or at least calls or reminds) him or her to deposit a letter, very much like food entices a hungry person to eat. Because needs can be satisfied by various types of behaviours which may all substitute for each other in terms of reducing need tension (for

example, eating fruit, vegetables, bread, and so forth), many different intention-related behaviours qualify for satisfying the quasi-need associated with an intention. The amount of the tension associated with the quasi-need was assumed to directly relate to the intensity of a person's goal strivings. The exact amount of tension may vary. First, it is affected by the degree of quasi-need fulfilment (i.e. tension comes to a final rest only when the goal is achieved), but it is also thought to depend on the strength of relevant real needs (i.e. superordinate drives and general life goals) and how strongly these are related to the quasi-need. For a person with strong affiliative needs but weak achievement needs (or professional goals) a mailbox, for example, acquires more valence when someone intends to send off letters inviting people to a party, as compared to sending out a job application.

MODERN GOAL THEORIES

Many of the ideas on goal-directed behaviours, as presented by. James, McDougall, the German 'psychology of will', and to a lesser degree the behaviourists, have been adopted by modern goal theories. In order to arrive at a comprehensive presentation of the many different theories, I have grouped them according to aspects of similarity which has led to two major categories:

- Content theories of goal striving, which attempt to explain differences in goal-directed behaviours and their consequences in terms of what is specified as the goal by the individual. In other words, differences in goal content are expected to drastically affect a person's behaviours.
- Self-regulation theories of goal striving, which attempt to explain the volitional processes that mediate the effects of goals on behaviour. As we will see, there are two different types of self-regulation theories, one of a more motivational, the other of a more cognitive nature.

GOAL CONTENT THEORIES

Goal contents vary because goals may be challenging or modest, specific or vague, abstract or concrete, proximal or distal, with a negative or positive outcome focus, and so forth. But goals may also cover different themes and issues since they can be based on different needs and incentives. Moreover, the type of implicit theory the individual holds regarding the functioning of the subject matter involved further determines goal content. Goal content theories analyse the effects of differences in goal content on goal-directed behaviour and the consequences of these behaviours. The research strategy adopted by goal content theorists compares the effects of goals varying on a dimension of interest (for example, specific vs. vague goals, goals based on autonomy needs vs. goals based on material needs) on a relevant dependent variable (for example, quantity or quality of performance).

Goal specificity

The prototype of a goal content theory is *goal setting theory*, first put forth by the organizational psychologists Locke and Latham (for a summary, see Locke and Latham 1990). The theory was meant to offer applied psychologists a 'theory of work motivation that works'. The basic thesis is that challenging goals that are spelled out in specific terms have a particularly positive effect on behaviour. In more than 400 mainly experimental studies (a count conducted by Locke and Latham in 1990), challenging specific goals were superior to modest specific goals as well as to challenging vague goals (i.e. 'do your best' goals). A typical study conducted in a work setting may serve as an example (Latham and Yukl 1975). Woodworkers were sent out to the forest equipped with goals with different contents or no goals at all. Challenging goals (i.e. standards above what can be achieved with normal effort expenditure) led to a higher productivity as observed in the no-goal control group when goals were formulated in specific terms (for example, number of trees to be cut). Specific non-challenging goals implying modest standards failed to increase productivity, as did challenging but vague goals, such as 'do your best'.

Needs as sources of goals

For Locke and Latham (1990), it is not the differences in sources (for example, different needs, or self-set vs. assigned goals) that matters. What matters is whether goal content is formulated in a challenging specific format or in a non-specific and non-challenging (modest) way. In other words, Locke and Latham focus on structural features of goal content (i.e. specificity and challenge) and not on whether the goal is based on one source or another. Deci and Ryan (1991) have criticized this point of view by stating that not all goals are 'created equal'. According to Deci and Ryan, goals affect a person's behaviour differently depending on what kind of need is the source of a person's goal setting. If, for instance, two students in an art class are confronted with the possibility of creating an interesting painting, Student A may set herself the goal of pleasing her parents, whereas Student B focuses on his intrinsic joy in creating an interesting piece of work. Based on their *self-determination theory*, Deci and Ryan postulate that goals in the service of autonomy, competence and social integration needs lead to better performances in the sense of greater creativity, higher cognitive flexibility, greater depth of information processing and more effective coping with failure. Deci and Ryan argue that the respective needs are assumed to further autonomous, self-determined and authentic goal striving. This positive kind of goal activity is contrasted with a less effective, negative kind, which is unreflectively controlled from outside (for example, goal assignments by authorities) or from inside (for example, goal setting based on feelings of obligation).

Implicit theories as sources of goals

A further goal content theory is suggested by Dweck (1991) (see also Elliott and Dweck 1988). Dweck's theory focuses on achievement goals and postulates a distinction between learning goals and performance goals. The source of goal setting is a person's implicit theory about the nature of ability – not a person's needs, as asserted by Deci and Ryan. Whether in a given achievement situation people set themselves either one or the other type of goal depends on whether they hold an entity theory (i.e. they believe that the amount of ability is fixed and cannot be easily changed) or an incremental theory (i.e. they believe that the amount of ability can be improved by learning). People with such drastically different theories about the nature of ability set themselves quite different types of goals in achievement situations. Entity 'theorists' try to find out via task performance how capable they are, thus making inferences on the amount of their respective talent. They set themselves performance goals. But incremental 'theorists' want to know where and why they are making mistakes in order to learn how to improve – they set themselves learning goals. These distinct types of goals have important behavioural consequences, in particular when it comes to coping with failure. For individuals with performance goals, negative outcomes signal a lack of intelligence and thus result in helpless reactions (for example, low persistence). People with learning goals, on the other hand, view setbacks as cues to focus on new behavioural strategies. Their behaviour is oriented towards mastering the causes of the setback.

Further goal content differences

Before ending the section on goal content theories, two important structural differences between types of goal contents need to be mentioned. The first is discussed by Bandura and Schunk (1981) and relates to the time frame of goal attainment. Proximal goals relate to what one does in the present or the near future, whereas distal goals point far into the future. Bandura and Schunk observed that proximal goals improved children's arithmetic attainments. This effect was mediated by an increase in the children's strength of self-efficacy and intrinsic interest in mathematics. Apparently, distal goals are too far removed in time to guide a person's actions effectively, as they fail to provide small successes that promote self-efficacy and interest.

A second important difference in the framing of goals has recently been introduced by Higgins *et al.* (1994) and pertains to the valence of one's goal pursuit. Achievement goals with a positive outcome focus (i.e. goals that focus on the presence or absence of positive outcomes) favour task performance, whereas goals with a negative outcome focus (i.e. goals that focus on the presence or absence of negative outcomes) undermine it. In addition, individuals with chronic discrepancies between their actual and ideal selves (i.e. people who fall short of their ideals) are found to prefer positive outcome focus goals,

whereas individuals with actual/ought self-discrepancies (i.e. people who fall short of their duties) prefer the negative outcome focus goals.

SELF-REGULATION THEORIES OF GOAL STRIVING

As experience tells us, there is often a long way from goal setting to goal attainment. Having set a goal is often just a first step towards goal attainment and requires that a host of implementational problems are solved successfully. These problems are manifold, as they pertain to initiating goal-directed actions and bringing them to a successful ending. To solve these problems effectively, the individual needs to seize good opportunities to act, ward off distractions, flexibly step up efforts in the face of difficulties, bypass barriers, compensate for failures and shortcomings and negotiate conflicts between goals. Self-regulation theories analyse how the individual effectively solves these problems of goal implementation. Often they focus on one of these problems in particular and ignore the others. But all of them try to propose general principles that apply to the problems of implementation of all goals despite differences in context.

The model of action phases

Nuttin (1980), in defining the central features of a motivational goal theory, argued that goals and action plans are not simply cognitions that specify standards or reference points. Rather, goals and plans are cognitively explicated and elaborated needs. Whereas goals describe desired events and outcomes, plans specify how one intends to attain these events and outcomes. The intensity of goal-directed actions is thought to be determined by the individual's motivation to reach the goal, and by the instrumentality of the plan on which these actions are based.

In their model of action phases, Heckhausen and Gollwitzer (Heckhausen and Gollwitzer 1987; Gollwitzer 1990; Heckhausen 1991) followed Nuttin's prescription of a motivational goal theory and explicated it in more detail. The model assumes that a person's motives and needs produce more wishes and desires than can possibly be realized. Therefore, the individual is forced to make a choice, which is preceded by deliberating the feasibility and desirability of these wishes and desires. Only a few of the feasible and attractive wishes are chosen for implementation and thus turned into goals. Whether goal-directed behaviours are initiated in a given situation depends on the desirability and feasibility of the goal, but also on the perceived suitability of the present situational context. All this is considered in relation to the desirability and feasibility of other competing goals that also press for realization in the given situation, and to possible future situational contexts that may be more or less suitable than the one at hand.

The model takes a comprehensive temporal (horizontal) view of the course of goal pursuit which extends from the origins of a person's wishes and desires to

the evaluation of attained outcomes. It is suggested that the course of goal pursuit entails four different, consecutive action phases. At each of these phases people are expected to face a qualitatively distinct task which needs to be accomplished in order to promote goal completion. The first of these tasks, which is accomplished in the *pre-decisional phase*, is deliberating wishes in light of the evaluative criteria of feasibility and desirability, in order to arrive at a decision on whether to act on one's wishes. A positive decision transfers the wish or desire into a binding goal, which is accompanied by a feeling of determination or obligation. Accordingly, the next task to be solved is to promote the initiation and successful execution of goal-directed action. This may be simple when the necessary goal-directed actions are well-practised and routine, or complex when we are still undecided about where and how to act. In complex cases, the execution of goal-directed action needs to be prepared. The action phases model refers to this period prior to the initiation of goal-directed action as the *pre-actional phase*. To advance further on the way from wishes to action, the individual reflects and decides on *when*, *where*, *how* and *how long* to act, thus creating plans for action.

With the initiation of goal-directed behaviours, the individual enters the *actional phase*. The task associated with this phase is bringing goal-directed behaviours to a successful conclusion. For this purpose it is necessary that the individual readily responds to situational opportunities and demands. He or she should jump at all opportunities that allow progress towards the goal, and when differences and hindrances are encountered, should readily increase his or her efforts. This responsiveness to situational opportunities and demands promotes goal achievement. The final action phase is called *post-actional*. Here the task is to evaluate one's goal achievement. This is done by comparing what has been achieved with what has been desired.

Action phases and mind-sets

The primary objective of the action phases model is to identify the typical problems people encounter in their goal pursuits. Thereby it has stimulated theoretical concepts that help to understand people's functioning at the various stages of goal pursuit. One of these is the concept of mind-set. Gollwitzer (1990) suggests that different mind-sets (i.e. general cognitive orientations with distinct features) should emerge when a person addresses the distinct tasks associated with the various action phases. These mind-sets should be endowed with those cognitive features that facilitate the respective tasks and are thus functional to task completion.

By initiating the mind-sets that correspond to the action phases they are currently pursuing, people can effectively promote their goal pursuits. Studies conducted on the mind-sets associated either with deliberating one's wishes and desires (i.e. the deliberative mind-set of the pre-decisional phase) or with planning the initiation of goal-directed actions (i.e. the implemental mind-set of

the pre-actional phase) support this idea. When subjects are asked to engage in intensive deliberation of whether to turn an important personal wish or desire into a goal, a cognitive orientation (i.e. the *deliberative mind-set*) with the following features originates. Subjects become more open-minded with respect to processing available information. Heeded information is processed more effectively and even peripheral information is encoded (Heckhausen and Gollwitzer 1987). Second, desirability-related information is processed more effectively than implementation-related information (Gollwitzer *et al.* 1990b). Finally, with respect to desirability-related information, the pros and cons of making a decision are analysed in an impartial manner (Beckmann and Gollwitzer 1987). Moreover, feasibility-related information is analysed in a relatively objective, non-illusionary way (Gollwitzer and Kinney 1989; Taylor and Gollwitzer 1995). This cognitive orientation (i.e. the deliberative mind-set) should facilitate the making of 'good' (i.e. realistic) goal decisions, because it prevents perceiving wishes and desires (i.e. the potential goals) as more desirable or feasible than they actually are.

When subjects are asked to plan the implementation of an important personal goal or project, a cognitive orientation (i.e. the *implemental mind-set*) with quite different attributes originates: subjects become closed-minded in the sense that they are no longer distracted by irrelevant information (Gollwitzer 1996). They are also effective in processing information related to implementation-related issues (for example, the sequencing of actions – see Gollwitzer *et al.* 1990b). Moreover, desirability-related information is processed in a partial manner favouring pros over cons (Beckmann and Gollwitzer 1987), and feasibility-related information is analysed in a manner that favours illusionary optimism. This optimism extends to the perceived control of uncontrollable outcomes (Gollwitzer and Kinney 1989), to a person's self-perception of important personal attributes (for example, cheerfulness, academic ability, sensitivity to others, self-respect, drive to achieve, leadership ability), and to the perceived vulnerability to both controllable and uncontrollable risks (for example, developing an addiction to prescription drugs or losing a partner to an early death, respectively) (Taylor and Gollwitzer 1995). Finally, the implemental mind-set elevates people's moods and self-esteem. The mind-set effects on self-perception and perceived vulnerability to risk, however, are not mediated by mood or self-esteem changes (see Taylor and Gollwitzer 1995). All the listed features of the implemental mind-set should facilitate goal achievement as they allow the individual to cope effectively with classic problems of goal implementation, such as being distracted with irrelevant things, doubting the attractiveness of the pursued goal, or being pessimistic about its feasibility.

Implementation intentions vs. goal intentions

A second concept stimulated by the action phases model is that of implementation intentions (Gollwitzer 1993). It relates to a particular form of

planning where the individual commits him- or herself to perform a certain goal-directed behaviour when a particular situation is encountered. Implementation intentions take the format of 'I intend to do x when situation y is encountered', thus linking an anticipated future situation (opportunity) to a certain goal-directed behaviour. Implementation intentions are different from goal intentions. The latter take the format of 'I intend to achieve x', whereby the x specifies a desired end-state, which may be the execution of a desired concrete behaviour or the attainment of a desired outcome.

Implementation intentions constitute a powerful strategy to overcome problems of goal realization. First, forming implementation intentions increases a person's commitment to the respective goal intention (Gollwitzer *et al.* 1990a). Second, it helps people to get started with goal-directed actions. Goal intentions that are furnished with implementation intentions are completed about three times more often than mere goal intentions (Gollwitzer and Brandstätter, in press). Because implementation intentions spell out links between situational cues and goal-directed behaviours, it is assumed that by forming such intentions people pass on the control of goal-directed behaviour to environmental cues, which facilitates the initiation of goal-directed actions. On a micro-level of analysis, it is hypothesized that the mental representation of the specified situational cues becomes highly activated, thus making these cues more easily accessible. Results of various experiments support this view (for a summary, see Gollwitzer 1993, 1996). Situational cues specified in implementation intentions were more easily detected and remembered, as well as more readily attended to than comparable non-intended situations. Moreover, it is hypothesized that implementation intentions create strong associative links between mental representations of situations and actions that are commonly only achieved through repeated and consistent acting in these situations. Accordingly, the initiation of the intended goal-directed behaviour in the presence of the critical situation should resemble the initiation of a habitual response. Indeed, various experiments demonstrate that the goal-directed behaviours specified in implementation intentions are initiated swiftly and effortlessly in the presence of the critical situation. In addition, the subliminal presentation of the critical situation suffices to activate cognitions that guide the intended behaviour.

In summary, forming an implementation intention is an act of will that changes conscious control of goal-directed action over to direct, environmental control (Bargh and Gollwitzer 1994). The situational stimuli specified in implementation intentions become direct elicitors of goal-directed action.

Competing goal pursuits

Kuhl (1984) (for a recent summary, see Kuhl and Beckmann 1994) focuses on self-regulatory processes that contribute to goal achievement in the face of competing action tendencies. Following Atkinson and Birch's (1970) theorizing on the dynamics of action, it is assumed that at any given point many different

action tendencies, both waxing and waning in strength, co-exist. For an ordered action sequence to occur, Kuhl assumes that a current guiding goal has to be shielded from competing goal intentions. He terms this shielding mechanism *action control* and differentiates a number of different, but compatible control strategies, such as attention control, emotion control, motivation control and environment control. Through environment control, for instance, the individual prevents the derailing of an ongoing goal pursuit by removing any competing temptations or enticements from the situational context in which goal pursuit is to occur. Whether and how effectively these strategies are employed depends on the current control mode of the individual. An *action-oriented* person concentrates on the planning and initiation of goal-directed action, responds flexibly to the respective contextual demands, and employs the listed control strategies effectively. Things are quite different with a *state-oriented* person. This person cannot disengage from competing incomplete goals and is caught up in dysfunctional persevering thoughts, directed at past or future successes or failures.

Researchers on goals are becoming increasingly aware of the fact that goals are not created in isolation. People set themselves many goals, and these goals may come into conflict with each other. When goals are short term, the process of shielding an ongoing goal pursuit from competing others seems most important. Other self-regulatory processes are needed, however, when the conflicting goals are enduring, such as self-defining goals (Wicklund and Gollwitzer 1982), personal strivings (Emmons 1989) or life tasks (Cantor 1994). Emmons and King (1988) observed that conflict between and within personal strivings is associated with poor well-being. Conflict was found to relate to negative affectivity and/or physical symptomatology. Emmons (1996) argues that creative integrations of a person's strivings might reverse the negative effects of conflict. The observation that so-called generativity strivings (i.e. strivings which demand both the creating and giving up of a product) are associated with higher levels of subjective well-being is cited in support of this idea, as generativity may be understood as the creative blending of intimacy strivings and power strivings.

Conflict between goals has also been discussed in the theoretical framework of life tasks (Cantor and Fleeson 1994). Life tasks, such as doing well academically, exert specific influences on behaviour as they are interpreted differently over the life course and across situational contexts. Life tasks are often confronted with difficulties, frustrations, anxieties and self-doubts, and the individual's style of appraising these hindrances leads to a typical pattern of action goals aimed at overcoming these obstacles. For instance, college students who worry about their abilities when they experience failure (i.e. outcome-focused individuals – see Harlow and Cantor 1994) may, in a strategic effort to meet their academic life task, turn for reassurance to others whom they regard as confidantes and encouragers. In this case, social goals are put in the service of academic goals.

Goals and discrepancy reduction

If one considers a person's goal pursuit as an issue of discrepancy reduction, a host of further self-regulatory processes can be identified. Discrepancy reduction theories of goal pursuit do not conceive of goals as something attractive (i.e. specifying a positive incentive corresponding to some vital need) that pulls the individual in the direction of goal attainment. The set goal only specifies a performance standard. Prototypical are Bandura's (1991) ideas on the self-regulation of action. According to Bandura, goals have no motivational consequences *per se*; they only specify the conditions that allow a positive or negative self-evaluation. If the set goal is attained through one's actions, a positive self-evaluation prevails, whereas staying below one's goal leads to a negative self-evaluation. Thus the individual is pushed by the negative self-evaluation associated with the discrepancy, and he or she is pulled by the anticipated positive self-evaluation that is 'intrinsically' linked to closing the gap between the *status quo* and the goal (i.e. the performance standard).

These basic ideas imply that goals stimulate effortful acting towards goal attainment (what Bandura refers to as high performance motivation) only when people cognize a discrepancy between the *status quo* and the set goal. Bandura therefore proposes attaining frequent feedback as a powerful measure to stimulate goal pursuit. Moreover, people are expected to engage in efforts to reduce the experienced discrepancy only when they have acquired a strong sense of self-efficacy with respect to the required actions. Doubts about possessing the capabilities necessitated by these actions undermine a person's readiness to act on the goal.

Bandura's ideas remind one of control theory as suggested by Carver and Scheier (1981). Stimulated by Miller *et al.* (1960), Carver and Scheier apply a control theoretical framework to the study of goal-directed action. The central conceptual unit of their analysis is the negative feedback loop. In a negative feedback loop a reference criterion is compared with a perceptual input in a comparator. If there is a difference between the two, a signal is generated (i.e. an error is detected). The detected error elicits behaviour that reduces the discrepancy between the reference criterion and the perceptual input. Following Powers' (1973) proposal that behaviour is organized hierarchically, Carver and Scheier assume a cascading loop structure. A positive affective response as a consequence of goal attainment is not assumed however, nor is the detection of error associated with negative affect. Rather, the speed of progress towards a goal is seen as the source of positive or negative feelings in a person's goal pursuit. The intensity of these feelings is regulated again in a feedback loop: if the speed meets a set reference criterion, positive feelings emerge amd vice versa (Carver and Scheier 1990).

Automatic goal pursuits

The goal theories discussed so far characterize a person's goal striving as an intentionally controlled, conscious and reflective endeavour. Goal choice demands the conscious weighing of pros and cons, and goal implementation necessitates reflective thinking about how to realize the goal. As mentioned above concerning implementation intentions however, people can strategically switch from conscious control of goal-directed actions to direct control of action by the environment (Gollwitzer 1993). This helps an individual in difficult circumstances to attain desired ends. But there is another type of environmental control of goal-directed actions, which is spelled out in Bargh's (1990) automotive theory. It is suggested that strong mental links develop between the cognitive representations of situations and the goals the individual chronically pursues within them. As a consequence of this repeated and consistent pairing in the past, these goals become automatically activated when the individual enters the relevant situation. The automatically activated goal then guides behaviour within the situation, without the individual choosing or intending that particular line of action. There may have been a deliberate choice of the goal in the past, but this conscious choice is now bypassed. The situational cues directly guide the person's goal-directed actions (Bargh and Gollwitzer 1994).

SUMMARY

Research stimulated by modern theorizing on goals has discovered the following about goal pursuits. First, it makes a difference how people frame their goals and what is the content of their goals. How people formulate their achievement goals – in specific or vague terms, challenging or modest, proximal or distal, as a performance goal or a learning goal, approach or avoidance goal – affects how successfully they will behave in a respective achievement situation. Similarly, whether people's personal strivings or life goals are based on one type of need or another determines how successfully they go through their lives in terms of psychological and physical well-being. Future research on goal content theories should ask questions about further important goal content dimensions.

Second, goal striving is recognized as a volitional, self-regulatory endeavour. Classic theorizing on motivation (Atkinson 1964; McClelland 1951; Nuttin 1980; Weiner 1972) construes goal pursuit as an issue of need satisfaction. A person's needs are conceived of as the ultimate source of goals because needs (for example, the need for affiliation) produce wishes and desires that specify attractive incentives. The demands of situational contexts determine what becomes a person's action goal because, depending on the situation present, certain actions are seen as more instrumental than others for the satisfaction of one's needs (i.e. acquiring the respective incentives). Following this line of thought, it is tempting to assume that the intensity of a person's goal pursuit is

exclusively determined by the strength of a person's respective need and the instrumentality of the pursued goal-directed behaviours.

Modern goal theories do not deny that people's needs or motives affect their goal pursuits; nor do they rely solely on motivational determinants of goal pursuit. The focus of modern goal theories is on the superimposed self-regulatory strategies. These strategies are assumed to help the individual overcome the many problems of goal implementation. Even when goals are highly attractive and the respective action plans are highly instrumental, people may still experience problems with getting started, warding off distractions, compensating for shortcomings, and negotiating conflicts between goals. In this sense, modern goal theories have returned to the theories of Ach, James and McDougall, which were prevalent prior to the heyday of motivational need theories (Atkinson 1958). Today, goal pursuits are again seen as subject to volition and modern goal theorists attempt to identify those volitional (wilful) strategies that make a person's goal-directed efforts most successful.

Future research on the self-regulation of goal pursuit should continue to search for effective mental strategies and ask questions of when these are employed and on what cognitive processes they are based. Two issues deserve enhanced attention in future research. The first extends to the termination of goal pursuit, the second to the self-defensive aspects of self-regulation. With regard to the self-regulation of disengagement from goals, we still observe a scarcity of theorizing. Although Klinger (1975) offered a stage theory of disengagment that describes the phases of a person's giving up on an incentive, there should be more theorizing and research on both the conditions that trigger disengagement and the self-regulatory processes that promote it (Oettingen 1996).

Second, most self-regulation theories of goal pursuit portray the individual as non-defensive. The individual attempts to achieve personal goals with the best of his or her efforts. But people do not only have to serve their goals, they also need to protect their self-esteem. As Jones and Berglas (1978) pointed out in their research on self-handicapping, people often undermine the attainment of an achievement goal in an effort to protect self-esteem. Future research should therefore try to explore how people integrate self-regulatory strategies of goal pursuit with self-defensive strategies aimed at the protection of self-esteem (Baumeister 1996).

REFERENCES

Ach, N. (1935) 'Analyse des Willens', In E. Abderhalden (ed.), *Handbuch der biologischen Arbeitsmethoden (Vol. 6)*, Berlin: Urban und Schwarzenberg.

Atkinson, J.W. (1958) *Motives in Fantasy, Action, and Society*, Princeton, NJ: Van Nostrand.

—— (1964) *An Introduction to Motivation*, Princeton, NJ: Van Nostrand.

Atkinson, J.W. and Birch, D. (1970) *The Dynamics of Action*, New York: John Wiley & Sons.

Bandura, A. (1991) 'Self-regulation of motivation through anticipatory and self-reactive mechanisms', in R.A. Dienstbier (ed.) *Nebraska Symposium on Motivation Vol. 38* (pp. 69–164), Lincoln: University of Nebraska Press.

Bandura, A. and Schunk, D.H. (1981) 'Cultivating competence, self-efficacy and intrinsic interest through proximal self-motivation', *Journal of Personality and Social Psychology* 41: 586–598.

Bargh, J.A. (1990) 'Auto-motives: pre-conscious determinants of social interaction', in E.T. Higgins and R.M. Sorrentino (eds) *Handbook of Motivation and Cognition Vol. 2* (pp. 93–130), New York: Guilford Press.

Bargh, J.A. and Gollwitzer, P.M. (1994) 'Environmental control of goal-directed action: automatic and strategic contingencies between situations and behaviour', in W. Spaulding (ed.) *Nebraska Symposium on Motivation Vol. 41* (pp. 71–124), Lincoln: University of Nebraska Press.

Baumeister, R. (1996) 'Self-regulation and ego threat: motivated cognition, self-deception, and destructive goal setting', in P.M. Gollwitzer and J.A. Bargh (eds) *The Psychology of Action* (pp. 27–47), New York: Guilford Press.

Beckmann, J. and Gollwitzer, P.M. (1987) 'Deliberative vs. implemental states of mind: the issue of impartiality in pre- and postdecisional information processing', *Social Cognition* 5: 239–279.

Bindra, D. (1959) *Motivation*, New York: Ronald Press.

Cantor, N. (1994) 'Life task problem solving: situational affordances and personal needs', *Personality and Social Psychology Bulletin* 20: 235–243.

Cantor, N. and Fleeson, W. (1994) 'Social intelligence and intelligent goal pursuit: a cognitive slice of motivation', in W. Spaulding (ed.) *Nebraska Symposium on Motivation Vol. 41* (pp. 125–180), Lincoln: University of Nebraska Press.

Carver, C.S. and Scheier, M.F. (1981) *Attention and Self-regulation: A Control-theory Approach to Human Behaviours*, New York: Springer-Verlag.

—— (1982) 'Outcome expectancy, locus of attribution for expectancy, and self-directed attention as determinants of evaluations and performance', *Journal of Experimental Social Psychology* 18: 184–200.

—— (1990) 'Origins and functions of positive and negative affect: a control-process view', *Psychological Review* 97: 19–35.

Deci, E.L. and Ryan, R.M. (1991) 'A motivational approach to self: integration in personality', in R. Dienstbier (ed.) *Nebraska Symposium on Motivation Vol. 38* (pp. 237–288), Lincoln: University of Nebraska Press.

Dweck, C.S. (1991) 'Self-theories and goals: their role in motivation, personality and development', in R. Dienstbier (ed.) *Nebraska Symposium on Motivation Vol. 38* (pp. 199–255), Lincoln: University of Nebraska Press.

Elliott, E.S. and Dweck, C.S. (1988) 'Goals: an approach to motivation and achievement', *Journal of Personality and Social Psychology* 54: 5–12.

Emmons, R.A. (1989) 'The personal strivings approach to personality', in L.A. Pervin (ed.) *Goal Concepts in Personality and Social Psychology* (pp. 87–126), Hillsdale, NJ: Erlbaum.

—— (1996) 'Striving and feeling: personal goals and subjective well-being', in P.M. Gollwitzer and J.A. Bargh (eds) *The Psychology of Action* (pp. 313–337), New York: Guilford Press.

Emmons, R.A. and King, L.A. (1988) 'Conflict among personal strivings: immediate and long-term implications for psychological and physical well-being', *Journal of Personality and Social Psychology* 54: 1040–1048.

Fiske, S.T. (1993) 'Social cognition and social perception', *Annual Review of Psychology* 44: 155–194.

Fiske, S.T. and Taylor, S. (1991) *Social Cognition (2nd edn)*, New York: McGraw-Hill.

Frese, M. and Sabini, J. (1985) *Goal-directed Behaviour: The Concept of Action in Psychology*, Hillsdale, NJ: Erlbaum.

Geen, R.G. (1995) *Human Motivation*, Pacific Grove, CA: Brooks/Cole Publishing Company.

Gollwitzer, P.M. (1990) 'Action phases and mind-sets', in E.T. Higgins and R.M. Sorrentino (eds) *Handbook of Motivation and Cognition Vol. 2* (pp. 53–92), New York: Guilford Press.

—— (1993) 'Goal achievement: the role of intentions', in W. Stroebe and M. Hewstone (eds) *European Review of Social Psychology Vol. 4* (pp. 141–185), Chichester, Sussex: John Wiley & Sons.

—— (1996) 'The volitional benefits of planning', in P.M. Gollwitzer and J.A. Bargh (eds) *The Psychology of Action* (pp. 287–312), New York: Guilford Press.

Gollwitzer, P.M. and Bargh, J.A. (1996) *The Psychology of Action: Linking Cognition and Motivation to Behaviour*, New York: Guilford Press.

Gollwitzer, P.M. and Brandstätter, V. (in press) 'Implementation intentions and effective goal pursuit', *Journal of Personality and Social Psychology.*

Gollwitzer, P.M. and Kinney, R.A. (1989) 'Effects of deliberative and implemental mind-sets on the illusion of control', *Journal of Personality and Social Psychology* 56: 531–542.

Gollwitzer, P.M. and Kirchhof, O. (in press) 'The willful pursuit of identity', in J. Heckhausen and C.S. Dweck (eds) *Motivation and Self-regulation Across the Life-span*, New York: Cambridge University Press.

Gollwitzer, P.M. and Moskowitz, G.B. (1996) 'Goal effects on action and cognition', in E.T. Higgins and A.W. Kruglanski (eds) *Social Psychology: Handbook of Basic Principles* (pp. 361–399), New York: Guilford Press.

Gollwitzer, P.M., Heckhausen, H. and Ratajczak, H. (1990a) 'From weighing to willing: approaching a change decision through pre- or postdecisional mentation', *Organizational Behaviour and Human Decision Processes* 45: 41–65.

Gollwitzer, P.M., Heckhausen, H. and Steller, B. (1990b) 'Deliberative vs. implemental mind-sets: cognitive tuning toward congruous thoughts and information', *Journal of Personality and Social Psychology* 59: 1119–1127.

Halisch, F. and Kuhl, J. (1987) *Motivation, Intention and Action*, Berlin: Springer-Verlag.

Harlow, R.E. and Cantor, N. (1994) 'The social pursuit of academics: side-effects and "spillover" of strategic reassurance seeking', *Journal of Personality and Social Psychology* 66: 386–397.

Heckhausen, H. (1991) *Motivation and Action*, Heidelberg: Springer-Verlag.

Heckhausen, H. and Gollwitzer, P.M. (1987) 'Thought contents and cognitive functioning in motivational versus volitional states of mind', *Motivation and Emotion* 11: 101–120.

Higgins, E.T., Roney, C.J.R., Crowe, E. and Hymes, C. (1994) 'Ideal versus ought predilections for approach and avoidance: distinct self-regulatory systems', *Journal of Personality and Social Psychology* 66: 276–286.

James, W. (1890) *Principles of Psychology*, New York: Holt.

Jones, E.E. and Berglas, S. (1978) 'Control of attributions about the self through self-handicapping strategies: the appeal of alcohol and the role of underachievement', *Journal of Personality and Social Psychology* 4: 200–206.

Karniol, R. and Ross, M. (1996) 'The motivational impact of temporal focus: thinking about the future and the past', *Annual Review of Psychology* 47: 593–620.

Karoly, P. (1993) 'Mechanisms of self-regulation: a systems view', *Annual Review of Psychology* 44: 23–52.

Klinger, E. (1975) 'Consequences of commitment to and disengagement from incentives', *Psychological Research* 82: 1–25.

Kuhl, J. (1984) 'Volitional aspects of achievement motivation and learned helplessness: toward a comprehensive theory of action control', in B.A. Maher and W.A. Maher (eds) *Progress in Experimental Personality Research* (pp. 99–171), New York: Academic Press.

Kuhl, J. and Beckman, J. (1985) *Action Control: From Cognition to Behaviour*, New York: Springer-Verlag.

—— (1994) *Volition and Personality*, Göttingen: Hogrefe.

Latham, G.P. and Yukl, G.A. (1975) 'Assigned versus participative goal setting with educated and uneducated wood workers', *Journal of Applied Psychology* 60: 299–302.

Lewin, K. (1926) 'Vorsatz, Wille und Bedürfnis', *Psychologische Forschung* 7: 330–385.

Locke, E.A. and Latham, G.P. (1990) *A Theory of Goal Setting and Task Performance*, Englewood Cliffs, NJ: Prentice-Hall.

McClelland, D.C. (1951) *Personality*, New York: William Sloane Associates.

McDougall, W. (1931) *Social Psychology*, London: Methuen.

Miller, G.A., Galanter, E. and Pribram, K.H. (1960) *Plans and the Structure of Behaviour*, New York: Holt, Rinehart & Winston.

Nuttin, J. (1980) *Motivation, Planning, and Action*, Leuven, Belgium: Leuven University Press.

Oettingen, G. (1996) 'Positive fantasy and motivation', in P.M. Gollwitzer and J.A. Bargh (eds) *The Psychology of Action* (pp. 236–259), New York: Guilford Press.

Pervin, L.A. (1989) *Goal Concepts in Personality and Social Psychology*, Hillsdale, NJ: Erlbaum.

Powers, W.T. (1973) *Behaviour: The Control of Perception*, Chicago: Aldine.

Taylor, S.E. and Gollwitzer, P.M. (1995) 'Effects of mind-set on positive illusions', *Journal of Personality and Social Psychology* 69: 213–226.

Tolman, E.C. (1925) 'Purpose and cognition: the determinants of animal learning', *Psychological Review* 32: 285–297.

Weiner, B. (1972) *Theories of Motivation*, Chicago: Markham.

Wicklund, R.A. and Gollwitzer, P.M. (1982) *Symbolic Self-completion*, Hillsdale, NJ: Erlbaum.