

Self-Infiltration vs. Self-Compatibility Checking in Dealing with Unattractive Tasks: The Moderating Influence of State vs. Action Orientation¹

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Self-infiltration, or false self-ascription of external goals or ideas, is investigated using an implicit experimental procedure (J. Kuhl & M. Kazén, 1994). Based on personality systems interactions (PSI) theory (J. Kuhl, 2000), it was expected that state-oriented participants exposed to task-alienating conditions, under external pressure, or experiencing negative mood would show self-infiltration, because under those conditions access to their self-system is impaired, including integrated representations of personal preferences. A new prediction is that self-infiltration should occur in processing low-attractive goals or ideas and not in processing high-attractive ones, because the latter are internalized through integration or identification with the self. Three experiments yielded results consistent with this hypothesis: State-oriented participants showed self-infiltration with low-attractive items, whereas action-oriented did not show this pattern. A mechanism is proposed that helps people to resist external influences in the formation of personal goals and ideas: Self-compatibility checking. This mechanism is inferred on the basis of long latencies in counter-preferential decisions related to previous self-choices (autooetic access). Only action-oriented participants gave systematic evidence of autooetic access.

KEY WORDS: internalization; self-infiltration; introjection; self-compatibility checking; autooetic access; personality systems interaction theory; state orientation; action orientation.

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The understanding of the psychological boundaries between self and others has been and continues to be an important research topic in psychology (Klinger, 1977, 1996; Laing, 1971; Snodgrass & Thompson, 1997). Do we usually decide by ourselves the goals that we pursue? In what ways do other people's suggestions influence our goal choices? Are there individual differences in internalization of external suggestions? To answer these questions one needs to consider in detail the processes by which people generate their goals and verify the compatibility between their goals and preferences and other people's needs and preferences. From a personality and developmental perspective, the interface between self and others is reflected by the investigation of the processes involved in the internal organization (Aitken & Trevarthen, 1997) and internalization of socially transmitted norms, attitudes, or goals (Vygotsky, 1978). *Internalization* of social norms or goals can proceed through integration or introjection (cf. Deci, Eghrari, Patrick, & Leone, 1994). Whereas integration assumes personal identification with a to-be-internalized norm or goal, introjection does not (cf. Deci & Ryan, 2000; Ryan, Kuhl, & Deci, 1997).

In previous research dealing with the process of internalization of externally induced goals, Kuhl and Kazén (1994) made a distinction between "informed" and "misinformed" introjection in terms of the conscious status of the introjected object (e.g., a goal). With informed introjection one is consciously aware that the particular goal originated in another person whereas with misinformed introjection (i.e., *self-infiltration*; these last two terms will be used interchangeably in the present paper) one fails to identify its alien status at a conscious level. Because of the phenomenological self-congruency of misinformed introjection, simply asking a person whether he or she has introjected a particular goal from other people does not suffice. To investigate this subtype of introjection, it is necessary to develop research methods assessing psychological processes in an implicit way (cf. Greenwald & Banaji, 1995; Greenwald, McGhee, & Schwartz, 1998). The application of implicit measures has gained importance in recent research on the self and self-regulation. Examples can be found in the control of ruminative thinking (Koole, Smeets, van Knippenberg, & Dijksterhuis, 1999; Kuhl & Baumann, 2000), goal awareness (Bock & Klinger, 1986; Klinger, 1996), and goal enactment (Fuhrmann & Kuhl, 1998; Oettingen, 1996).

Kuhl and Kazén (1994) developed an implicit experimental method to investigate the internalization of self-alien goals (self-infiltration). Simulating a working day in an office, their participants selected from a list of simple tasks (e.g., "sort the mail," "type a letter," "look up a word in the dictionary") a third to carry out later, a second third were assigned to them by the boss (i.e., the experimenter), and the remaining were used as control, because they were neither self-selected nor externally assigned. After some intervening tasks, participants were presented with the whole list of office activities in a new sequence and asked to carry out an unexpected memory test about the initial "source" of the intention, that is, to

classify each activity as to whether it was originally self-selected, assigned, or remaining. Self-infiltration was assessed through the tendency to falsely ascribe more externally assigned than control activities to self-selection.

INDIVIDUAL DIFFERENCES IN SELF-INFILTRATION

The above research also showed that self-infiltration was moderated by the personality dimension of *state versus action orientation*: State-oriented participants evidenced self-infiltration whereas action-oriented ones did not. This result is compatible with the theory of state orientation (Kuhl, 1994a). State-oriented persons on the *preoccupation* dimension, are those who report having persistent and uncontrollable negative emotional states after being exposed to aversive events (see example items of a scale measuring this construct in the Methods section of Experiment 1). They tend to focus their attention on a past, present, or future state instead of focusing it on the current task. Action-oriented persons, in contrast, have a better ability to “down-regulate” the negative affect elicited by an aversive experience (Kuhl, 1994a). State orientation differs from the constructs of neuroticism and anxiety with regard to the way negative affect is managed: State oriented individuals are not postulated to have an increased sensitivity to negative affect or to punishment as neurotic or anxious individuals do (Gray, 1987, 1990). Instead, they have a decreased *self-regulatory* capacity to reduce negative affect in a self-initiated “top-down” manner once it is aroused (Kuhl, 1994a).⁴

INTROJECTION OF UNPLEASANT OR UNATTRACTIVE GOALS

The way internalization of an introjected object takes place depends on its compatibility to the self as well as on its subjective attractiveness. Whereas internalization of pleasant ideas, norms, or goals has been proposed to proceed through integration with the self (Koestner, Losier, Vallerand, & Carducci, 1996; Sheldon & Kasser, 1995), internalization of unpleasant ideas, norms, or goals has been traditionally associated with the process of *introjection*, especially in the clinical (e.g., Cramerus, 1990; Stephen, 1934) and psychoanalytic literatures (Beres & Joseph, 1970; Ferenczi, 1926). We propose that although unpleasant ideas or goals can be internalized through identification, they tend to be internalized through introjection, because they lack the positive valence that is needed to integrate them into the self-system. Notice that the term *internalization* is used here in a rather general

⁴To emphasize the importance of the type of orientation for this construct (maintenance of an emotional state vs. focusing on action), we will use the terms state versus action orientation throughout this paper instead of “preoccupators” versus “nonpreoccupators,” although the preoccupation disposition of the ACS is here implied.

sense: An individual is said to have “internalized” a goal, a norm, or an attitude in one way or another (e.g., identification or introjection) if he or she behaves or processes information according to it.

The assumed mechanism of internalization underlying *identification* involves a partial or full integration of the goal into relevant self-structures which are based upon implicit and holistic memory structures, according to personality systems interaction (PSI) theory (Kuhl, 2000, 2001). In contrast, *introjection* is presumably based upon a representation of the goal on a level outside the self (e.g., an explicit representation of a goal in a verbal or analytical format). This incongruence or low integration with the self may be manifested in two different forms, either at a conscious (as informed introjection) or at a nonconscious level (as self-infiltration). According to PSI theory, state-oriented participants’ higher tendency toward self-infiltration can be attributed to their persevering negative affect, which impairs access to implicit self-representations: Without clear-cut perceptions of one’s personal preferences and commitments it is difficult to tell whether one has chosen an activity on the basis of personal preference or commitment.

On the basis of the results of Kuhl and Kazén (1994) alone, it is unclear whether the self-ascription classification errors made by their participants represented introjection or identification with boss-assigned activities, because they could have found some (or most) of the activities attractive. To investigate this issue, one might first ask participants to rate the attractiveness (or pleasantness) of to-be-carried-out activities and then look at the results of low- and high-attractive activities separately. If false self-ascription errors occur more often with assigned compared to control activities that are *low* in attractiveness, one can assume that introjection or self-infiltration took place (cf. Beres & Joseph, 1970). On the other hand, to the extent that they make more self-ascription errors with assigned than control *high-attractive* activities, the assumption that introjection took place remains uncertain because it could reflect identification with something that, although externally assigned, was rated by them as attractive. For the sake of clarity, we will consider as evidence of self-infiltration a significantly higher rate of self-ascription memory errors of low-attractive activities that are assigned compared to control activities.

OVERVIEW OF THE PRESENT STUDIES

In the present research we investigate self-infiltration on preference judgments and goal pursuit in the context of the explicit or implicit external pressure of other persons. Theoretically, misperceiving goals or opinions suggested by others as self-compatible (i.e., as if they were integrated in one’s self) should have two opposite effects: At a conscious level, one should be more inclined to pursue goals and accept opinions originally suggested by others. On the other hand, the lack of self-integration associated with falsely self-ascribed goals or attitudes should result

in reduced positive affect that would otherwise derive from unconscious sources related to implicit self-representations. As a result, self-infiltration should facilitate the conscious adoption of goals and attitudes suggested by others under conditions that reduce access to the self-system, including implicit self-representations.

SELF-INFILTRATION HYPOTHESIS

The first main issue investigated in this research is, Will state-oriented participants show self-infiltration only when planning to carry out *unattractive* activities or in judging *unpleasant* items? According to PSI theory, effects resulting from inhibited access to self-representations elicited when participants plan to carry out unpleasant activities are more likely to occur under task-alienating (i.e., meaningless) conditions or under those in which external control is salient (Kuhl, 2000).

Our first hypothesis predicts that state-oriented persons who are unable to overcome the alienation produced by performing a low-meaningful task and who are unable to “down-regulate” negative affect will have impaired access to the self-system and, as a result, show self-infiltration, as indexed by higher rates of self-ascription memory errors of external compared to control *low-attractive* activities. Action-oriented participants, in contrast, are expected to show equal amounts of error rates originating in both types of sources.

SELF-COMPATIBILITY CHECKING HYPOTHESIS

The second major issue investigated deals with a proposed mechanism underlying the self-determined behavior of action-oriented individuals. Kuhl and Kazén (1994) proposed that self-infiltration occurs with lower probability in action-oriented participants because they have good access to emotional preferences and self-representations, especially under negative emotionality conditions, such as sadness or anxiety.

How can the process of accessibility to self-compatible information in the self-system be modeled and tested? The decision process concerning goal formation or judgement generation is proposed to involve two steps (a) access to a valid model of one’s emotional preferences and (b) activation of a memory trace that includes information about a *commitment marker*. Such a marker indexes the fact that one has committed oneself to perform one particular future activity among many possible, and it is assumed to be implicitly stored with the episodic memory trace of the prospective activity (i.e., of the intention). Put differently, the presence of a commitment marker changes the subjective status of the activity from a wish into an intention (Heckhausen & Kuhl, 1985; Kuhl & Kazén-Saad, 1988; cf. also Gollwitzer, 1996, pp. 288–294). Once this model is accessed, prospective activities

tagged with a commitment marker in memory can be evaluated as to whether or not they are compatible with important aspects of the self (affective, goal-relevant, etc.). Any factor impairing or blocking accessibility to the self-system and its self-representations is expected to reduce the quality of this self-compatibility checking process.

Testable predictions can be derived from this model. Gathering information about one's emotional preferences related to a prospective activity is assumed to be performed "on line," which requires a minimum processing time to be done thoroughly. Mueller, Ross, and Heesacker (1984) measured participants' classification latencies of trait adjectives related to self (self-referent) or to another person (best friend). They found longer classification latencies for uniquely self-descriptive traits compared to shared-descriptive traits (describing both self and best friend) and proposed that whereas shared-traits might be quickly retrieved using some sort of generic schema, self-referent information concerning unique personal traits has to be actively retrieved (on-line), requiring longer processing times.

Extending the above conclusion, we propose that information related to emotional preferences is not "prestored," having direct retrieval access, but that it has to be actively searched for. Impaired accessibility to the self-system should result (paradoxically) in a superficial, fast, and less extended processing during the two stages of self-compatibility checking (i.e., constructing an on-line extended model of emotional preferences and looking for commitment markers). Therefore, the likelihood that conflicts between the two stages are detected (should any exist) is expected to rise with increased access to the self-system, with its wider range of self-representations related to emotional preferences. An example of such a conflict is the case where the commitment-marker check is positive (i.e., a particular activity was previously selected to carry out later), but the examination of emotional preferences yields a negative outcome (i.e., the activity is not personally attractive). Such a conflict should *increase* the decision time regarding the self-compatibility status of the goal in question.

Autonoetic Access

Experimental and neurobiological evidence confirming the existence of a separate *episodic* memory system with an associated "autonoetic consciousness" has been summarized by Wheeler, Stuss, and Tulving (1997; see also Tulving, 1985). The procedural and semantic memory systems are associated with "anoetic" and "noetic" consciousness, respectively. Those authors assume that the episodic-memory system stores information concerning episodic or autobiographical events, that is, those whose occurrence can be traced back to a particular place and time in one's personal biography. Thus, we will use the term *autonoetic* to refer to the portion of the episodic memory system in which self-related information is stored, such as our personal preferences, our goals, and values.

In the present research accessibility to auto-noetic information was required from participants because they were instructed to select from a list of *low-attractive* items a number of future recommendations or prospective activities (they also made selections from a list of high-attractive items). Increased latencies in decisions concerning item self-selection, expected as a result of conflicting self-related elements retrieved (previous self-selection of an item and low attractiveness value of the item) will be referred to here as *auto-noetic access*. Longer latencies indicating auto-noetic access are expected to occur with increasing thoroughness of *self-compatibility checking*, because the likelihood that conflicting material is detected should increase with greater allocation of resources to scanning the episodic memory system (Wheeler et al., 1997).

The above reasoning can be extended to the personality disposition of state versus action orientation. Assuming that action-oriented persons have a tendency to follow their own preferences and resist external pressure (Kuhl & Kazén, 1994), it can be expected that they will consistently show increased latencies in decisions concerning self-choices, provided these decisions are incongruent with their own personal preferences.

In sum, our second hypothesis predicts that *action-oriented* participants will have longer latencies (i.e., auto-noetic access) in two types of decisions, (a) Correctly responding *no* to the question of whether an *attractive* item was previously self-selected, and (b) Correctly responding *yes* to the question of whether a *low-attractive* item was previously self-selected.

State-oriented persons under task-alienating or external-pressure conditions are expected not to show auto-noetic access consistently. This implies that under supportive conditions, these participants should be able to carry out a thorough self-compatibility checking, which would produce a similar pattern of decision latencies as that of action-oriented ones. We expect, however, that state-oriented participants will not consistently use this ability because the process of auto-noetic access presumably requires an extra expenditure of effort and resource allocation (i.e., a motivational or self-regulatory component), which is unlikely to be exerted under supportive conditions in which no obvious ego-threat or external pressure are present.

Three experiments were conducted to test the self-infiltration and self-compatibility checking hypotheses. Study 1 deals with pleasantness judgements concerning a series of “mini-actions” to be recommended for later use in a child-development program under instructions inducing *task meaninglessness*. Studies 2 and 3 deal with self-selected versus assigned prospective tasks during the simulation of a working day in an office, similar to those presented by Kuhl and Kazén (1994). Whereas the second study explores the effect of *external pressure* on self-infiltration and self-compatibility checking, the third study investigates the influence that *sad mood* (negative affect) has on these processes.

EXPERIMENT 1

In previous experiments (Kuhl & Kazén, 1994), the stimuli used to investigate self-infiltration have dealt with to-be-carried-out tasks (office or party-related). In this experiment the items relate to preference judgments. One main aim is to test the hypothesis concerning the moderating effect of item pleasantness on self-infiltration. An increased rate of false self-ascriptions of recommended items is expected in state-oriented individuals for unpleasant items only, under self-regulatory conditions that render self-access difficult, such as low task-meaningfulness.

Previous research has shown that conditions conveying *low task meaningfulness* produce heightened indices of “alienation” in state-oriented individuals (Kuhl & Beckmann, 1994b), as indexed by the tendency not to carry out their preferred activity. In this experiment we introduced an artificial context of attitude assessment (low task meaningfulness): Participants were requested to express their opinion as lay persons concerning the suitability of a series of mini-actions for an “emotional training” program designed for preschool children. There was a not fully convincing context in the experimental instructions because (a) it was not explained to participants why normal preschool children needed to be “trained” at all in detecting their own emotional preferences, (b) participants were told that as adults they themselves would have more problems in perceiving differences in the emotional reactions elicited by those actions than children would, and (c) the computer program requested participants to choose mini-actions that they had previously rated as unsuitable for the emotional training program.

Method

Participants

Participants were 60 university-student volunteers (30 women and 30 men), who were *not* studying psychology. Four out of the original 64 participants (two state- and two action-oriented) were excluded: Data from one participant were lost during data transfer; the other 3 had overall mean decision latencies (considering all classification tasks) two standard deviations above the group mean. The mean age of the 60 participants was 28 years (range, 18–49 years). Applying the norms listed in Kuhl (1994b, p. 54), 25 were classified as state-oriented on the *preoccupation* dimension of the action control scale (see Materials section) because their score was below the median (i.e., lower than 5, indicating a *stronger* disposition to preoccupy; $M = 1.52$, $SD = 1.5$) and 35 were classified as action-oriented on this dimension because their score was above the median (i.e., a score of 5 or higher; $M = 7.33$, $SD = 2.7$).

Materials

The action control scale (ACS; see Kuhl, 1994b) was used. Two example items of the *preoccupation* dimension are, “When I am told that my work has been completely unsatisfactory: (a) I don’t let it bother me for too long, or (b) I feel paralyzed,” and “When I have to put all my effort into doing a really good job on something and the whole thing doesn’t work out: (a) I don’t have too much difficulty starting something else, or (b) I have trouble doing anything else at all.” In these two example items option “(a)” illustrates the action-oriented option and “(b)” the state-oriented response alternative. The scores for each dimension have a range of 0–12 points. The higher the score, the stronger the disposition toward action-orientation (i.e., internal “disengagement” from previous experiences associated with failure). The ACS has sufficient reliability (Cronbach’s $\alpha > .70$) and adequate construct validity (Kuhl & Beckmann, 1994a). The factorial structure of the ACS confirms the theoretical distinctions made among the dimensions assessing the preoccupation, hesitation, and volatility components of state orientation (Kuhl, 1994b; see also Dieffendorf, Hall, Lord & Streat, 2000, for psychometric information on the English version).

A list of 48 “mini-actions” (see the Procedure section) were used as items. Most of them were taken with slight modifications from the list of Cohen (1981), whereas the rest were generated by the experimenters.

Computer Program

The PANTER (“Process-Analytic Neuroticism Test for Adults”) program was used to control item presentation and data recording.⁵ Although a standard set of items was used for all participants, items appearing as low or high in pleasantness for a given participant were unique. That is, they were classified by PANTER in the above categories following an algorithm based on participant’s initial item-pleasantness ratings.

Procedure

Participants were tested individually in a quiet room. The experimenter remained in the room during the session in order to answer questions. The cover story was that the study dealt with developmental psychology. Its aim was to compare the opinion of lay people with the opinion of experts in human development (developmental psychologists) in order to select from a pool of “mini-actions” (e.g., “clap your hands,” “cross your fingers,” cf. Cohen, 1981) those which could potentially

⁵Thomas Becker carried out the programming of the PANTER program. Interested readers can request a DOS copy of the English version of this program by writing directly to the authors.

be used to “train” preschool children to detect subtle emotional differences in self-produced movements. A somewhat paradoxical statement, *aimed to reduce task meaningfulness*, was given to participants: They were told that for preschool children even simple actions such as “lift your finger,” “shake your head,” or “open your mouth” could trigger subtle emotional reactions which adults *hardly perceive* any more (i.e., If that is the case, how could the participant, as an adult, make valid recommendations about the emotional quality of those actions?).

The above low-meaningful instructions were pretested in a pilot study including 32 voluntary psychology students, who received more meaningful (and personally relevant) instructions. The psychology students were told that the training program aimed to train *autistic children* in the perception of their own movements (kinesthetic stimulation) and in the expression of their own emotions, because, as it is well known, autistic children suffer from a severe deficit in emotional expression. In addition, the sentence concerning the unreliability of adults’ emotional judgments in rating such mini-actions was omitted.

The first task presented via computer was to rate item pleasantness: A short phrase in the imperative form describing each of the 48 mini-actions was sequentially presented on the computer screen (e.g., “touch your left elbow” or “clap your hands”). The participant was requested to physically enact each mini-action him or herself as soon as its description appeared on the screen before the rating was entered. Ratings were made on a 11-point scale, ranging from -5 (*very unpleasant*) to $+5$ (*very pleasant*). It was emphasized that their judgments should be based on the detection of subtle feelings, in the positive or negative direction. Once the participant completed the ratings and unknown to him or her, the program classified the items into 24 subjectively “low pleasant” and 24 subjectively “high pleasant” actions through a median split of the participant’s own ratings.

The next task was either a preliminary self-selection or experts’ recommendation of items, depending on the participant’s condition (their order of presentation was balanced across participants).

Self-Selection. Participants selected the items they would *preliminarily* recommend for the emotional training program with preschool children before a final decision was made later on in the experiment. The 24 low pleasant and the 24 pleasant items were presented separately on groups of six each. Participants were instructed to select from each list of six, the three mini-actions which they considered “more adequate” for the training program. Notice that participants were here requested to select half of their previously rated low-pleasant items.

Experts’ Recommendation. The 24 low and the 24 high-pleasant items were shown separately and their order of presentation was balanced across participants. The items were presented sequentially, using a new random sequence. To keep the list of items readable, the screen was cleared after every 12 items. The items “recommended by psychologists” were indicated by an asterisk to their left. To equate salience of self-selected and experts’ recommended items, participants read

each item aloud as it was presented and then pressed an acknowledgment key about the item status (recommended or not) on the keyboard. The next item could be presented only after that was done. The assignment of keys to the above categories was balanced across participants.

Classification Tasks

The next task was to read for 10 min a text extracted from an introductory book on human development. After this intervening period, participants were given two unexpected memory tasks with the alleged reason that it was important for the development of the children's training program to know how well they could remember details about the individual mini-actions. During the *self-selection classification task*, each item was sequentially presented in a new random order and the task of the participant was to decide whether he/she had previously selected the item for the training program (in a preliminary way) or not. Using a different random sequence of the 48 items, the participant was also requested to classify each mini-action as to whether it was recommended by the experts or not (*experts' recommendation*). The order of presentation of the self-selection and experts'-recommended classification tasks was balanced across participants.

The next phase consisted of a final acceptance decision concerning recommendation of mini-actions for the emotional training program. Participants knew whether an item was recommended by the experts because it always appeared together with the asterisk. It was emphasized that they were free to make their own decisions irrespective of the ones made by the experts, and that it was up to them how many mini-actions they accepted or rejected.

After this was done, participants filled out the ACS. They were then asked some questions concerning their confidence in the cover story, their task involvement, and their attitudes about the experiment and were debriefed about the real purpose of the study. The experiment lasted 45–60 min, depending on the participant.

Results

Overview of Data Analysis

Data can be described using the 4×2 matrix shown in Table I. The rows stand for the objective source of the activity (both, self-selected, other-suggested, or remaining) whereas the columns stand for participant's subjective classification (self-selected or other-suggested). Within the 4×2 matrix, the first two cells of the first column and the first and third cells of the second column represent correct classifications of item source, whereas all other cells stand for different types of

Table I. Possible Combinations of Correct Memory Decisions and Memory Errors (FSA or FOA) With the Source Classification Task Using the PANTER Program

Actual source	Reported source	
	<i>Self-selected</i>	<i>Other-suggested</i>
Both (self & other)	Correct	Correct
Self-selected	Correct	FOA
Other-suggested	FSA	Correct
Remaining (control)	FSA	FOA

Note. The rows represent the actual item source, whereas the columns signify the subjective classifications made by participants. FSA = false self-ascription; FOA = false other-ascription.

classification errors.⁶ To analyze false self-ascriptions (FSA), rates of externally assigned (number of FSAs originating in others/total number of other-suggested items) versus rates of remaining items (number of FSAs remaining/total number of remaining items) were contrasted (the lowest two cells of the first column in the 4×2 matrix). Because the total number of other-suggested and the total number of remaining items was identical, the null hypothesis expects that 50% of FSAs will originate in other-suggested and 50% of FSAs will originate in remaining items. Significantly higher FSA rates originating in other-suggested versus remaining low-pleasant items would indicate self-infiltration.

Manipulation Checks

Item Selection. As may be expected, the items selected by the computer program differed significantly in pleasantness, $t(59) = 19.3$, $p < .001$, namely, low pleasant ($M = -1.53$, $SD = 0.99$) versus high pleasant ($M = +2.20$, $SD = 1.13$).

Initial Item-Pleasantness Ratings. To assess whether state- and action-oriented participants had pre-experimental preferences concerning the items used, independent t tests were computed. There were no differences between state- and action-oriented participants either in their mean ratings of low-pleasant (Means: -1.69 vs. -1.40 , respectively; $t(58) = -1.08$, n.s.) or high-pleasant items (Means: $+2.06$ vs. $+2.29$, respectively; $t(58) = -.75$, n.s.). These findings are consistent with the assumption of PSI theory that state orientation is not associated with

⁶One of the main findings of Kuhl and Kazén (1994) was the “self-choice” effect, or the better memory for the *correctly* classified source of self-selected compared to externally assigned and remaining prospective activities. Analyses of rates of correct classifications of self-selected versus assigned (or recommended) items was also carried out in these experiments and results showed a good replication of the self-choice effect: Self-selected items were significantly better recognized than those externally provided. Because this effect did not interact with personality and is tangential to our present issues, it will not be further discussed.

increased sensitivity to negative affect, as the constructs of neuroticism and anxiety are expected to be.

Low Task Meaningfulness. Task meaningfulness was indirectly assessed. To the extent that the induction of low meaningfulness was effective, participants should have had, on average, *reduced pleasantness* scores considering all items of the experiment, because low meaningfulness reduces perception of one's affective preferences (cf. Kuhl & Beckmann's, 1994b, study on "alienation"). Consistent with this reasoning, the initial average pleasantness rating of the 48 neutral mini-actions given by participants of this experiment made immediately *after* being exposed to the cover story was significantly lower ($M = +0.61$, $N = 60$) compared to the average pleasantness rating obtained in the closely similar pilot experiment ($M = +1.80$, $N = 32$), in which the same 48 items were presented in a more meaningful context (i.e., psychology students were told that the mini-actions were to help autistic children become more aware of their own kinesthetic sensations to improve their emotional expression), $t(90) = -3.76$, $p < .001$. This result is to be expected if the low-meaningfulness of the cover story of the present experiment decreased the average level of positive affect of participants. This indirect operationalization of task meaningfulness using the mean pleasantness score of initial neutral items (the 48 mini-actions) has the advantage that it is less influenced by social-desirability effects than a direct rating of task meaningfulness would.

The conclusion of low task meaningfulness was strengthened by spontaneous comments made by most participants during the computer task (e.g., in contrast to the pilot experiment, some of them complained that they felt silly enacting the mini-actions during the pleasantness rating phase or questioned the usefulness of the task) and after being directly asked by the experimenter during debriefing, they reported having less fun doing the experiment compared to participants in the pilot study.

False Self-Ascriptions

Preliminary analyses using the Levene test showed a significant departure of homogeneity of variance of FSA rates across groups. This lack of homogeneity could be removed by transforming the FSA rates using the formula recommended by Winer (1971, pp. 399–400) for this type of data: $FSA' = 2 * \arcsin \sqrt{FSA}$. The transformed FSA rates were then analyzed using a 2 (Personality: *state*, *action*) \times 2 (Item Pleasantness: *low*, *high*) \times 2 (Source: *other*, *remaining*) mixed analysis of variance (ANOVA), with the last two factors as within-participants. Results yielded significant main effects of Item Pleasantness, $F(1, 58) = 44.34$, $p < .001$; Source, $F(1, 58) = 7.08$, $p < .01$; and a significant Personality \times Source interaction, $F(1, 58) = 12.3$, $p < .01$. More importantly, the predicted Personality \times Item Pleasantness \times Source interaction was significant, $F(1, 58) = 6.89$, $p < .02$. This interaction is illustrated in Fig. 1.

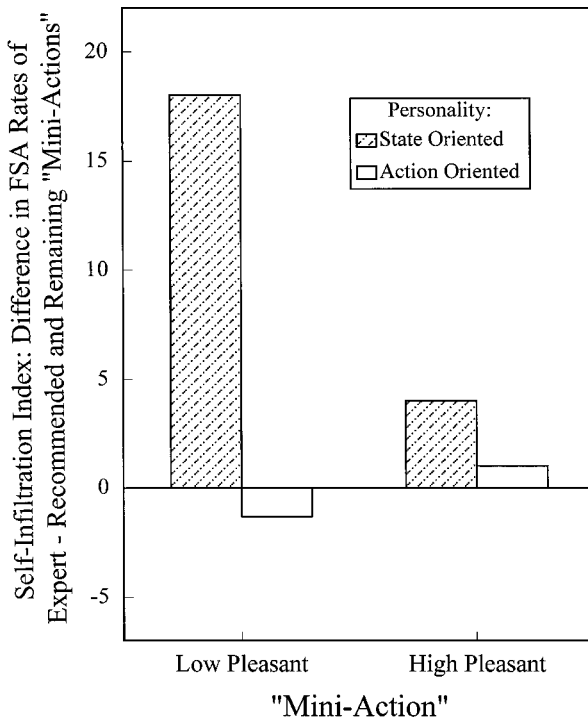


Fig. 1. Difference in FSA rates (%) originating in experts' recommended and remaining "mini-actions" (*self-infiltration index*), as a function of personality and item pleasantness for Experiment 1. Positive values on the ordinate indicate higher FSA rates for items recommended by experts, whereas negative values indicate higher FSA rates for remaining mini-actions.

Considering low-pleasant items, state-oriented participants had a significantly higher FSA rate of recommended ($M = 35.3, SD = 19.4$) than of remaining items ($M = 17.3, SD = 16.6$), $t(24) = 4.08, p < .001$; whereas action-oriented participants showed no differences between recommended ($M = 17.3, SD = 19.5$) and remaining items ($M = 18.6, SD = 13.2$), $t < 1, ns$. For high-pleasant items, the equivalent contrasts were not significant ($ts < 1$): The FSA rate of state-oriented participants did not differ between recommended ($M = 47.3, SD = 22.4$) and remaining items ($M = 43.3, SD = 27.2$); the FSA rate of action-oriented participants was also very similar between recommended ($M = 46.2, SD = 24.9$) and remaining items ($M = 45.2, SD = 26.1$).⁷

⁷Additional analyses for each condition of personality and type of item were carried out using measures derived from signal detection theory (d' and C , a measure of response criterion) in all three experiments. Overall, results using these measures were consistent with the results of the analyses of FSA rates of Experiment 1 and of the critical groups of Experiment 2 (external pressure) and Experiment 3 (sad group).

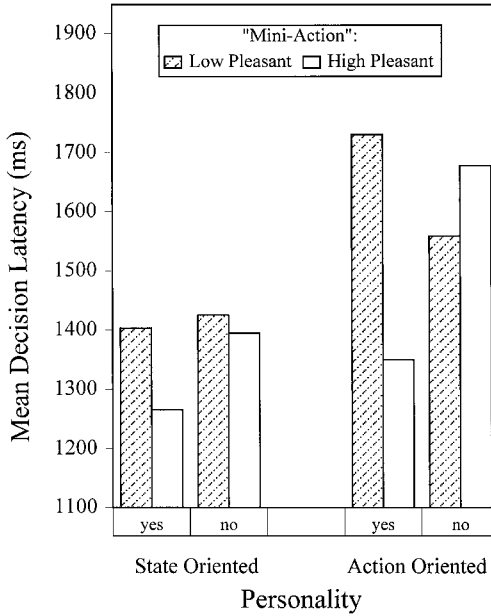


Fig. 2. Mean decision latencies (ms) for *yes* and *no* responses concerning previous item self-selection of low- and high-pleasant mini-actions, separately for state- and action-oriented participants in Experiment 1.

Decision-Latency Analyses

Our second hypothesis (autonoetic access) refers to decision latencies of correct responses to previously self-selected items and predicts an interaction among the factors of Personality (*state, action*), Item Pleasantness (*low, high*), and Type of Response (*yes, no*). It expects, in particular, longer latencies in counter-preferential decisions for *action-oriented* participants. Notice that because all items are included in these latency analyses, *yes*-responses (i.e., “I selected this item”) should be correct on 50% of the trials and *no*-responses (i.e., “I did not select this item”) should be correct on the remaining 50% of the trials. Latency data were therefore analyzed using a mixed ANOVA, including the factors of Personality, Item Pleasantness, and Response Type. There was a significant main effect of Item Pleasantness, $F(1, 58) = 5.6, p < .02$, and an Item Pleasantness \times Response Type interaction, $F(1, 58) = 10.81, p < .002$. More importantly, the Personality \times Item Pleasantness \times Response Type interaction was significant, $F(1, 58) = 4.54, p < .05$ (see Fig. 2).

To examine the nature of the interaction, two Item Pleasantness \times Response Type repeated-measure ANOVAs were then carried out separately for action- and state-oriented participants. Results for *action-oriented* yielded a main effect of

Item Pleasantness, $F(1, 34) = 4.11$, $p = .05$. More important, the Item Pleasantness \times Response Type interaction was highly significant, $F(1, 34) = 12.6$, $p < .001$. The pattern of results is consistent with the autooetic access hypothesis, which predicts longer latencies in counter-preferential decisions. Action-oriented participants were significantly slower in correctly responding *yes* (i.e., “I selected this item”) to low- ($M = 1730$ ms, $SD = 802$ ms) compared to high-pleasant self-selected items ($M = 1349$ ms, $SD = 302$ ms, $t(34) = 3.33$, $p < .001$, one-tailed). They also were slower in responding *no* (i.e., “I did not select this item”) to high- ($M = 1677$ ms, $SD = 551$ ms) compared to low-pleasant ($M = 1558$ ms, $SD = 382$ ms) self-selected items, $t(34) = 1.64$, $p < .03$, one-tailed.

The Item Pleasantness \times Response Type ANOVA with *state-oriented* participants, in contrast, yielded no significant main effects or interaction (all $ps > .13$).

Final-Acceptance Decision

The analysis of final-acceptance of items permits the examination of possible consequences of self-infiltration and autooetic access on behavioral decisions. Final-acceptance rates were submitted to a 2 (Personality: *state, action*) \times 2 (Item Pleasantness: *low, high*) \times 2 (Self-selection: *yes, no*) \times 2 mixed (Experts' Recommendation: *yes, no*) ANOVA, with the last two as within-participant factors. Results indicated significant main effects of Pleasantness, $F(1, 58) = 80.48$, $p < .0001$; Self-Selection, $F(1, 58) = 159.0$, $p < .0001$; and Experts' Recommendation, $F(1, 58) = 26.04$, $p < .001$, as well as a significant Attractiveness \times Experts' Recommendation interaction, $F(1, 58) = 7.25$, $p < .009$. The only significant interaction involving Personality was with Item Pleasantness, $F(1, 58) = 12.1$, $p < .001$. Whereas action-oriented accepted a *lower* rate of *low-pleasant* items in their final decision than state-oriented participants did (37% vs. 50.3%, respectively; $t(58) = -3.8$, $p < .001$, two-tailed), action- and state-oriented participants did not differ in the rates of finally accepted high-pleasant items (68.7% vs. 64.3%, respectively, n.s.).

Discussion

The present results show that self-infiltration is not confined to prospective activities (Kuhl & Kazén, 1994), but it also occurs in the domain of preference judgments. Moreover, the results support our expectation that self-ascription memory errors index self-infiltration because they occur with low-attractive items only. The predicted interaction between Personality, Item Pleasantness, and Source showed that state-oriented participants made significantly more self-ascription memory

errors originating in experts' recommended compared to remaining items, only with low- but not with high-pleasant items. Moreover, action-oriented participants had equivalent rates of self-ascription memory errors for both types of items.⁸

The analyses of decision times concerning previous item self-selection provided evidence of autozoetic access. A difference in decision latencies was found when action-oriented participants responded *yes* to low- compared to high-pleasant items and *no* to high- compared to low-pleasant items, in a counter-preference way. State-oriented participants, in contrast, showed no significant results in their decision latencies. This indicates that state-oriented individuals engaged in less efficient self-compatibility checking, resulting in a lowered probability of detecting items in conflict with their previously stated preferences.

Additional evidence indicating more efficient access to self-representations by action-oriented participants were findings related to consistency between initial judgements of item-pleasantness and final behavioral decisions (i.e., the final-acceptance decision). Action-oriented participants accepted a significantly *lower* rate of low-pleasant items, whereas the two groups did not differ concerning acceptance of high-pleasant items. This indicates good access of action-oriented participants to their own preferences in dealing with low-pleasant items, which was not observed in state-oriented participants.

In sum, the overall pattern of results indicates that state-oriented participants have a tendency toward self-infiltration with *low-pleasant* items, whereas action-oriented participants do not. At the same time, the hypothesis was confirmed that state-oriented participants tend to carry out a less careful self-compatibility checking concerning whether their item recommendations originated in themselves or in experts' suggestions.

Impaired access to the self-system can theoretically occur not only through task-meaninglessness but also through activation of a mode of action control

⁸False other-ascription (FOA) rates can be obtained from the second and fourth rows of second column in the 4×2 matrix of Table I: Self-selected (number of FOAs originating in self/total number of self-selected items) versus rates of remaining items (number of FOAs remaining/total number of remaining items). If state-oriented participants had a global tendency to make errors in remembering information about decisions involving the self-system (i.e., a general deficit in distinguishing "reality" from "fantasy," cf. Johnson, 1988; Johnson & Raye, 1981), they should not only show a higher tendency to falsely classify external recommendations as self-selected (FSA) but also a higher tendency to falsely classify self-selected items as externally recommended. That is, state-oriented participants should also have higher rates of FOAs originating in *self-selected* compared to *remaining* activities (see Kuhl & Kazén, 1994). This alternative interpretation of self-infiltration predicts an interaction between personality and source for FOA rates. To address this issue, FOA rates were analyzed for each of the three Experiments using 2 (Personality: *state-*, *action-orientation*) \times 2 (Item Pleasantness or Attractiveness: *low*, *high*) \times 2 (Source: *self-selected*, *remaining*) mixed ANOVAs, with the last two as within-participant factors. FOA results of all experiments yielded no significant interactions including the factor of Personality (state- vs. action-oriented participants). The pattern of results of FOA rates across experiments does not support the alternative interpretation that state-oriented participants' increased FSA of low-pleasant items is due to a global confusion concerning self-selected versus externally-recommended items.

that stresses the negative consequences of not carrying out an intended goal appropriately (external pressure), instead of a mode of control focussing on the rewarding aspects of its attainment (internal regulation). According to PSI theory, this last approach-goal focus should not block access to the self-system (cf. Elliot & Sheldon, 1998, distinction between avoidance vs. approach goals). One main aim of the next experiment was to investigate the above issue.

EXPERIMENT 2

This experiment investigated whether making the negative aspects of an assigned task salient increases self-infiltration in state-oriented participants and whether this tendency is moderated by the subjective attractiveness of prospective activities. The prospective tasks used were similar to those used by Kuhl and Kazén (1994). The emotional state of all participants was equated by exposing them to a 5-min relaxation exercise at the beginning of the experiment. After that, on a random basis half of them were given a external-pressure instruction (external-pressure group), whereas the other half received no such instruction (control group).

Method

Participants

Participants were 46 university students (28 women and 18 men) who either were paid DM 20, or given course credit for their participation. Two out of the original 48 participants (one state- and one action-oriented, both in the external-pressure group) were excluded because their overall mean decision latencies (considering all classification tasks) were two standard deviations above the group average. Participants' mean age was 25 (range, 19–35 years). Using the norms of Kuhl (1994b, p. 58), half of the participants were classified as state-oriented on the *preoccupation* dimension of the ACS ($M = 2.2$, $SD = 1.2$) and the other half as action-oriented ($M = 7.8$, $SD = 2.2$).

Materials

The ACS (Kuhl, 1994b) was applied. The test d-2 (Brickenkamp, 1962), which measures concentration, was administered as a filler activity between item selection and the memory-classification task. It consists of a series of rows with the letters *d* or *p* associated with one or two marks (' or ") above or below each letter. The task consists of crossing out all letter *d*s associated with two marks and of not crossing out any letters that do not follow this rule.

Procedure

Participants were tested individually. The cover story dealt with simulation of a working day in a company, similar to that used by Kuhl and Kazén (1994). Participants were told that the investigator sought to learn about their attitudes towards different activities in the company, after actually carrying out some of those tasks. There was a list of 32 possible tasks to carry out, which would be shown to them later during the experiment. These ranged from some monotonous activities related to manufacturing to some activities commonly found in routine secretarial work in an office. None of them required special abilities or previous knowledge to be performed. After receiving these initial instructions, participants were exposed to a 5-min relaxation procedure. While seated on a comfortable chair, they were requested to think of a nice experience they had or wished to have: A situation in which they had a pleasant success experience, in which they felt calm and relaxed, or in which they felt especially satisfied with themselves.

Next, the participant was introduced to the PANTER program. The first task was to rate sequentially the attractiveness of a list of prospective tasks on a scale ranging from -9 (very unattractive) to $+9$ (very attractive). Participants were encouraged to use the whole range of attractiveness values in making their ratings.

On a random basis, half of the participants were assigned to the external-pressure and the other half to the control group. Participants were asked to simulate working on a monitoring task developed by engineers consisting of pressing the space key on the computer keyboard at a constant pace in order to produce new parts of a machine. They were to keep a constant rhythm in pressing the key, otherwise they could produce too many or too few new pieces. Participants in the external-pressure group were additionally instructed to make a personal effort in carrying out the task exactly as instructed: "Concentrate completely on the task and do not think about anything else! It is very important that you try hard to carry out this task correctly, without errors." There was an additional instruction stressing *negative* outcomes related to this task. They were told that the machine could have a problem during their work activity, with costly consequences for the company. If that were the case, the word "ALARM" would blink on the computer monitor and that it was the participant's responsibility to react promptly to this dangerous situation by entering the emergency number "111" as quickly as possible on the computer keyboard. Participants in both conditions worked on the task for 5 min. The possible critical situation of a machine malfunction announced to the external pressure group did not actually occur, which means that participants of this group had an objectively identical task situation to those of the control group, who also carried out the key-pressing activity without having received the additional controlling instruction.

The next phase started with either a *preliminary* self-selection of office activities to be carried out at the end of the experiment or the assignment of half of

the activities by the “boss” (the experimenter), depending on participants’ condition. Order of presentation of self-selection and boss’s assignment and of low- and high-attractive activities was balanced across participants.

Next, participants received a shortened paper-and-pencil version of the d-2 concentration test (Brickenkamp, 1962), which had to be carried out for 8 min as a filler activity before the self-selection and boss’s assignment classification tasks were presented. Participants were then requested to rate for a second time the attractiveness of all tasks, using the same scale as before. After that, the surprise source-classification tasks were presented. All items were presented in a new random order, and participants decided whether they themselves had preliminarily selected the activity to carry out at the end of the experiment. The same procedure was repeated and participants decided for each activity whether it had been assigned to them by the boss. The alleged reason for these tasks was that the experimenters could learn through the spontaneous encoding and retrieval of prospective activities something about participants’ attitudes.

Afterwards, participants made a final acceptance decision of whether they would carry out the particular activity at the end of the experiment, using the following procedure. All 32 items were simultaneously shown on the screen, and participants were requested to select half of them (i.e., 16) to perform later. *After* the final acceptance-decision, participants were told that it was not necessary for them to actually carry out the activities. Finally, there was a postexperimental questionnaire dealing with the credibility of the cover story and attitudes about the experiment, and participants were debriefed concerning the real purpose of the study. The experimental session lasted 45–60 min, depending on the participant.

Results

Manipulation Checks

Item Selection. As expected, the items selected by the program differed in rated attractiveness, low attractive, $M = -3.74$, $SD = 2.11$, and high attractive, $M = +2.16$, $SD = 2.18$, $t(45) = 21.7$, $p < .001$ indicating that the program successfully selected two sets of items that differed with regard to participants’ preferences, one set of office activities rated by them as “low attractive” and another set as “high attractive.”

Initial Item Attractiveness. Participants rated the attractiveness of the office activities using a bipolar scale from -9 to $+9$. There were no differences between state- and action-oriented participants in their initial ratings of low-attractive (Means: -3.76 vs. -3.73 , respectively; $t < 1$, n.s.) or high-attractive activities (Means: $+2.23$ vs. $+2.09$, respectively; $t < 1$, n.s.). This result is equivalent to that of Experiment 1 and reinforces the idea that state orientation is not associated with an initial increased sensitivity to negative affect.

Effects of Experimental Induction. As one way to assess whether the external-pressure instruction increased negative affect, participants' attractiveness ratings *before* (first rating) and *after* (second rating) being exposed to the controlling instruction were compared within each experimental group. Results showed a significant reduction in item attractiveness only for the external-pressure group ($t(21) = 2.24, p < .05$; Mean change = $-0.46, SD = 0.95$). For the control group the change in rated attractiveness was not significant, $t(23) = 1.84$; Mean change = $-0.39, SD = 1.04$). A second indication that the controlling instruction affected participants in the external-pressure group was that they showed a lower degree of task involvement than those in the control group, according to a postexperimental questionnaire and also on the basis of spontaneous comments of participants of this group during the experiment and debriefing.

False Self-Ascriptions

Preliminary data analyses using the Levene test showed there was a significant departure of homogeneity of variances of FSA rates across groups. The same transformation as in Study 1 was used. An analysis of variance adding Group (*external-pressure, control*) to the factors of Personality, Item Attractiveness, and Source was performed. The four-way interaction was not significant. Because our focused a-priori hypothesis predicts self-infiltration only for state-oriented participants of the external pressure group and not for participants of the control group, we considered it appropriate to carry out separate analyses for each group (cf. Olejnik & Hess, 1997, & Rosenthal & Rosnow, 1985). To test the self-infiltration hypothesis, transformed FSA rates of the *external-pressure* group were analyzed using a 2 (Personality: *state, action*) \times 2 (Item Attractiveness: *low, high*) \times 2 (Source: *other, remaining*) mixed ANOVA, with the last two factors as within-participant. Results yielded a significant Personality \times Item Attractiveness \times Source interaction, $F(1, 20) = 6.15, p < .05$. This interaction can be seen in Table II and is illustrated in Fig. 3. State-oriented participants had a significantly higher FSA rate of boss-assigned compared to remaining low-attractive activities, $t(10) = 2.80, p < .05$, whereas action-oriented participants showed no differences between them ($p > .40$). There were no differences in FSA rates for high-attractive items.

An analogous Personality \times Item Attractiveness \times Source ($2 \times 2 \times 2$) mixed ANOVA on the transformed FSA rates of the *control* group yielded a different pattern of results. The only results were a significant main effect of Item Attractiveness, $F(1, 22) = 36.29, p < .001$, and a Personality \times Source interaction, $F(1, 22) = 4.73, p < .05$ (see Table II). This interaction was further examined with post-hoc paired t tests. Results showed that, taking low- and high-attractive items together, state-oriented participants of the control group tended to have a *lower* rather than higher rate of assigned (29.2%) compared to remaining (39.6%)

Table II. FSA Rates (%) for the External-Pressure and Control Groups as a Function of Item Attractiveness, Source, and Personality in Experiment 2

	External-pressure group				Control group			
	Low attractive		High attractive		Low attractive		High attractive	
	Assigned	Remaining	Assigned	Remaining	Assigned	Remaining	Assigned	Remaining
State oriented								
Mean	20.5*	4.5*	45.5	50.0	14.6	20.8	43.8	62.5
SD	18.7	10.1	27.0	22.4	22.5	23.4	24.1	22.6
Action oriented								
Mean	15.9	18.2	47.7	50.0	25.0	16.7	54.2	50.0
SD	16.9	16.2	26.1	29.6	18.5	12.3	27.9	32.0

* $p < .02$ (one-tailed).

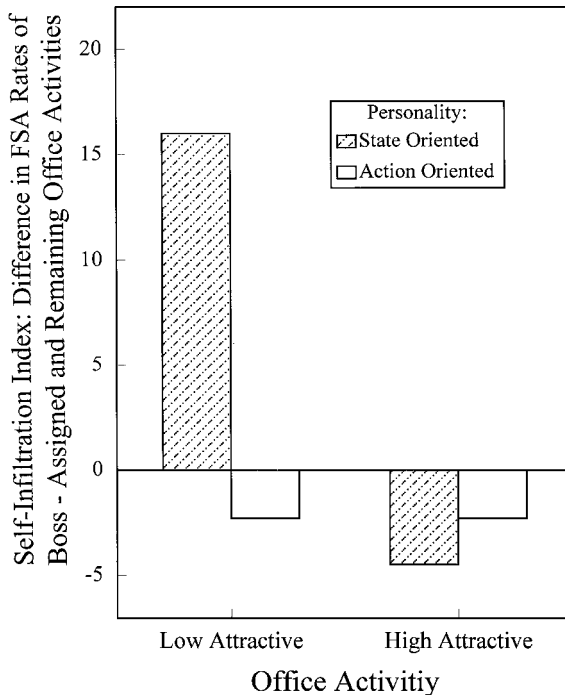


Fig. 3. Difference in FSA rates (%) originating in boss-assigned and remaining office activities (*self-infiltration index*), as a function of personality and item attractiveness for the external-pressure group of Experiment 2. Positive values on the ordinate indicate higher FSA rates for activities assigned by the boss, whereas negative values indicate higher FSA rates for remaining activities.

FSA rates ($t(11) = -2.08, p < .07$), whereas action-oriented participants showed no statistical differences between assigned and remaining FSA rates ($p > .37$).

Decision-Latency Analyses

Exploratory analyses using the Levene test showed a significant departure of homogeneity of variances of decision latencies across groups. To stabilize the variances, these latencies were transformed following Winer (1971, p. 400): Latencies' = log (latencies). To test autoegetic access, transformed latency data concerning previous item self-selection were analyzed using a 2 (Group: *external-pressure, control*) \times 2 (Personality: *state, action*) \times 2 (Item Attractiveness: *low, high*) \times 2 (Response Type: *yes, no*) mixed ANOVA, with the last two as within-participant factors. The four-way interaction was significant, $F(1, 42) = 4.86, p < .04$. Further analyses were carried out for each group separately. For the *external-pressure* group latency data were analyzed using a 2 (Personality: *state, action*) \times 2 (Item Attractiveness: *low, high*) \times 2 (Response Type: *yes, no*) mixed ANOVA, with the last two as within-participant factors. There was a significant Item Attractiveness \times Type of Response interaction, $F(1, 20) = 4.93, p < .04$. The Personality \times Item Attractiveness \times Response Type interaction tended towards significance, $F(1, 20) = 3.26, p < .09$.

To explore the above tendency, two further Item Attractiveness \times Response Type repeated-measure ANOVAs were performed, separately for action- and state-oriented participants. Results for *action-oriented* participants in the external-pressure group yielded a reliable Item Attractiveness \times Response Type interaction, $F(1, 10) = 8.84, p < .02$. They were significantly slower in correctly responding *no* (i.e., "I did not select this activity") to high attractive ($M = 1693$ ms, $SD = 499$ ms) compared to low attractive ($M = 1448$ ms, $SD = 343$ ms) self-selected items, $t(10) = 2.42, p < .04$ (*two-tailed*). They also tended to be slower in correctly responding *yes* (i.e., "I selected this activity") to low attractive ($M = 1738$ ms, $SD = 543$ ms) compared to high attractive ($M = 1387$ ms, $SD = 418$ ms) self-selected items, $t(10) = 1.96, p < .08$ (*two-tailed*). This pattern of results is consistent with our second hypothesis, which predicts that action-oriented participants would take more time to carry out counter-preferential decisions (see Fig. 4).

An analogous Item Attractiveness \times Response Type ANOVA for *state-oriented* participants in the external-pressure group yielded only a significant main effect of Response Type, $F(1, 10) = 7.55, p < .03$, indicating that their *yes* responses ($M = 1294$ ms, $SD = 303$ ms) were significantly faster than their *no* responses ($M = 1529$ ms, $SD = 273$ ms), but without differentiating with respect to item attractiveness. Results are also shown in Fig. 4.

Latency data of the *control group* concerning previous item self-selection were analogously analyzed using a Personality \times Item Attractiveness \times Response

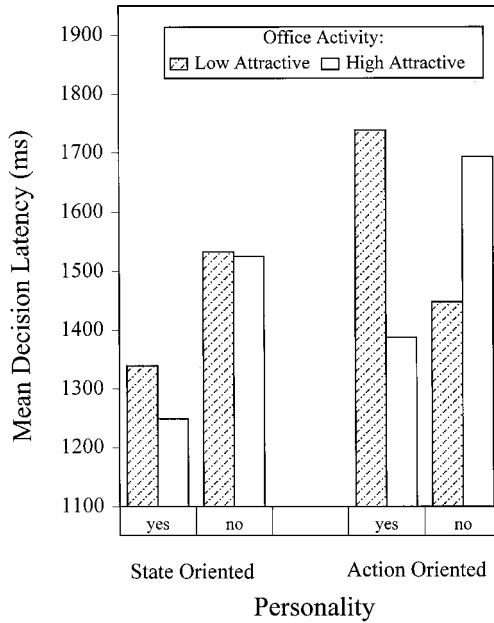


Fig. 4. Mean decision latencies (ms) for *yes* and *no* responses concerning previous item self-selection of low- and high-attractive office activities, separately for state- and action-oriented participants in the external-pressure group of Experiment 2.

Type mixed ANOVA, with the last two as within-participant factors. Results showed no significant main effects or interactions.

Final-Acceptance Decision

The consistency of each group of participants between initially expressed preferences (attractiveness ratings) and behavioral decisions made after exposure to the boss's assignments was examined with the final-acceptance rates. To do that, 2 (Personality: *state, action*) \times 2 (Item Attractiveness: *low, high*) \times 2 (Self-selection: *yes, no*) \times 2 (Boss's assignment: *yes, no*) mixed ANOVAs were calculated. The ANOVA for the external-pressure group showed as the only significant results the main effects of Attractiveness and Self-selection (both p 's $< .001$). In their final-acceptance decision all participants of the external-pressure group chose more often high- (73%) than low-attractive activities (27%) and previously self-selected (66.8%) more often than nonpreviously self-selected activities (33.3%) to carry out later.

The ANOVA for the control group yielded significant main effects of Attractiveness and Self-selection (both p 's $< .001$) and a significant Personality \times Attractiveness interaction, $F(1, 22) = 4.77$, $p < .05$. Interestingly, state-oriented participants in this condition carried out their final acceptance decisions according to their previously-rated item attractiveness in a more consistent manner than action-oriented participants did. State-oriented accepted even more high-attractive activities to carry out later than did action-oriented participants (78.6% vs. 70.34%, respectively, $t(11) = 2.18$, $p < .05$).

Discussion

The overall results show that state-oriented individuals' tendency toward self-infiltration is confined to *low-attractive* prospective tasks, provided relevant situational constraints are present (e.g., externally controlling conditions). The pattern shown in Fig. 3 is consistent with our predictions: State-oriented participants had a significantly higher FSA rate of boss-assigned minus remaining *low-attractive* activities (16% difference), but not for high attractive activities (-4.5% difference), as expected by the self-infiltration hypothesis. Action-oriented participants, in contrast, did not show this effect. They had very similar FSA rates for boss-assigned minus remaining low-attractive and high-attractive activities (-2.3% difference, in both cases).

Action-oriented participants in the *external-pressure* (and also in the *control*) group of this experiment tended to have an overall higher rate of FSAs (both boss-assigned and remaining) than did state-oriented participants (see Table II). In Experiment 1, in contrast, action-oriented participants did have an overall lower rate of FSA than state-oriented participants did. This could be due to the nature of the task (prospective office activities vs. preference judgments), but the reason for that difference is not clear. Notice that self-infiltration is operationalized here in terms of differences in rates of FSA between externally assigned and remaining low-attractive items, and not in terms of absolute levels of FSA, because the latter can also be affected by factors not directly relevant to self-infiltration (e.g., mnemonic strategies used, fluctuations in attention, age of participants, etc.). Consistent with the interpretation of independence, the correlations between absolute levels of FSA and FSA rates of assigned minus control activities (our measure of self-infiltration) were not significant: For the *external pressure* group, low attractive ($r(20) = .05$, n.s.) and high attractive ($r(20) = -.03$, n.s.) tasks; for the *control* group, low attractive ($r(22) = -.22$, n.s.) and high attractive ($r(22) = -.12$, n.s.) items. Further confirmation of the independence between our measure of self-infiltration and the absolute level of FSA rates of participants is given by the correlations between these two variables for Experiment 1: low pleasant ($r(58) = .21$, n.s.) and high pleasant ($r(58) = -.12$, n.s.) mini-actions. Corresponding correlations for data of Experiment 3 (to be described next) similarly showed no significant results.

The pattern of decision latencies obtained supports again the autozoetic access hypothesis: The expected interaction between Item Attractiveness \times Response Type (*yes* vs. *no*) was significant in the analysis of action-oriented participants in the external-pressure group but not in the corresponding analysis of state-oriented participants. Action-oriented participants were slower in responding against their previously-rated personal preferences, correctly answering *no* (i.e., “I did not select this item”) to high- compared to low-attractive items and *yes* (i.e., “I selected this item”) to low- compared to high-attractive items. State-oriented participants in this condition had significantly faster *yes* than *no* reactions, but without regard to item attractiveness. The pattern of decision latencies concerning previous item self-selection is consistent with the assumption that state, in contrast to action-oriented participants of the external-pressure group, had impaired access to self-representations, which explains the lack of autozoetic access shown by the former participants.

EXPERIMENT 3

PSI theory (Kuhl, 2000) proposes that the following factors impair access to the self-system: A personality disposition towards state orientation (i.e., a tendency to preoccupy based on a reduced capacity for self-relaxation), low task involvement (e.g., due to absence of task meaningfulness), external-pressure, and high (sustained) levels of negative affect (e.g., sadness or anxiety). To the extent that a person is unable to access the self-system with its wide implicit networks of personal knowledge—including emotional preferences—during the formation and pursuit of personal goals, his or her experience and behavior is expected to be self-infiltrated as indicated by an increased rate of false self-ascriptions of external assignments or recommendations.

The third experiment was conducted to examine the moderating role of negative affect on impaired access to the self system. Previous research has shown that impaired self-access can be better predicted on the basis of reported rather than experimentally-induced negative affect because the latter is subject to individual differences in coping (Baumann & Kuhl, 2003). Participant’s self-reported sadness was used to form two groups, according to a median split. Increased self-infiltration was expected in state-oriented participants reporting higher levels of sadness (i.e., negative affect), because negative affect—and impaired self-access resulting from it—should be difficult to “down-regulate” in that group of participants only. An interesting possibility to be explored here is whether *moderate levels* of reported sadness, which are expected in normal university students, suffice to influence self-infiltration in state-oriented participants. The degree of task involvement (indicating task meaningfulness vs. task meaninglessness) was additionally measured with a separate inventory, attempting to provide evidence for the basic assumption of Experiment 1 of links among low task meaningfulness, impaired self-access, and self-infiltration.

Method

Participants

Participants were 48 university students (31 women and 17 men) who either were given course credit or paid DM 15 for their participation. Their mean age was 27.7 ($SD = 7.6$) years of age (range = 19–51 years). Prior to the experiment, 24 participants were classified as state-oriented on the *preoccupation* dimension of the ACS according to the norms ($M = 2.1$, $SD = 1.3$) and the other 24 participants as action-oriented ($M = 7.1$, $SD = 1.7$).

Materials

Mood was measured with a list of positive and negative adjectives, similar to the PANAS scales (Watson, Clark, & Tellegen, 1988). Participants made their ratings, “Right now, I feel . . .,” on a 10-point Likert scale (0 = *not at all*; 9 = *very strongly*). Average scores on the four adjectives related to sadness (i.e., *sad*, *melancholic*, *worried*, and *grieved*) were used to measure negative affect. Mood ratings were made twice: at the beginning of the experiment and before goal selection. This combined measure was used to group participants as low ($M = 0.1$, $SD = 0.18$) versus high ($M = 2.5$, $SD = 1.39$) in sadness, $t(46) = 23.7$, $p < .0001$, according to a median split. The sadness scores of state- and action-oriented participants did not differ significantly ($t < 1$) within the “neutral” ($M = 0.13$ vs. $M = 0.14$, respectively) or “sad” groups ($M = 2.74$ vs. $M = 2.25$, respectively). Considering the whole range of possible sadness scores (from 0 to 9), one can observe that participants in the “sad” group had moderate levels of sadness, which can be expected from a nonclinical population of university students.

An inventory (applied at the end of the experiment) was used to measure the degree of intrinsic versus extrinsic task involvement. Participants rated on a seven-point Likert scale (0 = *not at all*; 6 = *very strongly*) a series of 8 statements related to their feelings during the experiment and their perception of the “boss” (Experimenter). There were four statements indicating high task involvement and positive feelings (i.e., task meaningfulness): “*The experiment was fun*,” “*The boss was nice*,” “*The atmosphere during the experiment was friendly*,” and “*The atmosphere during the experiment was relaxed*.” There were four statements indicating low task involvement and negative feelings (i.e., task meaninglessness): “*The experiment was strenuous*,” “*I followed the orders of the boss*,” “*The atmosphere during the experiment was severe*,” and “*I tried to please the boss*.” Average scores to the four statements related to high task involvement were used to get a measure of “task involvement” (Cronbach’s $\alpha = .63$), whereas average scores to the 4 statements related to low task involvement were used as a measure of “task alienation” (Cronbach’s $\alpha = .72$). The overall correlation between both scales was $r(48) = .10$, (n.s.).

Procedure

The procedure was similar to that used in the previous experiment. The experiment was carried out individually in a quiet room. Participants were requested to pretend they were employees and to simulate a working day in an office. Differences with the previous experiment were, (a) there was no initial relaxation exercise for participants, (b) the total number of office activities was increased to 48, and (c) the female experimenter played a more active boss's role. During the external assignment phase stood next to the participant and indicated verbally to him or her which office activities were to be carried out and marked those activities on the monitor, adding at the end, "I expect you today to carry out these activities for me." Additionally, there was no monitoring task and no final-acceptance decision phase.

Results

Item Selection

As in prior studies, the items selected by the program differed in rated attractiveness, low attractive ($M = -4.37$, $SD = 2.74$) and high attractive ($M = +1.95$, $SD = 2.65$), $t(47) = 20.6$, $p < .001$, indicating that the program appropriately selected two sets of items differing in participants' rated attractiveness.

Initial Item Attractiveness

There were no differences between state- and action-oriented participants in their initial ratings of low-attractive (Means -4.60 vs. -4.14 , respectively; $t < 1$, n.s.) or high-attractive activities (Means $+1.87$ vs. $+2.03$, respectively; $t < 1$, n.s.).

False Self-Ascriptions

Preliminary data analyses using the Levene test showed no departure of homogeneity of variances of FSA rates across groups. FSA data were analyzed with a 2 (Group: *sad*, *neutral*) \times 2 (Personality: *state*, *action*) \times 2 (Item Attractiveness: *low*, *high*) \times 2 (Source: *assigned*, *remaining*) mixed ANOVA, with the last two as within-participant factors. Twelve participants were included in each of the four cells resulting from the combination of Group and Personality. There was a significant four-way interaction, $F(1, 44) = 9.91$, $p < .003$. Two additional 2 (Group: *sad*, *neutral*) \times 2 (Personality: *state*, *action*) \times 2 (Source: *assigned*, *remaining*) mixed ANOVAs were then calculated for low and high-attractive

items separately. Results for low-attractive items yielded a significant Personality \times Item Attractiveness \times Source interaction, $F(1, 44) = 11.11$, $p < .002$. Planned comparisons showed that state-oriented participants had a significantly higher FSA rate of boss-assigned compared to remaining low-attractive activities, $t(11) = 2.00$, $p < .05$. Action-oriented participants, in contrast, had a significant opposite effect ($t(11) = -2.17$, $p < .05$), showing a higher FSA rate of *remaining* compared to boss-assigned low-attractive activities (see Fig. 5). The equivalent ANOVA for the high-attractive items yielded only a significant main effect of Source, $F(1, 44) = 6.56$, $p < .05$. There was a higher FSA rate of boss-assigned ($M = 51.2\%$) than of remaining office activities ($M = 36.8\%$). All interactions involving Group or Personality were nonsignificant ($p > .15$). Descriptive data for all conditions are listed in Table III. FSA data are illustrated in Fig. 5.

Decision Latency Analyses

An ANOVA on the decision latencies including the factor of Group (*sad*, *neutral*) was initially performed. The four-way interaction was not significant. Notice that our a-priori hypothesis concerning auto-noetic access predicts quite specific effects (for action-oriented participants of the *sad* group in counter-preferential decisions). Because of that, we considered it appropriate to carry out further analyses separately for each group (cf. Olejnik & Hess, 1997; Rosenthal & Rosnow, 1985). Decision latencies concerning previous item self-selection for the *sad* group were analyzed using a 2 (Personality: *state*, *action*) \times 2 (Item Attractiveness: *low*, *high*) \times 2 (Response Type: *yes*, *no*) mixed ANOVA, with the last two as within-participant factors, there was a significant Item Attractiveness \times Type of Response interaction, $F(1, 22) = 7.44$, $p < .05$, and a significant Personality \times Item Attractiveness \times Response Type interaction, $F(1, 22) = 6.19$, $p < .05$. Planned contrasts showed that action-oriented participants were significantly slower in correctly responding “no” (i.e., “I did not select this activity”) to high-attractive ($M = 2201$ ms, $SD = 615$ ms) compared to low-attractive ($M = 1933$ ms, $SD = 524$ ms) self-selected items ($p < .025$). They also were slower in correctly responding “yes” (i.e., “I selected this activity”) to low-attractive ($M = 1773$ ms, $SD = 604$ ms) compared to high-attractive ($M = 1494$ ms, $SD = 370$ ms) self-selected items ($p < .025$, see Fig. 6). Equivalent contrasts for state-oriented participants yielded no significant differences ($ps > .18$), as expected.

Latency data concerning previous item self-selection of the *neutral* group were analogously analyzed using a Personality \times Item Attractiveness \times Response Type mixed ANOVA. There was only a significant Item Attractiveness \times Type of Response interaction, $F(1, 22) = 7.44$, $p < .05$. The three-way interaction was not significant ($p > .23$).

Self-Infiltration Index: Difference in FSA Rates of Boss - Assigned and Remaining Office Activities

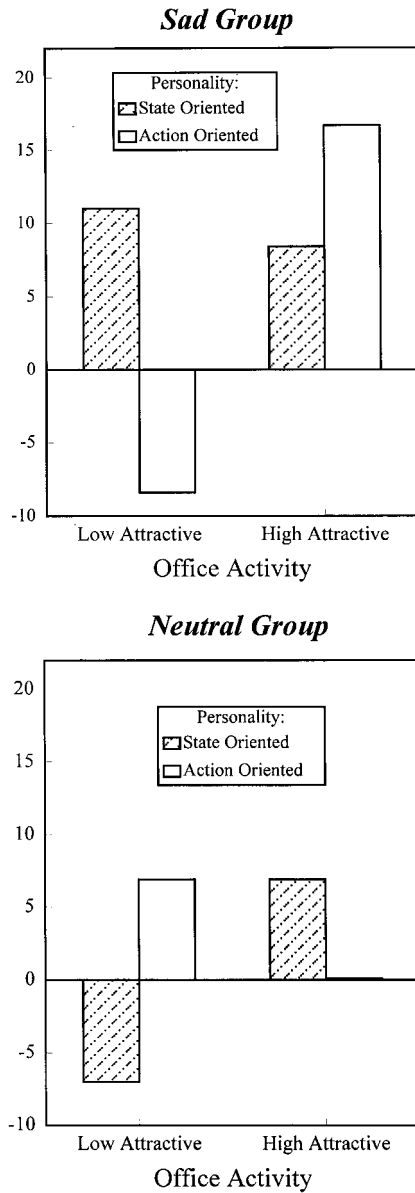


Fig. 5. Difference in FSA rates (%) originating in boss-assigned and remaining office activities (*self-infiltration index*), as a function of group, personality, and item attractiveness in Experiment 3. Positive values on the ordinate indicate higher FSA rates for boss-assigned activities, whereas negative values indicate higher FSA rates for remaining activities.

Table III. FSA Rates (%) for the Sad and Neutral Groups as a Function of Item Attractiveness, Source, and Personality in Experiment 3

	Sad group				Neutral group			
	Low attractive		High attractive		Low attractive		High attractive	
	Assigned	Remaining	Assigned	Remaining	Assigned	Remaining	Assigned	Remaining
State oriented								
Mean	22.2*	11.1*	41.7	33.3	6.9	13.9	38.9	32.0
SD	19.2	8.2	24.1	21.3	11.1	17.2	26.9	18.1
Action oriented								
Mean	8.3*	16.7*	51.4	34.7	25.0	18.1	47.2	47.2
SD	11.2	14.2	13.2	16.6	28.9	19.4	24.4	30.8

* $p < .05$ (one-tailed).

Task Involvement

In the first experiment it was argued that low task involvement (i.e., task meaningfulness) predicts self-infiltration because of impaired access to the self-system

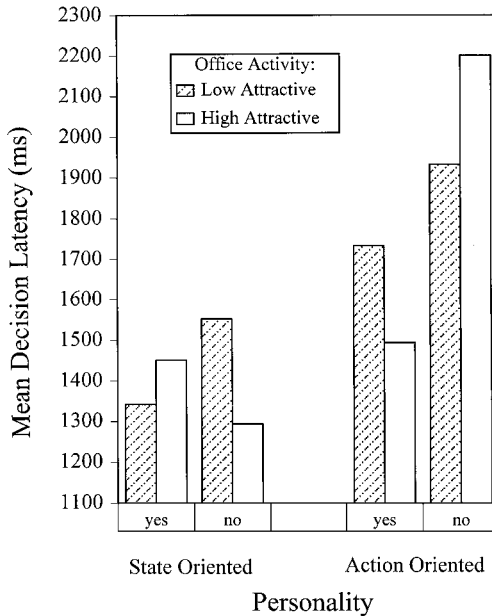


Fig. 6. Mean decision latencies (ms) for *yes* and *no* responses concerning previous item self-selection of low- and high-attractive office activities, separately for state- and action-oriented participants in the *sad group* of Experiment 3.

Table IV. Partial Correlations Between “Task-Alienation” and “Task-Involvement” Scores and the FSA Rate of Assigned Activities (Self-Infiltration), Controlling for the Effect of FSA Rates of Remaining Activities for All Participants ($N = 48$) and Separately for State- and Action-Oriented Participants ($n = 24$, respectively) of Experiment 3

	All participants	State oriented	Action oriented
Low-attractive tasks			
Task-Alienation	.37*	.67**	.10
Task-Involvement	-.10	-.12	.17
High-attractive tasks			
Task-Alienation	-.02	-.16	.05
Task-Involvement	.05	.33	.04

* $p < .03$.

** $p < .001$.

by participants experiencing it. Also implied was that high task involvement does not produce self-infiltration. A related claim was that the relationship between low task involvement and self-infiltration should be stronger in state- than in action-oriented participants.

The moderating role of task-alienation on self-infiltration was examined using partial correlations. To do that, task-alienation and task-involvement scores were each correlated with FSA rates of boss-assigned activities (i.e., false self-ascription rates directly related to self-infiltration), controlling for the effect of FSA rates of remaining activities (i.e., false self-ascription rates on neutral activities, considered as a measure of participant’s baseline error rate). This was done separately for low- and high-attractive office activities. Results are listed in Table IV.

In support of the relationship between low task involvement (i.e., task meaningfulness) and self-infiltration proposed in Experiment 1, the correlation found between our measure of task-alienation and FSA rates of low-attractive boss’s assignments was significant for all participants, $r(46) = .37$, $p < .03$, even after partialling out the rates of FSA of low-attractive remaining activities. Furthermore, as expected, the strength of the correlation increased markedly considering only state-oriented participants, $r(22) = .67$, $p < .001$. Within the action-oriented group, the correlation practically disappeared: $r(22) = .10$, *n.s.* The difference between these last two partial correlations is reliable, $z = 2.32$, $p < .02$. Notice that the correlations found with self-infiltration were specific to task-alienation and low-attractive activities. There were no significant correlations with the measure of task-involvement nor for high-attractive office activities.

Discussion

The main results support once again our hypotheses. Self-reported sad mood was successful in predicting self-infiltration in state-oriented participants, as

assessed by higher FSA rates of boss-assigned minus remaining activities. A new finding is that action-oriented participants of the sad group show an opposite memory bias: They have significantly lower FSA rates of assigned compared to remaining activities. This last result can be interpreted as an implicit mechanism that helps action-oriented participants to protect themselves from internalizing self-alien low-attractive goals, especially when they are in a sad mood. There are no equivalent results for the neutral group.

The latency data of participants of the sad group replicated once again the pattern of autoegetic access. Action-oriented participants responded significantly more slowly in counter preferential decisions concerning previous self-selection; that is, responding “yes” to low-attractive (compared to high-attractive) and “no” to high-attractive (compared to low-attractive) office activities. State-oriented participants, in contrast, showed no significant differences in their decision latencies, which suggests that they engaged in a less efficient process of self-compatibility checking, resulting in a lowered probability of detecting items in conflict with their previously stated preferences. The results of the neutral group showed no significant interactions with personality, as expected.

Low task involvement correlated significantly with FSA rates of low-attractive boss’s assignments (controlling for FSA rates of control tasks) for all participants, but especially for the state-oriented participants (see Table IV under “task alienation”). This result indicates that low task involvement is a factor related to the presence of self-infiltration, especially in state-oriented persons, supporting the conclusions of Experiment 1 about the link between these two variables.

GENERAL DISCUSSION

Compared to the results of Kuhl and Kazén (1994), the findings of the three experiments give a more differentiated picture about the factors influencing *self-infiltration* and provide evidence of a behavioral index related to self-determination, *autoegetic access* (i.e., slower reactions in counter-preferential decisions concerning previous self-selection of items). The hypothesis that self-infiltration should be obtained only with items having low preference was supported: Significant interactions in the false self-ascription rates between Personality (action vs. state orientation) and Source (other vs. remaining) were found *only* for less pleasant mini-actions (Experiment 1) or less attractive tasks (Experiment 2, external-pressure group; Experiment 3, sad group). These findings are consistent with the theoretical interpretation of self-ascription errors in terms of misinformed introjection (i.e., self-infiltration) rather than identification, because the latter type of internalization is proposed to occur with high-attractive rather than with low-attractive items. The lack of interaction effects involving personality in the false other-ascriptions results of all experiments (see footnote 8) indicates that

the memory errors state-oriented participants make are specific to self-infiltration (i.e., taking erroneously as self-generated suggestions or goals originating in experts' recommendations or a boss's assignments) and are not due to a general memory deficit concerning decisions involving the self-system (i.e., problems in distinguishing "reality" from "fantasy," cf. Johnson, 1988; Johnson & Raye, 1981).

Notice that all participants (i.e., both action- and state-oriented) had higher FSA rates of *high-* compared to low-pleasant actions, and of *high-* compared to low-attractive office activities (see Tables II and III), but these rates were not significantly different depending on their source: others versus remaining (neither self nor others). This general pattern can be explained if one assumes that normal nondepressive persons, like participants of our experiments (see, e.g., the low level of reported sadness of state- and action-oriented participants of Experiment 3), do not have a negative affective bias in attention, memory, or judgement. One can therefore expect that their baseline error rate of self-ascriptions should be higher for high- compared to low-pleasant items, because preferred items are more likely to be confused with actual self-selections on the basis of their higher level of self-congruency and self-acceptance. It remains to be shown whether clinically depressed persons, with their negative affective bias in attention, memory, and judgment (cf. Gotlib, Roberts, & Gilboa, 1996), would also show this response pattern.

Self-Infiltration and Impaired Self-Access

According to PSI theory, impaired access to self-representations concerning goal choices and emotional preferences occurs when negative affect (conscious or not) cannot be reduced through higher-order self-regulatory processes. This impaired self-access is postulated by the negative affect modulation assumption of PSI theory: Negative affect inhibits a system providing implicit representations of extended semantic networks ("extension memory") and at the same time facilitates perceptual sensitivity (e.g., at object recognition tasks), which makes the organism aware of potential signals of danger. In addition to negative affect, variables presumably inhibiting self-access are exposure to task-alienating conditions or induction of external pressure. Under those circumstances, state-oriented individuals are expected to have impaired access to integrated self-representations, because they are not able to change by themselves their negative or alienated state into a neutral or positive state. Action-oriented persons, in contrast, are more likely to implement self-regulatory strategies aimed to reduce the influence of negative emotionality on their experience and behavior (Kuhl, 1985). Social demands coercing participants to "select" or perform personally unattractive activities (as intensified by the controlling instruction in Experiment 2) are examples of such negative affect-inducing conditions. To the extent that action-oriented persons are able to "down-regulate" negative affect by themselves, they should be able to

access integrated self-representations in their self system, with the effect that they could identify self-alien actions or opinions suggested by others more readily and, if such actions are not self-compatible, reject them.

The pattern of responses of action-oriented participants across experiments indicates a consistent pattern of autozoetic access, which was not found for their state-oriented counterparts. The indication of autozoetic access in action-oriented participants suggests a possible mechanism that helps them resist external influences in the determination of their goals or attitudes: Enhanced *self-compatibility checking*, presumably causing increased latencies of decisions involving conflicting self-elements. The use of self-compatibility checking can explain why action-oriented individuals more readily identify the external (i.e., “self-alien”) status of externally assigned activities or experts’ opinions. Their better self-access also helps to explain why action-oriented persons’ behavior is more consistent with their own goals and attitudes than that observed by state-oriented persons (see e.g., Fuhrmann & Kuhl, 1998; Kuhl & Beckmann, 1994b; Kuhl & Kazén, 1994).

It has been proposed that internalization of attractive goals or ideas proceeds for all people through a process of integration or assimilation with one’s self (cf. Koestner et al., 1996; Sheldon & Kasser, 1995; Sheldon, Houser-Marko, & Arndt, submitted). Taken together, the present findings additionally suggest that internalization of *unattractive* ideas or goals is moderated by the personality disposition of state versus action orientation (its “preoccupation” vs. “disengagement” subscale): Whereas the former individuals exposed to task-alienating conditions or under external pressure are prone to internalize external assignments or recommendations through a process of self-infiltration, the latter are able to access their self-system, including representations of their emotional preferences, which allows them to shield themselves against the tendency towards self-infiltration.

Related to the findings on autozoetic access and self-compatibility checking are results showing that *action-oriented* participants have higher rates of actual enactment of intentions compared to state-oriented ones (Kuhl, 1982; Kuhl & Kazén, 1994). Taking this evidence into account, the causal chain mediating facilitated self-access and goal enactment in action-oriented individuals can be construed from (a) down-regulation of negative affect (cf. Kuhl & Baumann, 2000), (b) facilitated self-accessibility (suggested by the present results), to (c) superior goal enactment (Fuhrmann & Kuhl, 1998; Kuhl, 1982).

It is worth noticing that even small increases in reported negative affect (cf. Baumann & Kuhl, 2003) or a subtle induction of task-alienation may be sufficient to inhibit access to self-representations in state-oriented participants. The present findings show that a subtle induction of task-alienation (Experiment 1), a moderate instruction stressing negative task consequences (external pressure group of Experiment 2), or a moderate level of subjective sadness (sad group of Experiment 3) was sufficient to elicit self-infiltration in state-oriented participants, which was not the case for their action-oriented counterparts under the same conditions.

Implications for Attitude Change and Social Conformity

The present results may have implications for the study of individual differences in the process of *attitude change*. The better access to representations of personal preferences shown by action-oriented participants may help them to protect themselves from accepting self-incompatible persuasive communications. The higher tendency toward self-infiltration shown in state-oriented individuals, on the other hand, suggests they may be more vulnerable to persuasive communications. According to PSI theory, this vulnerability is expected when negative affect is elicited in the persuasive situation (e.g., through emphasis on the negative consequences of not agreeing with an authority's statement or of not doing what is expected) and, according to findings of the present research, it is also expected when persuasive communications focus on low-attractive things for the individual (e.g., buying a product, doing an activity, carrying out a task, or making a public statement). Under external pressure conditions, even tangential arguments for an issue ought to suffice to make state-oriented persons change their minds. Action-oriented persons, in contrast, are less inclined to change their attitude under those conditions (see Ciupka, 1991, for evidence supporting these hypotheses). Based on the assumption that attitude change usually takes place at an implicit (nonconscious) level, we believe the methods for operationalizing access to self-representations reported here (i.e., self-infiltration and auto-noetic access) can be useful to explore the dynamics of attitude change in future research.

The foregoing arguments have been confirmed in several studies reported by Beckmann (1997). He replicated the classic findings on social conformity of Asch (1956) in the context of the personality disposition of action versus state orientation. The classic phenomenon investigated by Asch concerning the effect of implicit group pressure (majority's opinion) on the tendency to change the mind of one "isolated" individual in making perceptual judgments occurred only with state-oriented participants (in the "preoccupation" subscale of the ACS). No action-oriented participants showed this group-pressure effect. Moreover, the conformity effect could be markedly reduced in the state-oriented group when the cover story helped them perceive the purpose of the experiment as personally meaningful. These intriguing findings additionally support the proposal of an increased tendency toward self-infiltration in state-oriented participants under social pressure or low self-relevance (less meaningful) conditions and relates the area of social conformity to the issue of individual alienation of one's preferences (Guevara, 1994; Kuhl & Beckmann, 1994b).

Broader Implications for Volition

According to PSI theory (Kuhl, 2000, 2001), the present results can be explained through a negative-affect sensitive mechanism contributing to the

development of an integrated self-system. This mechanism is activated by moderate levels of threat, whereas it is inhibited whenever the subjective level of negative affect exceeds a critical threshold, to the effect that it cannot be down-regulated. Presumably, state-oriented persons are less able to initiate this down-regulation process without external support compared to action-oriented.

In addition to self-infiltration, the assumption of threat-contingent inhibition of the integrative mechanism supporting the self-system can explain other phenomena related to volitional inhibition, (a) *helplessness*, in terms of impaired performance at complex tasks observed in state-oriented, but not in action-oriented participants after exposure to uncontrollable aversive events (Brunstein & Olbrich, 1985; Kuhl, 1981; Kuhl & Weiss, 1994); (b) *alienation*, in terms of failure to behave according to one's emotional preferences (Guevara, 1994; Kuhl & Beckmann, 1994b); (c) *rumination* in terms of an inability to disengage from unwanted emotions and cognitions, that is, mental activities that are not compatible with integrated self-representations (Kuhl & Baumann, 2000; Kuhl & Helle, 1986).

The *volitional inhibition* state-oriented persons suffer when exposed to negative affective conditions goes hand in hand with the higher tendency toward self-infiltration of *unattractive* goals and suggestions originating in experts or authority figures they showed in this research. Although in the present experiments (and in those of Kuhl & Kazén, 1994) experts or authority figures have been salient, according to PSI theory they are not necessary for self-infiltration to occur: State-oriented persons should also be vulnerable to self-infiltration with suggestions originating in relatives, friends, acquaintances, or other models (e.g., in commercials), who are not considered by them to be endowed with special authority. The main precondition (and theoretical postulate) for self-infiltration is the presence of negative affect or alienating states in state-oriented persons, which produces impaired access to the self-system, and hence to representations of personal preferences, needs, and goals. The above hypothesis concerning nonauthority persons and self-infiltration in state-oriented individuals remains to be tested in future research.

Some final remarks concern the limited generality of negative aspects of volitional inhibition associated with state orientation. One possible useful function of *self-infiltration* is that it helps people with poor self-access and therefore with limited access to representations of their personal preferences (e.g., state-oriented) reduce the load of making decisions about which goals are to be pursued or which actions are to be performed in situations in which there may be no clear-cut preferences among many different alternatives. In addition, the higher tendency of state-oriented persons to rely more on the explicit (or implicit) suggestions provided by other persons than on their own personal judgements may sometimes be advantageous, because it may provide these persons with the necessary amount of self-control and energy to efficiently carry out their stated intentions (see Fuhrmann & Kuhl, 1998, for evidence of the above tendency of state-oriented participants in a study dealing with changing one's bad eating habits in the direction of eating more healthy foods).

A concluding precaution concerns the adaptive sides of state orientation that are expected in situations in which the individual feels secure, relaxed, and accepted. The fact that our program of research has focused on many maladaptive sides of state orientation under ego-threatening, anxiety-arousing, or task-alienating conditions should not obscure its positive sides: Under relaxed conditions, the theory predicts *facilitated* performance of the integrative mechanism in state-oriented individuals to the extent that they may even fare better than action-oriented persons on the three phenomena mentioned previously (helplessness, alienation, and rumination). This prediction has also been confirmed: When exposed to relaxed, nonthreatening conditions, state-oriented individuals can outperform their action-oriented colleagues, even at complex tasks (Menec, 1995). This effect can be explained by making one additional assumption: To the extent that state orientation is—all things equal—associated with a heightened level of negative affect in demanding situations, whereas action orientation is not, a relaxation treatment would stimulate state-oriented individuals' down-regulation process which is assumed to be responsible for self-access. Action-oriented individuals may even have reduced self-access under relaxing conditions to the extent that they do not experience enough negative affect to down-regulate unless situational demands exceed a critical intensity (i.e., they may be "under-challenged"). Since the present research was not designed to examine such questions, their answers are left for future studies dealing with the dynamics of affect regulation under benign conditions.

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