APPLIED PSYCHOLOGY: AN INTERNATIONAL REVIEW, 1992, 41 (2) 97–129

A Theory of Self-regulation: Action versus State Orientation, Self-discrimination, and Some Applications

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Cet article résume les théories et les recherches relatives aux activités mentales qui se dissocient du choix conscient. Contrairement à d'autres processus incontrôlables (automatiques), ces activités font de lourds prélèvement sur des ressources limitées. Les prédispositions aux dissociations incontrôlables, variables selon les individus, sont appréhendées à partir du trait de personnalité "orientation vers l'état mental ou vers l'action". On présente trois théories solidaires qui prétendent introduire à une compréhension plus profonde des cognitions intentionnellement incontrôlables. Le champ des effets comportementaux des cognitions non intentionnelles est sensiblement élargi par l'intégration de la théorie de l'orientation dans une autre théorie, plus vaste, de l'autorégulation. Les antécédents proches et éloignés des cognitions incontrôlables peuvent être mieux compris grâce à une théorie de l'autodiscrimination qui explique les dissociations orientées vers l'état mental à partir d'une intériorisation erronée des attentes, des désirs et des croyances des autres. On discute enfin des applications de ces théories à la clinique, à l'éducation et aux organisations.

This article summarises theory and research concerning mental activities that are dissociated from an individual's current self-chosen intention. Unlike other uncontrollable ("automatic") processes, these activities place heavy demands on limited-capacity resources. Individual differences in the disposition to have uncontrollable dissociations are discussed in terms of the personality construct *action vs. state orientation*. Three nested theories are described that purport to provide a deeper understanding of intentionally uncontrollable mental cognitions. The scope of *behavioural effects* of unintended cognitions is substantially enlarged by integrating the theory of state orientation in a comprehensive theory of self-regulation. Proximal and distal *antecedents* of uncontrollable cognitions can be better understood on the basis of a theory of self-discrimination that explains state-oriented dissociations on the basis of *false internalisation* of others' beliefs, wishes, and expectations. Educational, clinical, and organisational applications of the theory are discussed.

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INTRODUCTION

"There is nothing so practical as a good theory." Kurt Lewin's (1951, p.169) response to critical remarks concerning the relevance of his work for applied purposes encourages me to devote the major part of this article to explaining our theoretical efforts in the study of self-regulation, although another purpose of this article is to illustrate how our theoretical concepts can be used in various applied fields of psychology. I will address questions such as: What keeps us, in so many everyday situations, from doing that which we have decided to do—for instance, turning off the TV set while watching a boring programme? Why do depressed persons fail to perform even those activities that they would like to do? Why do some children have difficulties initiating their homework or concentrating on task-relevant information, even when they are perfectly willing to do so? Why is the efficient implementation of decisions frequently a more difficult problem than decision-making itself in organisational settings? Obviously, I cannot cover all factors relevant to these questions in this article—not even all relevant aspects our theory of self-regulation can contribute. Instead, I will focus on action *vs.* state orientation as one of its constructs. It purports to explain why people sometimes have mental activities that are dissociated from their current goals and how these dissociated states of mind reduce self-regulatory efficiency. Although the theory of state orientation does not claim to include all determinants of uncontrollable dissociations, it does focus on a set of very important ones and explores its situational and dispositional determinants. Again, because of space limitations, I will focus on just one of the determinants of state orientation which our theory specifies, namely self-discrimination.

NON-RATIONAL DETERMINANTS OF BEHAVIOUR

Are rational explanations of failures to perform one's intentions convincing? For example, did you fail to turn off the TV set the other day because the subjective costs of pushing the turn-off button were greater than the subjective costs of watching the boring programme? Our experimental research on self-regulation was based on the assumption that it may be worthwhile to explore an alternative to rational explanations[1] of

[1]I am aware of the fact that the processes described here as "non-rational" can be conceptualised as rational when a different definition of this term is used. An action (or a failure to act) is called rational in this article when it is mediated by some *reason*, that is, by some belief, anticipated consequence, or any other potentially conscious cognition of the actor. In this sense, a failure to perform a "rationally" preferred behaviour is attributed here to "non-rational" factors if an actor's failure to perform it is attributable to an impaired cognitive function (e.g. short-term memory, pattern recognition, or self-regulation) rather than to self-reflective determinants of that person's intention.

behavioural paradoxes such as continuing a boring activity: Failures to perform subjectively preferred activities may be attributable to the impairment of a psychological function that cannot be reduced to rational reasons for action. In the history of psychology, this function has been labelled: willpower, ego-strength, volition, or self-regulation, in roughly that order. Here, I will show how the construct of "action *vs.* state orientation" affects self-regulatory abilities mediating the initiation of a preferred activity, its maintainance, despite the presence of tempting "distractors" in the environment, and disengagement from it when the intended goal cannot be attained. I would like to show that a thorough theoretical analysis of this construct opens new perspectives for looking at old issues in three applied fields of psychology. I will first summarise those parts of our theory of self-regulation that relate to action *vs.* state orientation, then describe the theories of state orientation and self-discrimination and show how these theories explain a variety of seemingly paradoxical behavioural characteristics of action- and state-oriented individuals, and finally illustrate some of its clinical, educational, and organisational applications.

State orientation often impairs self-regulatory efficiency because it is based on an uncontrollable dissociation between intrusive cognitions and an individual's current intention that they are not compatible with. This aspect of state orientation overlaps with constructs such as test anxiety (Mandler & Sarason, 1952); rumination (Martin & Tesser, 1989); and deliberative (*vs.* implemental) states of mind (Heckhausen & Gollwitzer, 1987; Gollwitzer, 1990). I hope that theory and research on state orientation will contribute some explanatory depth to phenomena it shares with those and similar constructs, and will show how it differs from them.

THE TRAIT VS. STATE INTERPRETATION OF THE CONSTRUCT

Before explaining the details of the theory, a clarification concerning the trait *vs.* state distinction may be useful. When I refer to "state-oriented individuals" in this article, I frequently mean individuals that have developed a disposition to enter the "state-oriented" *state* across a variety of situations. This state is defined in terms of uncontrollable mental activities that are dissociated from and potentially interfering with an individual's current self-generated intention. In most cases my statements concerning this construct can be interpreted both in terms of a personality disposition and in terms of the current state of the organism no matter whether it is attributable to an underlying stable disposition toward state orientation or to some of the situational determinants of state orientation described in the next section. I will make it clear whether a statement is true only for either the state or the trait interpretation of the concept.

Although the compatibility of trait and state aspects of the same construct has been recognised by personality theorists (Mischel, 1984), there still exists a common misunderstanding according to which of these two aspects are mutually exclusive. I wish to emphasise that my focus on dispositional determinants of state orientation in this and some other articles does not discount the impact of situational factors on the likelihood that an individual becomes state-oriented in a given situation. To the contrary, in each of the experiments we have conducted to study individual differences in action *vs.* state orientation, relevant situational conditions have been manipulated. Moreover, the stability and globality of state orientation as a disposition is considered an empirical question rather than a theoretical requirement. Our theory does not contain any assumption excluding the possibility that a given individual's measured disposition towards state orientation can be superseded by situational determinants or changed by training. Nonetheless, the theory assumes that dispositions toward state orientation do develop in some individuals although people may differ substantially with regard to the strength, generality, and stability of this disposition.

Situational Antecedents of State Orientation. Our theory specifies proximal and distal antecedents of state orientation. Proximal antecedents that can be manipulated experimentally are: Unrealistic intentions, loss of control, fear of failure, false self-attribution of others' expectations, negative mood, over-motivation, extrinsic motivation, interruption, time pressure, the analytical mode of processing, boredom, and monotony. There is one characteristic common to all of these antecedents: Each increases the chance of a dissociation between the self-chosen intentions guiding the individual's ongoing activity, and some competing mental activity that is not compatible with that self-chosen intention (Kuhl, in press a). This risk is especially high in dispositionally state-oriented individuals exposed to one of those conditions. The distal antecedents defining developmental precursors of dispositional state orientation are: Super-erogation, parental orientations towards over-achievement, obedience, and consistency, chronic frustration of basic needs, traumatic experiences, and understimulation. Each of these socialisation conditions increases the difficulty of the child to develop a clear concept of a conflict-free, autonomous individual self including the ability of self-discrimination, that is the ability to distinguish between one's own and other people's beliefs, desires, expectations, and intentions (see Kuhl, in press a, for a detailed discussion of proximal and distal antecedents of state orientation).

The Adaptiveness Issue. We have to be extremely careful when evaluating the adaptiveness of action *vs.* state orientation. Both modes can

appear adaptive or maladaptive depending on the criterion one selects (see Kuhl, in press a, for a detailed discussion of the adaptiveness issue). To the extent that the questionnaire we developed assesses a rather global, stable, and uncontrollable disposition towards state orientation in a given individual, the short-term maladaptive aspects of state orientation are obvious, especially in situations in which this individual cannot avoid intrusive ruminations or insurmountable hesitation, although being highly motivated to focus on an important activity and to initiate it. In our research, we have investigated these "maladaptive" aspects of state orientation. However, state orientation can also be adaptive in many ways. It can, for example, simply help the organism avoid wasting energy when no action is required. However, this and some other "advantages" of state orientation ought to be conceptualised as unintended side-effects. One might be tempted to evaluate the adaptiveness in a more favourable way when those advantages have been achieved on the basis of intentional action. However, for a comprehensive treatment of the adaptiveness issue, this stance may be too limited. For example, state-oriented preoccupation with false internalisations of others' beliefs, wishes, or expectations can turn out to be adaptive in a person's long-term exchange with their social environment. It can be a valuable basis for personal growth even if the person never disengages from uncontrollable preoccupations provoking those growth processes. From a humanistic perspective, the long-term benefits of state orientation can outweigh its short-term costs, such as reduced response times in laboratory experiments on learned helplessness (Kuhl, 1981, p.169). Some of these long-term effects may be difficult to anticipate for the individual. Therefore, I hesitate to reduce *adaptiveness* to *intended* effects of one's actions.

A THEORY OF SELF-REGULATION

In one of his last major publications, Freud (1938/1960) identified the unresolved problem that he considered crucial for the understanding of all psychological disorders. According to Freud, future advances in this respect would require a better understanding of the determinants of fixation *vs.* displaceability of mental energy (*libido*), that is, a better understanding of what makes some people stick to unfulfilled wishes and intrusive thoughts, whereas others are able to disengage from such contents. In this section, I will show how the construct of state orientation addresses this problem and how it suggests some steps towards its solution.

Since a detailed description of the theory would take more space than I have, I will confine myself to a rough outline of those aspects of the theory that relate to action *vs.* state orientation. (See Kuhl, in press a; and Kuhl & Goschke, in press a, for a full account of our theory of self-

regulation.) Like other theories of volition (Ach, 1910; Heckhausen, 1989; Kanfer & Kanfer, in press; Norman & Shallice, 1985), our theory postulates a specific category of processes that mediate the implementation and maintenance of self-chosen, goal-directed activities. These self-regulatory processes are activated whenever automatic responding is interrupted, unsuccessful, or appears too risky in light of the subjective cost of a possible failure. What are these processes and how do they work? We know very little about them, except that they seem to be related to a separate mental function or system. Many authors postulate a self-regulatory system and locate it in the frontal lobe of the brain (Norman & Shallice, 1985). Neurophysiological and psychological evidence suggests that there is not one homogeneous volitional system. Several functions, like planning, implementation, and maintenance, can be identified, that may be mediated by separate sub-systems (Allport & Styles, in press). According to our theoretical analysis (Kuhl & Groschke, in press a), an even more complex concept of self-regulation is needed. In the next three sections I will describe three "nested" theories: The theory of self-regulation; the theory of state orientation as one part of it; and the theory of self-discrimination as one part of the theory of state orientation. This nesting of theories may be one important aspect on which our theory differs from other theories of uncontrollable cognitions: The nesting within a comprehensive theory of self-regulation considerably widens the scope of behavioural phenomena that can be explained by the theory of state orientation, whereas the theory of self-discrimination provides a deeper understanding of the proximal and distal determinants of uncontrollable cognitive intrusions.

Basic Concepts of the Theory of Self-regulation

I would like to start my discussion of our extended concept of self-regulation and how it relates to state orientation with a striking clinical observation. Patients suffering from lesions of the frontal lobe show deficits in the ability to plan, initiate, and maintain new activities when automatic responses are unsuccessful. These patients have problems initiating activities in the absence of external prompts (Stuss & Benson, 1984). Frontal lobe patients may tell an observer that they would rather take a walk than continue a boring activity, but they have problems initiating the necessary behavioural changes. As soon as someone would tell them: "Why don't you go and have a walk", they would have no problem to initiate the preferred behaviour. Self-initiated and other-initiated activities seem to be mediated by separate abilities or even by separate mental systems.

This striking dissociation between the ability to initiate a self-chosen action *vs.* the ability to perform activities elicited by external cues (including suggestions by others) illustrates two of the basic prerequisites of

self-regulated behaviour described in our theory: If these two abilities can dissociate or if they are even mediated by separate mental subsystems, either ability or subsystem should be: 1. Identifiable by a characteristic behavioural pattern; and 2. the system must be able to discriminate between self-related and other-related information. The latter of the two prerequisites of self-regulated behaviour can be labelled valid *self-discrimination*, the former relates to what we call the *internal-control* pattern characteristic of self-regulated behaviour. In the following paragraphs, I will describe these two and other basic concepts of our theory of self-regulation and how they relate to the construct of action *vs.* state orientation.

Self-discrimination. The first concept, self-discrimination, relates to the ability to discriminate between conceptions of one's own and conceptions of others' beliefs, desires, and expectations. For example, if a student attributes an intention to obtain good grades for the teacher's rather than for the student's wishes (we may speak of *false externalisation* in this case), those study activities cannot be supported efficiently by whatever self-regulatory skills the student may have. Obviously, skills that have been developed to support the initiation and maintenance of *self-chosen* intentions cannot be accessed unless an activated intention can be identified as self-related. Wicklund & Gollwitzer's (1982) research on symbolic self-completion demonstrates how many efforts people make to establish, maintain, and communicate their self-definitions. Their theory was not constructed for specifying the role of self-defining processes in self-regulation nor does it deal with the validity of self-definitions. The theory of self-discrimination we are developing focuses on this and other aspects of self-discrimination that are especially relevant for a theory of self-regulation.

The reverse form of *false externalisation* of self-related information may cause an even more serious disturbance of self-regulatory efficiency. *False internalisation* of information alien to the self (i.e. information describing others), increases the risk that other individuals' beliefs, desires, and expectations are supported by *self*-regulatory functions because the actor misperceives them as self-defining. Managers who prematurely perceive all policies of their company as their own although they do not really identify with all of them, may appear to support those policies at the first glance. In the long run, however, their behaviour may not appear as consistent, reliable, and flexible as expected. They may behave inconsistently because they vacillate between their company-oriented fantasised selves and their true selves. They may not deal with unexpected situational changes in a creative and flexible way because their self-regulatory skills are tied to a constrained image of what their company expects them to do rather than to the full range of self-related knowledge. Later in this article, I will discuss

experimental results suggesting that many state-oriented individuals have a tendency towards false internalisation of others' beliefs, wishes, and expectations that are not fully integrated into the self.

Self as Object and Self-concept. The preceding discussion implies that our theory distinguishes between the *self* as a system of implicit beliefs, wishes, and accepted moral standards and an individual's *concept* of these contents of the self. The former becomes an *object* of self-perception and self-conceptualisation in the process of the formation and growth of the self-concept. The distinction between self and non-self is essential in perception, in mother–child interaction (Neisser, 1988), and even in mechanical systems. Compared to those examples, the self–other distinction is much more difficult to define on the most complex level of human social behaviour we are concerned with here. Nonetheless, a functional treatment of *self* within a computational theory of mind is possible. Baars (1988, p.327) proposes such a theory of self and defines the self as "that system whose change or violation is spontaneously interpreted as a loss of the sense of self". According to this definition, false internalisation should be associated with both reported acceptance of a belief, i.e. an intention, and signs of *a loss of a sense of self* which may be characterised by dissatisfaction, conflict, and a feeling of reduced personal control. These symptoms of alienation can be considered valid indicators of the fact that individuals' actions are mediated by beliefs, wishes, or intentions that are not part of their self-system.

The Internal-control Pattern. Students who over-attribute their own intentions to others (false externalisation), and managers who confound others' expectations with their own beliefs (false internalisation), will—at least to some extent—behave according to an external rather than to an internal control pattern. The external control pattern is characterised by a rather rigid and context-insensitive obedience to rules imposed by others or to stimuli provided by the external environment (*cf.* Kopp, 1982). Behavioural change cannot be accomplished unless a current external controlling stimulus or an instruction is replaced by another external stimulus, or by another instruction. In contrast, the internal control pattern is associated with a flexible, context-sensitive balance between maintenance of, and disengagement from, one's intentions. The ability to deal with unexpected situational changes in a creative and flexible way seems to be a major characteristic of self-regulatory behaviour (Kopp, 1982). Self-discrimination and the internal control pattern are the two components of the theory that are most relevant for the understanding of state *vs.* action orientation. Before discussing how these components explain various behavioural paradoxes, a brief summary of the other basic concepts of the theory may be useful.

Self-regulation. The internal control pattern provides a more elaborated definition of self-regulation than the ones I gave in earlier publications. We can now define self-regulation in terms of a flexible, context-sensitive balance between planning, implementation, and maintenance, on the one hand, and disengagement, on the other (Kuhl & Goschke, in press a). To maintain a sufficient degree of overall self-regulatory efficiency, the organism needs to plan, initiate, and maintain realistic (i.e. context-adequate), intentions, and disengage from them if they become unrealistic (context-inadequate), that is, if the intended goal cannot be attained in the current situation or chronically frustrates an important need. If the ability to disengage from an intention when necessary is reduced, the individual's capacity to initiate new activities and fully concentrate on them may be impaired (Kuhl, 1981). An extensive analysis of disengagement has been provided by Klinger's work (Klinger, 1975; 1987). It is important, however, to understand that Klinger uses the term *disengagement* in a different sense than we do. According to Klinger's theory, depression follows disengagement, whereas in our theory depression is one possible consequence of an inability to disengage from unattainable goals. This contradiction is solved when one thinks that Klinger's concept of disengagement refers to the behavioural level whereas in our theory disengagement is defined cognitively (i.e. the unattainable goal loses its commitment character). As long as disengagement is manifested at the behavioural level without cognitive disengagement—and on this point both theories agree—depression may be one of the consequences.

Several philosophical and theoretical problems associated with the concept of self-regulation can be resolved when it is conceptualised within a *modular*, rather than a unitary, mental architecture (Kuhl & Goschke, in press a). According to our modular theory, cognitive preferences (self-related commitments or *intentions*); emotional preferences (wishes, "temptations"); and procedural preferences (dominant action schemas, habits), are mediated by separate, though closely interacting subsystems. Cognitive preferences are more affected by symbolic processes evaluating anticipated consequences of action alternatives than by emotional experiences, whereas emotional preferences are more affected by emotional experiences associated with the current and past performance of action alternatives than by anticipated consequences. Self-regulatory efforts are usually needed when an intention based on a previous decision process cannot mobilise sufficient emotional support to guarantee its maintenance and successful performance against competing action tendencies having stronger emotional support, for example, when someone has decided to quit smoking but has difficulties behaving according to this intention. In contrast to earlier theories of volition (e.g. Ach, 1910), we do not reduce the concept of self-regulation to the maintenance of difficult intentions. Volitionally supported maintenance and enactment of a difficult intention

always involves an unresolved conflict and an unfulfilled wish or need. One-sided maintenance of a difficult intention can cause chronic frustration and rumination about contents directly or indirectly related to frustrated needs. Overall adjustment of the organism requires some balance between maintenance and disengagement.

Self-regulatory Strategies. From early childhood, children learn strategies that support their self-regulatory efforts. Some of these strategies are specified in our theory (Kuhl, 1984; Kuhl & Goschke, in press a; Kuhl & Kraska, 1989). We have developed a standardised instrument for the assessment of four basic self-regulatory strategies: Attention control, motivation control, emotion control, and coping with failure (Kuhl & Christ, in press). The most extensive and systematic research programme investigating self-regulatory strategies in children has been conducted by Walter Mischel and his associates (Mischel, 1974; Mischel & Mischel, 1983; Rodriguez, Mischel, & Shoda, 1989). For example, children learn to divert their attention from information that interferes with the maintenance of a difficult intention (Mischel, 1974). According to a study that has not yet been completed, many state-oriented children seem to have as good, or even better, knowledge about self-regulatory strategies compared to action-oriented children, but the former have more problems than the latter in using those strategies in a flexible, self-consistent, and context-sensitive way (Kraska, in prep).

Self-esteem. The global emotional response to any self-referenced information can be described in terms of an individual's self-esteem. According to our process model, this emotional response plays an important role in facilitating the performance of self-related actions (Kuhl, in press a). In her neuropsychological model of human memory, Magda Arnold (1984) describes global (positive *vs.* negative), emotions in terms of their facilitating or inhibiting effects on efferent information that is being transferred from memory structures encoding plans to structures encoding motor programmes necessary to enact those plans. An enduring disposition toward negative self-esteem can develop as a result of repeated negative evaluation of self-defining attributes during the socialisation process. To the extent that state-oriented individuals interpret the discrepancy between their true self and false internalisations as an indication of low self-worth, they can develop low self-esteem even without direct negative feedback from others. For example, negative emotional responses to self-referenced cognitions can accumulate when such cognitions are frequently associated with the signs of conflict typically associated with false internalisations.

Self-confidence. The theoretical concepts discussed until now relate to the *functional* side of self-regulation because they affect the efficiency with which people can regulate the initiation and maintenance of self-chosen intentions and disengagement from them if necessary. Self-confidence may be the most important determinant of the *motivational* side of self-regulation. The degree of an individual's motivation to invest self-regulatory effort depends, among other things, on beliefs concerning self-regulatory competence. This assumption may appear contradictory to my introductory statement that self-regulation cannot be reduced to rational reasons for action. The *motivation* for self-regulation does depend on rational reasons for action. Albert Bandura's (1982; 1986), extensive work on *self-efficacy* has demonstrated the tremendous impact beliefs concerning their self-regulatory abilities can have on people's willingness to make use of whatever self-regulatory skills they may have. Other motivational determinants of self-regulation such as individual differences in the incentive value of exerting self-control, have not been studied as thoroughly.

A Theory of State Orientation

Over-maintenance and State Orientation. According to our findings, over-maintenance of intentions is one of the determinants of state orientation (Goschke & Kuhl, in press; Kuhl & Helle, 1986). To the extent that over-maintenance supports intentions that are in conflict with an individual's wishes or needs we can understand why state orientation is associated with uncontrollable intrusive thoughts that are directly or indirectly related to frustrated needs or unrealistic intentions. In this respect, state orientation is related to self-regulation in a paradoxical way. On the one hand, it can facilitate self-regulatory efficiency because it is associated with one component of self-regulation (maintenance of difficult intentions). On the other hand, it can impair self-regulatory efficiency in the long run because it is associated with uncontrollable intrusions. In a later section, I will explain the many contradictory behaviours associated with state orientation on the basis of its contradictory relation to self-regulation. It is beyond the scope of this article to explore the roots of those contradictions in more detail. Suffice it to say that paradoxical behaviours associated with state orientation reflect contradictions in socialisation practices and in ideologies they are based on. These practices impose self-regulatory maintenance strategies on individuals to maximise their short-term performance without supporting the development of disengagement functions, such as autonomy and self-discrimination. Ironically, the long-term costs of setting off the balance between maintenance and disengagement functions can be immense, not only for the individual, but also for society.

Stress, Frustration, Degenerated Intentions, and False Internalisation. Four determinants of state orientation are important in addition to (1) Over-maintenance: (2) highly stressful experiences; (3) chronic frustration of basic needs or strong wishes caused by external (e.g. loss of a loved one) rather than internal events; (4) unrealistic and "degenerated" intentions; and (5) premature internalisation of others' expectations that are in conflict with one's needs. All five determinants are similar in the respect that some kind of conflict perseverates within the system, that is, that some experience cannot be integrated with some existing part of the self-system. One of the difficult questions that has to be answered in the future relates to the type of mental processes that accomplish "integration" of conflict-inducing mental events. This problem is especially difficult for conflicts between subsystems that cannot be as easily resolved through any of the well-known mechanisms resolving within-system conflicts (*cf.* the contention scheduling principle in Norman & Shallice's theory). In the remainder of this article, I will focus on the fifth determinant of state orientation, false internalisation, and explore its explanatory value.

Preoccupation and Hesitation. Sample items from our questionnaire assessing individual differences in state orientation are shown in Table 1. The dispositions toward preoccupation and hesitation are measured by two separate scales of this instrument. Preoccupation (*vs. disengagement*) is indicated by an inability to stop thinking about an event, especially an aversive one, even when one cannot do anything about it and, indeed, intends to focus on a new activity not related to it. Since preoccupation is

TABLE 1
Sample Items from the Action Control Scale (ACS)[1]

PREOCCUPATION
When I have lost something that is very valuable to me and I can't find it anywhere:
A: I have a hard time concentrating on something else (SO)*
B: I put it out of my mind after a little while (AO)**

HESITATION:
When I know I must finish something soon:
A: I have to push myself to get started (SO)
B: I find it easy to get it done and over with (AO)

VOLATILITY:
When I am busy working on an interesting project:
A: I need to take frequent breaks and work on other projects (SO)
B: I can keep working on the same project for a long time (AO)

[1]Psychometric data of this scale are reported in Kuhl (in press b)
*SO—State-oriented answers
**AO—Action-oriented answers

frequently associated with failure experiences we have labelled this scale *failure-related* action *vs.* state orientation in earlier publications. In this article, I prefer to use the more general terms *preoccupation vs. disengagement.* Hesitation (*vs. initiative*) is characterised by an inability to initiate intended actions even when no rational reason seems to prevent one from doing so. In earlier publications, this scale has been called *prospective* action *vs.* state orientation. The correlation between these two forms of state orientation, that is, between preoccupation and hesitation, is significant and the two scales have an overlapping factor structure (Kuhl, in press b).

A recently developed scale assessing various aspects of "constructive thinking" (CTI) shows a strikingly close overlap with action *vs.* state orientation (Epstein & Meier, 1989). Although I have serious doubts regarding the theoretical justification for interpreting the scales "emotional coping" (similar to our disengagement *vs.* preoccupation scale), and "behavioural coping" (similar to our initiative *vs.* hesitation scale), in terms of "practical intelligence" (Epstein & Meier, 1989), I believe that the theories underlying the two scales (i.e. the CTI and ACS scales), are compatible and complementary. According to Epstein & Meier (1989, p.333), there is a rather loose relationship between their theoretical framework and the CTI scale. The three nested theories described in this article and the experimental results analysing antecedents and consequences postulated in those theories may help close the gap their authors are alluding to.

Volatility and Overactivity. A third scale that has not been explored as extensively as preoccupation and hesitation seems to assess something like *volatility* (*vs. persistence*). Items of this scale describe a tendency to interrupt even pleasant activities and change prematurely to alternative activities. The preoccupation and hesitation scales do not discriminate between action orientation and a certain type of overactivity which has the characteristics of the external control pattern. The volatility scale was constructed to accomplish that discrimination. Overactive people are often guided by external cues or others' expectations (that they may interpret as self-generated), rather than by fully self-compatible intentions. As a result, they show the paradoxical combination of perseveration and distractibility, which I will discuss later, in their *overt* behaviour, whereas individuals characterised by preoccupation or hesitation tend to lean towards passivity in their overt behaviour and show the combination of perseveration and distractibility in their cognitive (over-) activity. False internalisation may be a common basis for both cognitive overactivity associated with behavioural passivity and behavioural overactivity associated with cognitive passivity. This assumed common basis for phenotypically different

behaviour patterns explains why some people alternate between behavioural passivity associated with rumination, and behavioural overactivity associated with cognitive passivity. Some forms of *agitated depression* may represent extreme cases of this phenomenon.

A Theory of Self-discrimination

If many state-oriented individuals confound their knowledge of others' beliefs and wishes with their own beliefs and wishes, we should expect state orientation to be associated with a paradoxical mixture between internal and external control patterns. To the extent that their behaviour is guided by their *internal* representations of others, it is similar to the internal pattern because it seems to be independent from direct external control. Managers who work according to their knowledge of their company's policies do not need to be constantly reminded of them nor do they need continuous supervision because their behaviour is guided by an *internal* representation of company policies. However, to the extent that they do not fully identify with them, they may rigidly adhere to a literal interpretation of them even in situations that require a flexible response or even justify an exception to the rule.

Evidence for False Internalisation. A series of recent experiments confirm the assumption that state-oriented subjects confuse self-related and other-related memory contents (Kuhl & Kazén-Saad, in press). In our experiments, we asked our subjects to simulate the typical working day of a secretary. They were to choose eight out of a list of 24 activities as tasks for the day to be simulated. Then the experimenter played the role of the boss and assigned eight additional activities from the list. In a later recognition test, state-oriented subjects categorised substantially more experimenter-assigned activities as self-chosen than action-oriented subjects did. In another experiment, in which some phases were read aloud by the experimenter and some by the subjects, state-oriented subjects often thought that they had read sentences that were actually read by the experimenter. State-oriented subjects' memory performance was not impaired, however, with regard to neutral items that were not related to the self–other distinction. We interpret these replicated findings as indications that state orientation can be based on a disturbance in the development of the self that may be described as false internalisation of information related to others. We sometimes describe this phenomenon in terms of an *alienation of the self* (*Überfremdung des Selbst*). Although we found indications of false externalisation of self-related information in state-oriented subjects as well, the internalisation effect turned out to be the more pervasive one in our experiments (Kuhl & Kazén-Saad, in press).

Self-marker and Self-content. A biological analogy to the phenomenon just described is the inability of the immune system to identify a virus as alien which gives this virus access to self-preserving vital body functions including the capability for reproduction. We can use this analogy to illustrate the distinction between self-marker and self-content of any information that may be relevant to the self-concept (e.g. any belief, wish, or standard). The identification of a virus as alien or part of the (biological) self is based on some characteristics of its surface. A dangerous situation occurs when its surface looks as if it is part of the body, but its content is actually alien to the body. Our theory of self-regulation assumes that beliefs, wishes, standards, or other potentially self-related memory contents are usually encoded with some information that identifies them as self-related or other-related. We can think of this identifying information in terms of a self-marker or alien-marker attached to its memory representation. The self-marker indicates that a mental content is considered part of the *self-concept*. The concept of the self-marker includes the concept of *commitment markers* that we have postulated as indicators of self-chosen *intentions* (Kuhl & Kazén-Saad, 1988). However, the former is more general than the latter because it includes all self-related memory contents.

Maintenance and Disengagement Conditions. Our theory contains two central assumptions concerning self-markers and self-concents. According to the first assumption, encoding a memory content with a self-marker constitutes a sufficient condition for it having access to self-regulatory *initiation* and *maintenance* functions no matter whether or not that content is in fact consistent with the self. The second assumption states that access to self-regulatory *disengagement* functions is impaired if the content encoded with a self-marker is in fact not compatible with the self and/or disconnected from it. The latter assumption is based on the idea that, compared to self-related knowledge, conceptual representations of others' beliefs, wishes, or expectations are less likely to contain detailed information specifying conditions for terminating an action.

Self-integration. Under normal circumstances the self-marker is not attached to a memory content unless this content has been identified as compatible with the self on the basis of a more or less thorough comparison process. If it is not fully compatible with the self, it can either be rejected and encoded with an alien-marker or it can be *analysed* and *transformed* until self-compatible parts of it can be integrated into the self. The latter process has been compared to the process of digestion in another biological analogy. Fritz Perls (1973) has proposed this analogy in his discussion of *introjection*, that is, the premature acceptance of others' beliefs and standards. In our theory, we describe state-oriented subjects' tendency

towards introjection (*false internalisation*) in terms of a tendency to prematurely encode others' beliefs, wishes, and expectations with a self-marker. Obviously, the process described here is similar to psycho-analytical concepts related to the individuation process, that is, the development of a distinctive concept of self-identity. Our memory model of the self-discrimination process may be a step toward an integration of these psycho-analytical concepts into a process model of self-regulation.

Resolving Behavioural Paradoxes

In earlier publications, I have shown how the macro-analytic interpretation of state orientation in terms of a disposition to have dissociated states of mind can explain a variety of behavioural correlates (e.g. Kuhl, 1984). In this article, I would like to explore the extent to which the micro-analytical interpretation of the construct in terms of false internalisation can account for the same evidence. I believe that the tendency to attribute other people's activities, suggestions, and maybe their thoughts, goals, values, and so on, to the self, even if they are not an integral part of it, can explain the co-occurrence of many contradictory behaviours. In this section, I will group-observe behavioural differences between action and state-oriented individuals according to paradoxical pairs of observation. Table 2 provides an overview of research findings collected during the past ten years.

Overcommitment and Procrastination. One paradoxical finding is that state-oriented subjects show indications of reduced self-regulatory efficiency as indicated by procrastination (Beswick & Mann, in press; Kuhl, 1982), despite their tendency toward overcommitment (Kuhl & Kazén-Saad, 1988). Premature internalisation of others' expectations explains both phenomena. They appear overcommitted because they prematurely encode suggestions and wishes expressed by others as self-committing obligations (Kuhl & Kazén-Saad, 1988). In addition, overcommitment results from the fact that state-oriented subjects' ability to perform externally controlled actions, including suggestions by others, should not be impaired and that their willingness to do so may even be increased (Kuhl, 1982). However, state-oriented individuals are also likely to have uncontrollable intrusions from false internalisations, or needs frustrated by such internalisations. These intrusions can make state-oriented individuals miss cues indicating opportunities to perform activities they feel (over-) committed to and reduce their initiative even if they become aware of such an opportunity. As a result, self-generated and falsely self-referenced intentions are less likely to be performed than (correctly represented) instructions by others.

TABLE 2
Characteristics of State-Oriented Compared to Action-Oriented Subjects: Experimental Findings (1981–91)

Characteristic	*Finding*	*Studies*
OVERCOMMITMENT	Encoding options as obligations	Kuhl & Kazén-Saad (1991)
PROCRASTINATION	Failure to enact intentions	Beswick & Man[1]; Kuhl (1982)
Depression	Strong relationship between state orientation and depressive symptoms	Kammer[1]; Keller, Straub, & Wolfersdorfer[1]; Kuhl & Helle (1986); Kuhl & Kazén-Saad[1]
Overmaintenance of Intentions (PERSEVERATION)	Short recognition latencies of information related to incompleted intentions	Beckmann[1]; Groschke & Kuhl[1]
Action Slips (DISTRACTIBILITY)	Capture errors and other cognitive failures	Goschke & Kuhl[1]; Kuhl, 1983a, p. 269; Stiensmeier-Pelster[1]
Memory Deficits	STM deficit after induction of an incompleted intention	Kuhl & Helle (1986)
Excessive Objectivity	Stable attractiveness ratings even when a decision is impossible	Beckmann & Kuhl (1984)
Achievement/Task Performance	Facilitation or impairment	Heckhausen & Strang[1]
Rumination (COGNITIVE OVER-ACTIVITY)	Intrusive thoughts about negative events	Bossong[1]; Kammer[1]; Klinger & Murphy[1]
PASSIVITY	Reduced motor behaviour, immobility after surgery	Kuhl (1983b)
Rigidity	Failure to focus on a new intention required by situational changes	Kuhl (1981); Kuhl & Helle (1986)
Indecisiveness	Complex strategies and long decision times	Niederberger et al. (1987); Stiensmeier-Pelster[1]
Learned Helplessness	INCREASED MOTIVATION AND PERFORMANCE DEFICITS	Brunstein & Olbrich (1985)[1]; Kuhl (1981); Kuhl & Weiss[1]
Alienation	Failure to perform preferred activity	Kuhl & Beckmann[1]; Kuhl & Eisenbeiser (1986)

[1]In J. Kuhl & J. Beckmann (in press).

Perseveration and Distractibility. To the extent that self-regulatory functions are accessible to self-alien intentions when these intentions carry a commitment marker or are misperceived as self-generated, we can also explain the paradoxical co-occurrence of excessive perseveration and distractibility in state-oriented individuals. Perseveration often illustrates state-oriented subjects' impaired ability to initiate and maintain a new, self-chosen activity even if they regard it as more pleasant or more useful than their current activity. This impairment can be understood as a direct consequence of the impairment of self-regulatory initiative functions resulting from uncontrollable and unintended thoughts defining state orientation. In other words, while a person has uncontrollable cognitions, behavioural change can more easily be performed through external controlling stimuli than through self-controlled initiative. Falsely self-referenced intentions of others can be more perseverating than truly self-consistent ones for another reason: The former rarely contain differentiated conditions for terminating an action; in contrast, self-generated intentions usually contain more termination conditions and can generate some if needed because they are connected with all self-related information the individual has. According to this interpretation, state-oriented individuals should perseverate as long as their self-regulatory system is blocked and they are not exposed to any external stimulus or instruction suggesting a change of activity (Kuhl, 1983b, p.269). If self-controlled and externally controlled processes are mediated by different systems, the external-control system should still be available, even if the self-regulatory system is blocked. As a result, perseveration in the absence of external controlling stimuli and vulnerability to sudden interruptions caused by external controlling stimuli or suggestions by others are just two sides of the same coin. The impairment of self-regulatory efficiency caused by intrusive alien impulses is the common factor underlying perseveration and distractibility.

Cognitive Overactivity vs. Behavioural Passivity. Cognitive overactivity (rumination) may be regarded as the most immediate behavioural consequence of state orientation. The theory explains why some ruminating thoughts cannot be stopped even if they are not compatible with the individual's current self-chosen intention. One reason for their uncontrollability lies in the fact that they are related to mental representations of something which is encoded as self-defining, but which is not fully integrated into the self (e.g. parents' expectation to show maximum performance at virtually any task). They are given access to self-regulatory initiation and maintenance functions because they are encoded with a self-marker, but they do not have access to self-regulatory disengagement functions because their content is disconnected from the self. Behavioural

passivity found in state-oriented subjects (Kuhl, 1982; 1983b) does not necessarily follow from cognitive overactivity. Thinking can prepare, guide, and accompany action. Our theory explains the co-occurrence of cognitive (over-) activity and behavioural passivity on the basis of the ambiguous self-related status of the content of thinking observed in state-oriented subjects. Whenever state-oriented thinking relates to false internalisations of beliefs, wishes, and standards that are not integral parts of the self, it occupies self-regulatory functions. As a result these functions are not available for the initiation and maintenance of new overt activities.

Although self-regulatory functions do not seem to coincide with short-term memory functions (Allport & Styles, in press), the former are expected to draw heavily on the latter. This expectation was confirmed in a study showing deficits in short-term memory span in depressed, but not in non-depressed subjects, after the induction of an uncompleted intention (Kuhl & Helle, 1986). State-oriented subjects showed a similar pattern to depressed subjects in this study. The results can be attributed to over-maintenance of induced intentions based on premature and "blind" internalisation of the experimenter's requests. We have developed a laboratory method for exploring state-oriented subjects' premature encoding of induced intentions as self-generated. In one of our experiments (Fig. 1), subjects first memorised two scripts consisting of several steps (e.g. laying a table for a dinner party and getting dressed for leaving the house). *After* reaching the learning criterion, one of the scripts was marked as the one that had to be executed later by the subject (*execution* condition), or by the experimenter (*observation* condition). The results showed that state-oriented subjects had shorter recognition times than action-oriented subjects did for words related to the uncompleted intention that had to be postponed. In other words, that intention seemed to be activated in their memory although it was context-inadequate because it could not be carried out during testing (Goschke & Kuhl, 1991; Kuhl & Goschke, in press a). These reduced recognition times obtained from state-oriented subjects in the execution condition can be regarded as a further indication of perseveration of context-inadequate intentions in memory.

Enhanced Motivation and Performance Deficits after Failure. In many experiments it has been demonstrated that some subjects show performance deficits after they have been exposed to a series of uncontrollable failures even when given tasks that differ substantially from the ones they were made to fail on (Hiroto & Seligman, 1975). This aspect has been attributed to *learned helplessness*, that is, to a generalised expectancy of lost control and a generalised motivational deficit resulting from it (Abramson, Seligman, & Teasdale, 1978). I have argued and found that

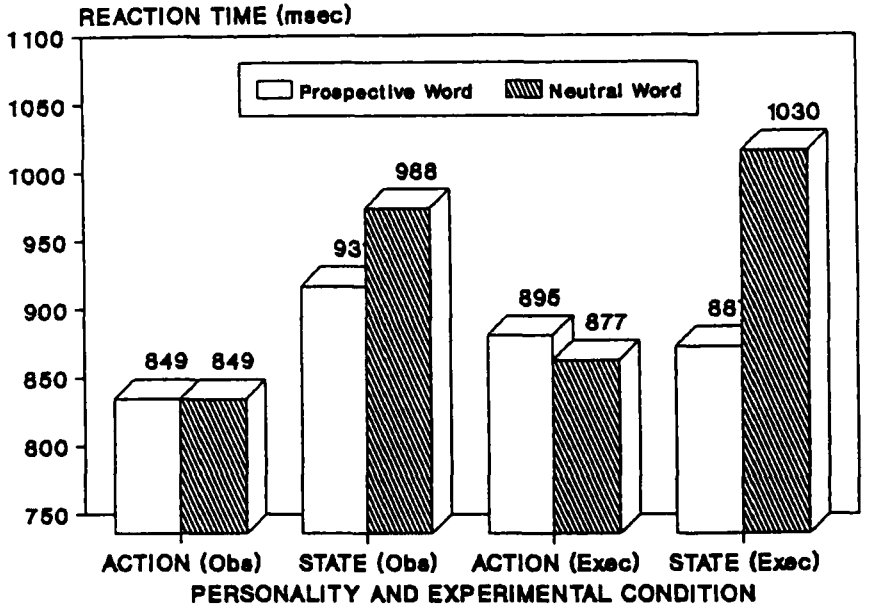

FIG. 1. Mean recognition times of words related to an activity to be executed or observed later (Prospective Words), and words not related to that activity (Neutral Words), as a function of personality disposition (action *vs.* state orientation).

performance deficits after induced failure may often be paradoxically associated with enhanced rather than reduced motivation because people should try to make up for their failure when they are confronted with a new type of task. When I assessed subjective-control expectations and task motivation, I found performance deficits even in subjects who did not generalise their reduced expectations of control from the training to the test task (Kuhl, 1981). These subjects were classified as state-oriented on the basis of an earlier version of the action-control scale.

Our theory explains this paradoxical co-occurrence of enhanced motivation and impaired performance in terms of functional rather than motivational helplessness: State-oriented subjects cannot concentrate on the new task because they experience intrusive thoughts concerning their previous commitment to solve the (unsolvable) training task. According to our elaborated theory, these unwanted perseverations are attributable to the fact that state-oriented subjects first commit themselves "blindly" to the experimenter's instruction to solve the (unsolvable) training task, that is, they generate a self-marker without analysing and keeping track of the content of the instruction it is attached to. Later, they have problems in

disengaging from it when closer inspection of their task would enable them to arrive at conclusions that seem to help action-oriented subjects disengage from it: The latter may decide that the task may be too difficult, not important, or even manipulated by the experimenter (which, in fact, it is).

Neurophysiological evidence confirming the hypothesis that state-oriented subjects have problems concentrating on a new task after a failure experience have been found in a recent study in which slow brain potentials were recorded during task performance (Haschke et al., in press). State-oriented subjects had significantly stronger positive shifts than action-oriented subjects did when trying to focus on a new task after failing on the previous one. These shifts can be interpreted as an indication of reduced cortical synchronisation that could be attributable to problems in co-ordinating all mental activities according to one current goal, and in avoiding task-irrelevant dissociations. Interestingly, a sample of test-anxious subjects did not show this effect. Instead, they showed a negative shift while waiting for the task or for feedback. This result is consistent with our assumption that the constructs of state orientation and test anxiety refer to different mental states although they may often occur simultaneously.

Although performance deficits following failure may frequently be attributable to the motivational deficits described by Seligman and his associates, I believe that functional deficits of the kind observed in our helplessness experiments occur in many everyday situations as well. Functional helplessness can occur in any situation requiring some coping with *unexpected* failures, for example, in students having to cope with poor academic performance or in employees trying to cope with unexpected criticism of their supervisors, and in patients developing symptoms as a result of their poor coping with critical life events (Herrmann & Wortman, 1985).

APPLICATIONS

In the remainder of this article, I will illustrate some applications of the construct of state orientation in the three applied fields mentioned earlier and discuss training procedures we are developing for changing over-generalised dispositions.

Clinical Applications

A group of clinical psychologists at Ruhr University, Bochum (Germany), investigated the prognostic value of action *vs.* state orientation for predicting therapy success. Table 3 shows one result of their studies (Hartung & Schulte, in press). Changes in the degree of dispositional action orientation (i.e. lack of preoccupation, hesitation, or volatility), were assessed by

TABLE 3
Prediction of Therapy Success Observed in Phobic Patients*

	Time of Measurement of Action Orientation			
	Pre	*2nd Session*	*5th Session*	*18th Session*
ACS[d]:				
Volatility	0.35[a]	0.34[a]	0.53[c]	
Preoccupation				
Hesitation		0.30[a]	0.42[b]	
ACS-Ph:				
Volatility	0.40[a]	0.42[b]	0.51[c]	0.42[b]
Preoccupation		0.39[b]	0.55[c]	
Hesitation	0.36[a]	0.39[b]	0.47[b]	0.34[a]
AACCS:		0.51[b]	0.44[a]	0.57[c]

Notes: [a]$P < 0.05$; [b]$P < 0.01$; [c]$P < 0.001$

[d]Since the correlations are based on action-orientation scores, positive correlations indicate positive relationships between therapy success and *lack* of volatility, preoccupation, or hesitation, respectively.

*On the basis of their action orientation score on a global scale-specific content analysis of actual action- vs. state-oriented behaviour during therapy (AACCS: Actual-action-control-categorization-system developed by Hartung, 1990).

administering the Action Centered Scales (ACS) before therapy began, then at the 2nd, at the 5th, and at the 18th session. Dispositional action orientation turned out to be a significant predictor of therapy success which was evaluated after the termination of therapy on the basis of a multidimensional assessment system. Interestingly, a phobia-specific version of the ACS provided a slight improvement only for predicting therapy success when administered during the 5th session, whereas the phobia-specific scales assessing hesitation and volatility outperformed the unspecific ACS when applied during the 18th session.

The results reported in Table 3 seem to have the sad implication that therapy works worst for those clients who seem to need it most. Do state-oriented subjects have a smaller chance of being cured from phobic symptoms than action-oriented patients? I don't believe so. The findings reported by Hartung & Schulte are probably specific to the type of therapy employed. The *behavioural* techniques they used may not be sufficient to alleviate state-oriented patients' symptoms. What kind of therapy could be appropriate for state-oriented clients? Fortunately, no new therapy needs to be invented because there is one that has been explicitly developed to alleviate the tendency to have dissociated states of mind, the inability to behave in a self-responsible and self-consistent way, and other symptoms

associated with a learning history of false internalisations or "introjections". Gestalt therapy offers many techniques that are aimed specifically at removing the factors that may stabilise whatever symptoms a state-oriented client may have developed (Perls, 1973; Stevens, 1971). Note that this statement does not imply that state orientation be associated with psychological disorders. It simply means that persons developing a disorder may need a different type of therapy if they are state-oriented than if they are action-oriented. The latter may benefit more from indirect approaches such as hypnotherapy (Erickson, 1980). This approach is based on indirect, subconsciously transmitted therapeutive suggestions that may be especially appropriate for action-oriented clients because they are more likely than state-oriented individuals to show reactance to direct suggestions.

Educational Applications

According to our definition, self-regulation includes the ability to maintain an intention, especially when it has to be shielded against tempting alternatives. This ability becomes especially important when children enter elementary school. High motivation and good intellectual abilities are not sufficient for adequate scholastic performance unless self-regulatory strategies can be used efficiently. These strategies are acquired during childhood. The most sensitive period for this acquisition begins around the age of six and ends around the age of 12 (Kuhl & Kraska, 1989; Mischel & Mischel, 1983). Table 4 lists some of the strategies I have mentioned in an earlier section.

We have developed a test for assessing self-regulatory efficiency during standardised temptation episodes generated by a computer. This test is based on performance deficits indicated by increased variance in speed of performance during those "temptation episodes". At these times, interest-

TABLE 4
Self-Regulatory Strategies Mediating the Implementation and Maintenance of "Difficult" Intentions (e.g. the Intention to finish one's work)

Strategy	*Example*
Attention Control	"I don't look out the window during work"
Motivation Control	"It feels good to be finishing work"
Emotion Control	"Happy thoughts help me stick to the task"
Failure Control	"I put last week's failure out of my head"
Encoding Control	Activating "perceptual filters" for work-related cues
Parsimony of Planning	Stop thinking when you should start. Start!
Environment Control	Removing distracting cartoons from one's desk

ing but distracting information is shown on the screen of a computer while the subjects are working at a speeded task (Figure 2). In the childrens' version of this test, subjects are persuaded to commit themselves to a choice-reaction-time task to earn money for buying a nice toy at the end of the experiment. They are to push one key when one bar appears in the lower-left quarter of the screen and another key when two bars appear. Sometimes a contest between two monkeys climbing a tree is shown in the upper right quarter of the screen. If the good monkey wins the race, it climbs down and adds a variable amount of money to the child's account shown on the lower right-hand quarter of the screen. If the bad monkey wins, it withdraws a variable amount of money from the account. Children readily understand that they cannot control the race, and that they do not earn money when they interrupt their task to watch the race. Consequently, virtually all children we studied formed an intention to avoid watching the race.

Our results (Table 5) show that children having low strategy knowledge, according to the strategy inventory I mentioned before (Kuhl & Christ, in press), show dramatically increased variances of their response times although they often do not show a decrease in average speed during

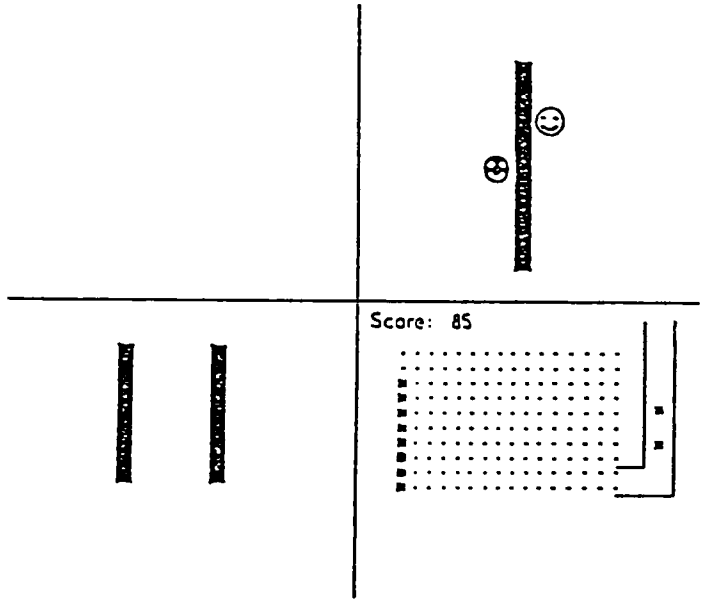

FIG. 2. Computer display of the Self-Relation Test for Children (SRTC) including Choice-Reaction-Time Task (lower left), Monkey Race (upper right) and the Subject's Account (lower right).

TABLE 5
Average Speed (in Parentheses) and Variances of Inter-Response Times at a Continuous Choice-Reaction-Time Task as a Function of Strategy Knowledge and Degree of Temptation (Presence of Monkey Race)

	Strategy Knowledge	
	Low	*High*
Temptation Low	0.25 (24.85)	0.24 (27.81)
Temptation High	1.04 (23.72)	0.38 (27.88)

distractor episodes compared to episodes during which no race is shown. Note that the speed data shown in Table 5 demonstrate a main effect of strategy knowledge, but no effect of induced temptation. The conjunction of increased variance and normal (or in some children even increased) speed observed in distractor conditions within the group of children having low strategy knowledge is extremely important because it helps us solve a very difficult problem that has plagued research on human volition since its beginnings. How do we know that a child interrupts a task as a result of an inability to maintain intention-related behaviour rather than as a result of changing the intention? If that child decides to make a break and look at the race, we have no reason to infer a self-regulatory deficit! The joint occurrence of increased variance and normal average speed during temptation episodes makes this inference more plausible. A closer analysis of our data showed that this conjunction is attributable to the fact that many children become distracted, notice that their behaviour is counter-intentional, and try to make up for it by increasing speed during subsequent trials. This variance-increasing behaviour can hardly be understood without assuming that these children still have the intention to avoid the distractor. If they would have abandoned their task-oriented intention to look at the distractor without experiencing any conflict, they would have no reason to try to make up for the delay after they become aware of having looked at the distractor.

We are currently developing separate training procedures for improving self-regulatory skills in action- and state-oriented children. I mentioned that state-oriented children do not necessarily have worse strategy knowledge or worse self-regulatory efficiency than action-oriented children. To

the contrary, since state-oriented children have not accumulated as many false internalisations (of intentions) as state-oriented adults have, the facilitating effects based on over-maintenance may exceed the debilitating effects of their deficits in disengagement skills. Whereas the training programme developed for action-oriented children includes games and exercises that are to help them overcome overactivity and premature action, the training programme designed for state-oriented children aims at removing false internalisations by strengthening true self-commitments (Kraska, in prep). For example, the latter training programme includes a game called "Play Naughty". Children are asked to play various everyday scenarios, for instance, a typical afternoon during which they have to decide when to do their homework and when to play. During this game, children are sometimes encouraged to consider as one of their options refusing to do homework, that is, to "play naughty". Interestingly, state-oriented children often seem to enjoy just the idea of neglecting their duties. However, when they deliberately initiate their experimenter-assigned "homework" after having avoided it for a while, they seem to be more deeply committed than normal. Although preliminary data regarding the success of these personality-appropriate training procedures are very promising, we cannot derive final conclusions until the study is finished.

The "Play Naughty" procedure resembles *paradoxical interventions* requiring patients to perform their symptoms until they initiate some more desirable behaviour spontaneously. The success of such procedures is often attributed to a *motivational* reactance effect. Our theory suggests an additional, *functional* effect underlying the success of paradoxical interventions: Since they require individuals to perform desired behaviours spontaneously rather than on the basis of an external suggestion, those behaviours are mediated by the self-regulatory rather than the external-control system. In this way, a behaviour that has become dissociated from internal volitional control can be integrated again into the domain of voluntarily controllable behaviours. According to our theory, this integration is accomplished by means of a thorough comparison process identifying which parts of an externally suggested action are self-compatible and which are not.

Organisational Applications

I would like to emphasise again that state orientation in itself is not a psychological disorder. Although I have mentioned many examples illustrating negative implications of state orientation there is no need for training or therapy as long as state-oriented individuals are well-adapted to their environment. From an organisational point of view, one may wonder

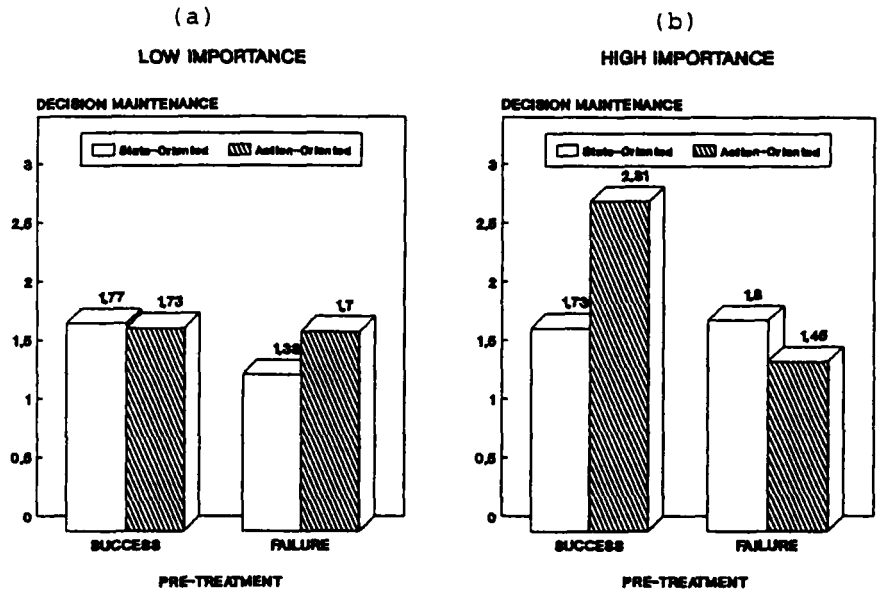

FIG. 3. Decision maintenance (mean number of persuasion attempts until changing own decisions) as a function of personality disposition (action *vs.* state orientation) and pretreatment (success *vs.* failure).

what may be optimal working environments of state-oriented individuals. State-oriented individuals' tendency toward conformity suggests that they would work more efficiently in a structured environment than in one that involves much responsibility, initiative, and assertive handling of novel situations. Conformity does not necessarily imply state orientation. Self-congruent conformity occurs when someone's self-system is compatible with a wide variety of other people's suggestions. However, for many tasks, it is irrelevant, whether or not they have been adopted in a fully self-congruent way. A similar argument can be made for tasks requiring deliberate decision-making rather than fast and flexible action. In a team, state-oriented individuals can play an important role in decision-making, especially when wrong decisions are associated with high risks.

In my training seminars with top-level bank managers, state-oriented participants tended to be the better decision-makers when complex and risky decisions were involved, whereas action-oriented participants were better at implementing decisions. One of the role plays I videotaped in these seminars includes a decision implementation task. Before starting this task, a team of participants has spent about two hours making a decision regarding various options concerning an advertisement campaign

for the company. After a decision has been made as to which of the campaigns should be run, the group of managers is confronted with a panel of directors. The managers are to justify their decision and persuade the directors to grant the necessary money. Top managers know their job. They know the difference between decision-making and implementation. They are very open to all kinds of arguments during decision-making, but they become assertively partial after the decision has been made (see Gollwitzer, 1990, for a thorough treatment of deliberative *vs.* implemental states of mind). During the implementation period, listening to counter-arguments and criticisms can be a sign of weakness and lack of leadership.

In some of these role plays, we observed what I call the *shielding-reactance spiral.* The decision-makers sometimes shield and protect even unimportant aspects of their decision. For example, one of the directors may suggest changing one colour in one of the advertisements planned, and yet the managers rigidly adhere to the colour chosen, even if they do not have very good arguments for their resistance. This over-maintenance behaviour naturally provokes reactance, which, in turn, provokes more shielding of peripheral aspects of the decision, and so on. The end result is a totally unnecessary failure to accomplish an agreement on what seemed to be a very sensible proposal.

Another Paradox: Rigidity vs. conformity. We have just finished an experiment in which we simulated the decision implementation task (Kuhl & Ciupka, 1991). After having completed an extended decision-making procedure involving selection among applicants for an open position, the experimenter played the role of the subject's boss and tried to talk that person out of the decision. Prior to this persuasion attempt, subjects had been exposed to a solvable or unsolvable task (success *vs.* failure condition). When the experimenter focused on arguments the subject had rated as highly important, state-oriented subjects showed significantly lower decision maintenance (assessed by the number of persuasion attempts until changing their decision), than action-oriented subjects did. After failure, action-oriented subjects had as low decision maintenance as state-oriented subjects did.

This pattern of results was expected because uncontrollable failure and state orientation presumably impair the ability to initiate and maintain a self-generated intention against external cues suggesting an alternative course of action. Action-oriented subjects did not show any indication of over-maintenance (in the sense of the *shielding-reactance spiral* mentioned earlier): When the conversation focused on an unimportant trait dimension, action-oriented subjects did not show longer decision maintenance than state-oriented subjects, even in the control condition (solvable task).

State-oriented subjects' higher conformity may appear paradoxical in light of their tendency toward overmaintenance and perseveration. However, our theory specifies when to expect perseveration (or "rigidity"), and when to expect distractibility (or "conformity", in this context). Perseveration is expected in state-oriented individuals as long as they are not exposed to external prompts for alternative actions. Clearly, the explicit persuasion attempts must be regarded as such prompts, in which case the theory predicts conformity rather than rigidity.

CONCLUSION

I have summarised our theory and research concerning volition and self-regulation. The ability to initiate and maintain intended behaviour and disengage from it when necessary can be impeded even if there is no rational reason that should prevent the individual from performing it. Individual differences concerning volitional and self-regulatory abilities exist and can be measured on various levels of specificity. State orientation can be described as a temporary or chronic, situationally specific or global, inability to integrate and coordinate cognitive activities according to the current self-chosen intention. I have focused on one possible reason for this inability. The tendency toward false internalisation of others' beliefs, wishes, or expectations can accommodate a variety of behavioural correlates of state orientation and explain the paradoxical co-occurrence of seemingly contradictory behaviours. Compulsory overmaintenance of uncompleted intentions that are not related to the currently chosen intention impairs the efficiency of self-regulatory functions. Overmaintenance of false internalisations related to context-inadequate intentions can aggravate helplessness and scholastic under-achievement, psychological disorders such as neurosis and depression, and poor decision implementation in organisational settings. Training procedures alleviating those impairments have been described. I realise that the theoretical concepts I have described may raise more questions than they answer, especially questions regarding the assessment of those concepts. However, in a field of study that has been widely neglected for half a century, this may be exactly what is needed for a fresh start: Theories that tell us which measurement procedures need to be developed in the future.

Manuscript received April 1991
Revised manuscript received June 1991

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