Goal Orientation and Planfulness: Action Styles as Personality Concepts

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We performed nine studies with partly overlapping samples from the United States and Germany to establish the reliability, validity, and usefulness of the concept of action style—a person-specific approach to action. Two principal-components-analyses factors are dealt with in more detail: goal orientation and planfulness. Both show high consistencies and have test–retest correlations of r = .47 and .48, respectively, across 8 months. In one validity study, the correlations between self-ratings and peer ratings are .36 for goal orientation and .54 for planfulness. In a second validity study, a quasi experiment, with thinking-aloud protocols on planning a day in a strange city, showed rather weak correlations between raters and subjects, but these correlations improved when we included only those subjects who were easy to observe. A third validity study on the correlations with impulsivity showed that goal orientation is little related but that planfulness is to a higher degree. There are small but consistent and significant relations with depression and with coronary-prone Type A behavior, and there are correlations with work-related constructs of stress and resources at work as well as with performance in college.

Most individuals set goals and develop some plans during the course of a day. Whether one prefers to plan a course of action while taking a shower or before going to bed, it would be crippling to most people to have this process of goal refinement and planful behavior prevented completely. Actions are determined and guided by goals, plans, and feedback (Anderson, 1985; Frese & Sabini, 1985; Miller, Galanter, & Pribram, 1960). The goals determine the course of the plan, and the feedback from the environment redirects the plans, providing the basis for an assessment of whether a plan will serve a given goal and whether the desired goal has been achieved. Goals and plans are organized hierarchically (at least to a certain degree) and include major goals and subgoals and major plans and subplans. Although actions are goal oriented, not all goals are specified in detail and not all actions are oriented toward one particular goal. Furthermore, some plans are rather rudimentary and unspecified, to be worked out in the course of action (Volpert, 1976), whereas others are worked out in great detail before the action.

In addition, there are individual differences in planning and goal setting. Some individuals take all of their goals very seriously, do everything they set out to do, do not do anything that does not lead toward their goals, and start immediately to act when they have decided what they want to accomplish. Others are not so goal oriented. They do things that they did not really intend, do not take their goals particularly seriously, and are sometimes sidetracked by incidental happenings. Then, when approaching these goals, some people draw on past mistakes to improve their future plans, make several different plans before they decide to pursue one, have backup plans in mind in case the first plan does not work out, and plan far in advance with a lot of detail. Others are more nonchalant about their plans. They plan while they act but not really before they start their actions, their plans are rather broad and nonspecific, they rarely plan for events that seem unlikely, and they do not plan anything when it does not seem necessary. Thus there may be interindividual differences in goal orientation and planfulness. Because these differences are stylistic components of people's actions, they are called action styles.

An action can be conceptualized to consist of the following steps: goal development and decision, plan development and decision, execution of plan, and use of feedback. Each of these steps can be considered a component of an action style that can be characterized by the timeframe, persistence of pursuit, and

The major bulk of this research was supported by a biomedical grant from the Faculty of Arts and Sciences of the University of Pennsylvania to Michael Frese, Judith Stewart, and Jonathon Baron. The research on action style and working conditions was supported by Grant Fr 638/1–2 from the Deutsche Forschungsgemeinschaft to Michael Frese. The writing of the final draft was supported by a travel grant, Fr 638/2–1, from the Deutsche Forschungsgemeinschaft to Michael Frese. These grants are gratefully acknowledged.

Several students have helped in data collection and analysis: Patricia Burton, Richard Cohen, David Gore, Lisa Latorre, Joan Oppenheimer, Jochen Pruemper, Christa Senglar, Richard Veraschi, and particularly Walter Love. Jonathon Baron has given us advice repeatedly. Robert Bidmon and two anonymous reviewers gave helpful comments on earlier versions of this article.

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Journal of Personality and Social Psychology, 1987, Vol. 52, No. 6, 1182–1194
 0022-3514/87/$00.75

Process	Timeframe	Persistence of pursuit	Detailedness
Goal development and decision			
Plan development and decision			
Use of feedback			

Figure 1. Action process and aspects of action styles.

detailedness of elaboration (cf. Figure 1). For example, how far in advance is a plan elaborated, how persistently is it pursued, and how detailed is the plan? Items for a questionnaire on these interindividual differences can be grouped around the cells in Figure 1. (This was done only for planfulness and goal orientation, not for use of feedback.)

The plan component and the goal component of action are conceptually distinct although probably empirically related. A person can be extremely goal oriented and still lack a precision of plans (e.g., a graduate student who may have the goal of becoming a professor but does not have detailed plans to accomplish this). It is less likely that a person will not take goals seriously but will still have highly developed plans. Even this is possible. In many cases, however, a person with clear-cut goals will develop at least adequate plans and a person without clear goals will tend to be planless.

When introducing a personality concept like action styles, the reliability and the validity of the measures used to assess it and its significance in areas of practical concern should be established. This is the task we take up in this article. After a conceptual discussion of action styles, the presentation of our empirical investigations falls into two parts. The first and more important part presents the measures of goal orientation and planfulness and their reliability and validity.

In a second part of this article, we shall discuss some preliminary data on two areas in which the concept of action style may have practical importance. These are clinical problems and work-related behaviors.

Theoretical Discussion of the Concept of Action Style

Because goals and plans guide our actions, we propose that interindividual differences in goal orientation and planfulness should be called *action styles*. They are related to cognitive styles (Goldstein & Blackman, 1978) but are more directly linked to action, compared, for example, with field dependency. The notion of style implies a certain amount of consistency, stability, and bidirectionality (Witkin & Goodenough, 1977). Additionally, an action style is a structural characteristic; that is, it is not related to a specific content but is abstract enough to be apparent in various contexts.

Action styles are neither traits nor aspects of temperament nor abilities: (a) They are conceptualized as propensities to act, (b) they are teachable to a certain degree, and (c) they are bidirectional. Action styles are, in Baron's (1981) sense, propensities to act. These propensities to act are represented cognitively as certain general learned heuristics for how to act. A heuristic may be of the sort "let me clearly specify the goal before I start to act" or "in case something goes wrong with my first plan, let me have ready a second plan that I can then use" or "let me not waste time on planning now; rather let me work out my plan in the course of acting." These heuristics have some similarities to the concept of metacognition (Brown & Smiley, 1977; Gleitman, 1985). Brown (in press) similarly conceptualized planning activities as metacognitive activities. One aspect of metacognition is a set of general heuristics used for solving a variety of concrete problems (e.g., making written notes helps in remembering things).

In contrast to a temperament, an action style is teachable, because it is possible to tell people to plan carefully or specify the goal more in detail and they will most probably abide even if they have an action style that would suggest otherwise.

As opposed to abilities, action styles are bidirectional. Although it is optimal to be as intelligent as possible, an action style should be modified depending on the specifics of a situation; for example, it may not be useful to plan everything out in detail. It may be much more efficient not to plan, if the psychological costs for planning are higher than the costs for not planning (Schönpflug, 1985). It is, for example, not very useful to plan one's career in detail if the labor market is erratic and unpredictable. Planning may also increase stress when one's general intelligence is not up to coping with the problems of planning (Battmann, in press). Here planlessness is better. On the other hand, when there are limited resources and the environment is predictable, it is better to plan. The virtue of planning depends on the situation. The same is true of goal orientation.

Thus, action styles are propensities to act, they are heuristics, they are most probably changeable when instructed, and they cannot be called good or bad irrespective of the situation in which they are used. If the situation strongly determines the action, the propensity to use a certain action style will be overruled. Three questions arise in this context, however: (a) Are styles situation specific or general? (b) Are action styles always malleable or are there conditions under which the malleability is reduced? (c) How is the action style *planfulness* distinct from other concepts, such as impulsivity?

1. Action styles are conceptualized as abstract heuristics that are general rules abstracted from a large amount of past information and experience and that facilitate the development of new plans for new situations without starting from scratch each time. Insofar as they are abstract, they can be used in different situations. These heuristics become generalized when they are used repeatedly in different situations or when one is told to use them in different situations. However, given that action styles are propensities to act, we expect that action styles will show a certain malleability and sensitivity to situational variables.

It is important to keep in mind what we mean by generality here. Individual differences in action style must be judged in a relative manner across situations. That is, a strongly planful person would most often have backup plans to guarantee reaching the goal. Such a person might generate five alternative plans for a simple trip to the supermarket (e.g., how to get there, what to buy, what kind of bag to use, etc.) and 10 alternative plans for a trip to Europe. A less strongly planful person might also

have backup plans but relatively fewer in each situation. So, for example, for a simple trip to the supermarket, perhaps none or only one backup plan would be produced, and for a trip to Europe two alternative plans.

Thus, if the concept of action styles is reliable and valid, we expect to see individual patterns that are consistent cross-situationally in this relative sense but not in some absolute sense. Additionally, action styles do not completely determine the specific orientation to goals and plans; there is only a propensity to act in a certain way. This propensity should be stronger the more we act mindlessly (Langer, Chanowitz, & Blank, 1985).

2. This brings us to our next point: Action styles can be automatized with practice. This is similar to the automatization of motor behavior (Hacker, 1978) or search detection tasks (Shiffrin & Dumais, 1981). Once action styles are automatized, they function similarly to automatized motor actions: They need little attention, they are quick, and effort has to be exerted to change the automatized patterns. In such a case, action styles will be used even when they are not optimal (Semmer & Frese, 1985). However, even in such a case, they are malleable, although only after the person exerts effort and reintellectualizes the use of the heuristic.

3. What is the relation of the action style *planfulness* to the concept of impulsivity versus reflection? There is a conceptual as well as an empirical answer. Conceptually, there are two issues: One concerns the question of process, whether impulsivity is conceptualized as a propensity to act or as a temperament. The second one is concerned with content.

In terms of process, impulsivity could be conceptualized as a propensity to act. Given this interpretation, there is a conceptual overlap between planfulness and impulsivity. For example, we would propose that forcing a person to be planful in our sense should decrease his or her impulsivity, and teaching scanning strategies does in fact lead to this result (Messer, 1976). However, if impulsivity is interpreted as temperament, there are large conceptual differences. Buss & Plomin (1975) argued that temperaments are inherited, are stable during childhood and retained into adulthood, have adaptive value, and appear as a trait in animal forebears. Using these criteria, they proposed four temperaments: activity, emotionality, sociability, and impulsivity. In principle, we do not consider these five criteria definitive of action styles. The action-style concept is moot on the question of inheritance; modifiability and dependency on situational constraints are benchmarks of action styles and therefore there is no a priori need for them to be stable during childhood or necessarily to be retained in adulthood. Adaptive value is a situation-dependent variable in the case of action styles, and detailed planning is not typically present in animals.

In terms of content, impulsivity means (a) doing something very quickly (very often at the expense of quality)—in short, hurriedness, and (b) doing something without rational thought, without thinking. Kagan (1985) discussed impulsivity primarily in terms of conceptual tempo, that is, hurriedness. Here, differences from planfulness arise. Lack of planfulness means that there is little planning, little thinking of past mistakes, no backup plans, and no planning for things that are unlikely, but not necessarily hurriedness. Lack of planfulness is therefore not the same as the concept of impulsiveness in the sense of hurriedness. But they may be causally related: Lack of planfulness may be the consequence of hurriedness (one does not have time to plan), or the lack of planning may make it possible to hurry. Thus, there should be empirical correlations. But the two terms are conceptually distinct.

In terms of the second aspect of impulsivity, lack of thinking (Baron, 1985a, 1985b), the differences between planfulness and impulsivity are more complicated. For example, one can plan to hit another person on the head if provoked, or one can just strike unthinkingly if provoked. In the first case, to do the act impulsively was part of the plan. This is similar to planning a ballistic movement, which is preplanned, and once started it cannot significantly be changed any longer through reflection. In the second case, impulsiveness truly means nonplanning. The behaviors in these two cases look similar but would have quite different meanings in terms of the concept of planfulness. In summary, there is some conceptual overlap between impulsivity and lack of planfulness, but this depends on the specific interpretation of impulsivity.

In the empirical literature, there are two quite different operationalizations of impulsivity: the more common Matching Familiar Figures Test (MFFT; Kagan, Rosman, Day, Albert, & Phillips, 1964; Messer, 1976) and questionnaire measures (e.g., Eysenck & Eysenck, 1977). The MFFT measures latency times of the answers (i.e., hurriedness) and errors when comparing the figures. Here, there should be a small but not substantial relation to planfulness.

The questionnaire measures of impulsiveness are rather diverse. For example, Eysenck and Eysenck (1977) empirically extracted four factors of impulsiveness in a broad sense: risk taking, nonplanning, liveliness, and impulsiveness in a narrow sense. Two of these factors have a potential overlap in item content with planfulness: impulsiveness (narrow) and particularly nonplanning. However, inspection of the item content of the nonplanning factor reveals two conceptually different groups of items. One set of items is similar to our planfulness, for example, "Do you like planning things carefully well ahead of time?" (We would, of course, have asked about actual planning and not about liking to plan!) A second set seems to be related to anxiety, for example, "Would regular health checks make you feel better?" The first set would lead us to expect an empirical relation with planfulness and the second set would not. Therefore, we suspect that on average there are moderately high correlations of our measure of planfulness with Eysenck and Eysenck's factors of nonplanning and impulsivity in the narrow sense. But these should not be confused with conceptual identity; a strong test of claims for conceptual identity would also demand that there be a substantial correlation with the MFFT in the sense of Campbell and Fiske's (1959) convergent validity.

In conclusion, our argument is that action styles may be an interesting and conceptually distinct approach to individual differences in person variables. This convinced us to pursue this topic in a series of studies.

Part 1: Reliability and Validity of Planfulness and Goal Orientation

Reliability is shown to exist with the help of factor analysis, internal consistency, and test–retest relations.

Validity is established by peer ratings and by a quasi experi-

ment. Peer ratings have been used in other personality research as validity estimates (e.g., Bem & Allen, 1974; Kenrick & Stringfield, 1980). As peers are usually quite well acquainted with how their friends act and usually abstract some kind of conceptualization of typical actions, they seemed to be good judges of the validity of action styles. Recently, some controversy has arisen with regard to the validity of peer ratings. Mischel and Peake (1982) have argued that peers, when they assess a person's personality, do not assess consistency of behavior but rather the temporal stability of prototypical behaviors. It is not necessary to enter this debate here; it is sufficient to say that the results of the quasi experiment cannot be explained with the same notions that Mischel and Peake used to explain high relations between peer ratings and subjects' ratings. In the quasi experiment, the subjects were put into one particular planning situation (planning for a day's vacation in an unknown city). Here their planning was assessed by raters who used thinking-aloud protocols of the subjects to rate their planning and goal-setting behavior in this particular situation.

Another aspect of validity is the question of how our measures of action styles are related to traditional measures of impulsivity such as the MMFT and the two factors, non-planning and impulsiveness in the narrow sense, of Eysenck & Eysenck (1977).

Method

Subjects

A series of small-scale studies with partly overlapping samples was conducted. In all of the studies except the last one, undergraduate college students at a private U.S. university filled out questionnaires or participated in a quasi experiment. They were usually paid for their participation. The students were recruited in large introductory lecture courses, mainly in biology, physics, and psychology. There are missing data, therefore, and the number of subjects fluctuates slightly in the computations.

In Study 1, a sample of 76 subjects received the first questionnaire on action styles.

In Study 2, after reducing the number of questions and changing some of the wording to equalize the social desirability of the forced-choice alternatives, we gave the questionnaire to 412 undergraduates.

For Study 3, a subsample of 34 subjects of Study 1 was again asked to fill out the same questionnaire 8 months after their first participation to investigate test–retest stability.

In Study 4, for a randomly drawn subsample of the subjects of Study 2, the subjects' peers were asked to fill out an action-style questionnaire on their friends ($N = 70$).

In Study 5, a subsample of the subjects from Study 2 was asked to participate in the quasi experiment on planning for a day's vacation, about 4 months after participating in Study 2 ($N = 31$).

In Study 6, a sample of 100 German psychology students filled out the action-style questionnaire (only a general, not a situation-specific form) and a translated subset of Eysenck & Eysenck's questionnaire using the items of the factors nonplanning and impulsiveness in the narrow sense. A subsample of 30 also took the MFFT.

Measures and Procedure

For the action-style questions,[1] a stimulus response format was used (Endler & Hunt, 1966). A vignette was written on the top of the page that described a certain situation (e.g., "Think about the last time you did some big project for school like writing a term paper. How did you generally go about it? Please read both sides before checking your response, then please answer every question. WHEN I WROTE THE TERM PAPER . . ."). A series of questions followed the vignette. The questions had a forced-choice format (e.g., ". . . I thought about the long term implications [vs.] . . . I thought of what was necessary at the moment"). There was a 5-point scale on which the subjects were asked to check off the box that most closely reflected their actions in the vignette situation (cf. Figure 2). There were 31 questions in Study 1 and 24 in Study 2 that were repeated for each situation. The situations were chosen to represent a wide variety of activities in which college students find themselves often enough to develop some characteristic action patterns. One situation referred to a social problem (solving a problem that has arisen between the subject and a friend); the second was a leisure-type situation, namely going on a trip; the third referred to a typical work situation for students (writing a term paper); and the fourth referred to an everyday activity (going shopping). The last situation was dropped in Study 2 because the subjects felt that shopping was itself a very diverse activity (e.g. going shopping for a new suit implied completely different action patterns than did shopping for groceries). Thus, there were four situations in Study 1 and three situations in Study 2.

In Study 4 (the peer study), general questions were asked ("IN GENERAL, WHEN S/HE DOES THINGS . . .") with the same 24 items as in Study 2. The action-style questionnaire used in Study 6 was also of this general form. The scales for goal orientation and planfulness were somewhat shorter (one or two items) in some of the studies (Studies 4, 5, and 6) than in other ones.

The quasi experiment (Study 5) used a design in which the subjects were asked to plan a vacation day in Athens with a guide book while thinking aloud. (None of them had been to Athens.) Two raters used the tape-recorded protocols to rate the subject. Subjects were also asked to rate themselves on how they had set goals and planned during the session. The questions were similar to the original items of the questionnaire, but some of the original questions did not make sense in this situation and were dropped. The factor of goal orientation is composed of two items (Numbers 17 and 21 in Table 1) and the factor of planfulness has four items (Numbers 8, 10, 11, and 14 in Table 1). This design of the quasi experiment allowed us to ask several questions related to the objectivity of action styles.

Results and Discussion

Reliability and Principal-Components Analysis

The basic unit of analysis is not the situation-dependent item but a composite of all the situation-dependent items added together.[2] For example, the factor analysis of Study 1 was done with 31 items, each item a sum of the four situation-specific responses. This was done to decrease the number of items. Each sum of the four situation-specific items can be conceptualized as a scale that has a certain reliability as well. Averaging the Cronbach's alphas of each of the 31 items of Study 1, the result is an alpha of .49 (computed after r-to-z transformation). Similarly, the average Cronbach's alpha for the 15 items of Study 2 that went into the three scales was .46. These are not high reliabilities but they are still acceptable given the fact that quite

[1] Copies of the English and the German versions of the questionnaire are available from Michael Frese.

[2] On a theoretical level, we agree with an interactionist person–situation framework (Lantermann, 1980; Magnusson & Endler, 1977). In this analysis, however, we focus on the person side of this interaction to establish the concept of action style as a meaningful person variable.

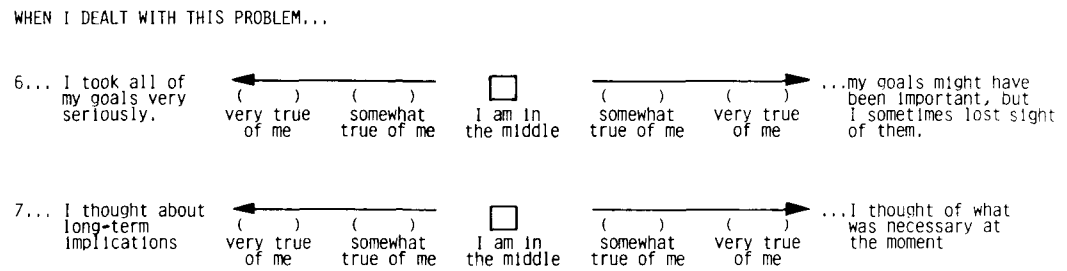

Figure 2. The answer scale of the action style questionnaire.

different situations were used as stimulus material and that there are only four items computed in each Cronbach's alpha of Study 1 and only three items in Study 2.

A principal-components analysis with orthogonal rotation was done on the 31 summary items of Study 1. To get a stable factor solution, rotations with different numbers of factors were computed to determine those factors that stay stable in solutions with different numbers of factors. Three factors were most stable in all of these solutions. The items that showed a factor loading higher than .50 and a difference of at least .20 to the next highest factor loading were included (one item was excluded for reasons of content). They are presented in Table 1.

We start our description of the factors with the third factor (presented first in Table 1), which can be called social orientation. The items refer to whether a person tried to get input from other people in the development of goals and plans. (We did not focus on this construct, and therefore only two of the four items were used in Study 2; we do not deal with this construct further in this article.)

The first factor refers to goal orientation: Goals are taken seriously, the action is focused on attaining the goal, there is complete achievement and detailedness of the goal, and so forth. The second factor is called planfulness because it refers to long-term planning, to having backup plans, to the detailedness of plans, to thinking a long time before acting, and so forth.[3]

A second principal-components analysis was performed with the data of Study 2, which was to cross-validate the factor solution of Study 1. We included only those items that loaded highly on the factors in Study 1 (those items shown in Table 1). A three-factor solution was forced on the material. As seen in Table 1, the factor structure and loading pattern of Study 2 are very similar to those of Study 1. An additional reliability analysis was done with the raw data of Study 2. The Cronbach's alphas and the item-total correlations are quite adequate, with Cronbach's alphas of .85 for goal orientation and .79 for planfulness.

The stabilities of these scales were tested in Study 3 and are .54 ($p < .001$, $N = 25$) for goal orientation and .47 ($p < .001$, $N = 25$) for planfulness. Because the two waves of the study were 8 months apart (much longer than the typical test–retest correlation study), this stability is still adequate.

Although the principal-components analysis was done orthogonally, the two scales correlate quite highly when their unweighted items are added together ($r = .48$, $p < .001$, $N = 386$ for Study 2). It is theoretically plausible that normally a goal-oriented person will also be plan oriented because the plan helps to achieve the goal. Even though goal orientation and planfulness are related to each other, they are not conceptually identical (as discussed earlier). This is substantiated by the correlations of the items with goal orientation and planfulness. The correlations of the items included in the scale goal orientation with planfulness ($r_{i,\text{planfulness}}$) and the correlations of the items included in planfulness with goal orientation ($r_{i,\text{goal orientation}}$) are presented in Table 1 as well. These correlations can be compared with the item-total correlations (r_{it}). None of the correlations with the alien construct is higher than the corrected item-total correlation with the construct that includes the item.

Validity of Goal Orientation and Planfulness

Up to this point, the subjective representation of goal orientation and planfulness has been substantiated. The question of validity refers to a more objective side. Do peers who know the subjects well and observers observing the subjects in a concrete planning situation infer the same traits as the subjects themselves do?

The peer study (Study 4). In this study, the peers filled out general questions on a subsample of Study 2. The correlations between the subjects and the peers were $r = .36$ ($p < .01$, $N = 70$) for goal orientation and $r = .54$ ($p < .01$, $N = 70$) for planfulness. Because goal orientation is more private than planfulness, it is also more difficult for another person to estimate. This might be one reason its correlation is lower than that of planfulness. The size of the correlation of planfulness is in the upper range of peer–subject correlations in other studies (e.g., Bem & Allen, 1974; Kenrick & Stringfield, 1980).

In several studies, it has been suggested that people who are more variable in their behavior (thus showing less consistency in style) should also show a weaker relation between self- and peer ratings (Bem & Allen, 1974; Kenrick & Stringfield, 1980). To replicate these results, we computed a variability index, of the type used by Bem and Allen, separately for goal orientation

[3] The items that are not related to the three resulting factors fall into two categories. One category contains items that were obviously not related to any of the three factors. They had been included for reasons that lie outside the scope of this article. The second category includes items that turned out to be difficult for the subjects to answer because they asked about processes that the subjects could not know. For example, the item "I just did not pay attention to things that could have upset my plans" presupposes that the subject knows the process that is most likely not conscious, namely not attending to certain things.

Table 1
Items, Factor Loadings, and Item Characteristics of the Scales

Number	Item	Study 1 loadings (N = 76)				Study 2 loadings (N = 381)				Study 2 goal orientation				Study 2 planfulness			
		Factor 1	Factor 2	Factor 3	Communalities	Factor 1	Factor 2	Factor 3	Communalities	M	SD	r_{it}	$r_{i,p}$	M	SD	r_{it}	$r_{i,go}$
1a	Followed other people's suggestions about *what* to do.	.02	.19	*.67*	.49	−.04	.02	*.83*	.69								
1b	Followed other people's suggestions on *how* to do things.	.08	.22	*.70*	.54												
1c	Talked with friends about *how* I was going to go about it.	.03	.33	*.69*	.58												
2	Tried to involve other people.	.12	.11	*.79*	.65	−.12	.07	*.54*	.31								
3	Once I decided what I was going to do, I went ahead and did it.	*.68*	−.05	.11	.48	.58	.08	.05	.34	7.24	2.45	.52					.25
5	I only stopped after I had done everything in exactly the way I had wanted to.	*.55*	.15	.10	.34	*.51*	.10	−.13	.29	8.30	2.72	.50					.21
6	Took all of my goals very seriously.	*.62*	.19	.18	.45	*.68*	.23	−.03	.52	7.43	2.54	.66					.42
12	Everything I did contributed to my accomplishing what I wanted to do.	*.58*	−.32	.33	.54	*.70*	.27	−.06	.57	8.33	2.49	.66					.45
17	Did every last thing I intended to do.	*.71*	.11	.04	.52	*.70*	.14	−.03	.51	9.79	2.47	.63					.32
19	I was very persistent in pursuing what I wanted to do.	*.63*	.26	.13	.47	*.72*	.05	−.14	.54	7.31	2.42	.66					.28
21	Knew the details of what I wanted to achieve.	*.71*	.23	.03	.55	.59	.32	−.14	.47	7.52	2.69	.60					.45
7	Thought about long term implications	.25	*.58*	.11	.42	.25	*.40*	.06	.22				.31	8.33	2.71	.40	
8	Thought about past mistakes.	.09	*.61*	.16	.41	.01	*.42*	.09	.18				.13	7.13	2.42	.34	
9	Thought about several different ways before doing it.	.13	*.78*	.03	.62	.12	*.65*	−.04	.44				.28	6.37	2.31	.57	
10	Had something else in mind, in case something went wrong.	.21	*.65*	.07	.48	.15	*.54*	−.07	.32				.26	8.06	2.60	.50	
11	Made very detailed plans.	.38	*.64*	.25	.62	.47	.55	.08	.53				.53	9.11	2.87	.56	
13	Planned far in advance, long before doing it.	.39	*.60*	.04	.51	.39	*.59*	.12	.51				.46	8.53	2.45	.59	
14	Planned for things other people considered unlikely.	.09	.55	.21	.36	.25	*.45*	.01	.27				.32	8.87	2.49	.47	
18	Thought quite a while how I was going to do it.	.08	*.72*	.05	.53	.01	*.67*	.00	.45				.18	7.73	2.42	.53	
% of total variance		27.4	11.1	8.9		31.0	12.2	8.3									

Note. Factor 1 = goal orientation. Factor 2 = planfulness. Factor 3 = social orientation. r_{it} = item-total correlations. $r_{i,p}$ = correlations of the items of goal orientation with planfulness. $r_{i,go}$ = correlations of the items of planfulness with goal orientation. Italicized numbers denote highest factor loadings.

Table 2
Study 4: Correlations Between Self-Report and Peer Rating (N = 70)

Action style	All subjects	Low-variability subjects	High-variability subjects
Goal orientation	.36**	.40*	.23
Planfulness	.54**	.63**	.44**

* $p < .05$.
** $p < .01$.

and for planfulness. In this index, variability was computed for each item (across the three different situations that served as reference points). The variability indexes were then added up for the items of goal orientation and planfulness separately. We then performed a median split, as Bem and Allen did, on each variability construct. The results are shown in Table 2. As predicted, the low-variability subjects showed somewhat higher correlations than did the high-variability subjects, but the differences between the correlations are not significant.

The quasi-experimental study (Study 5). This study was supposed to provide answers to the following questions:

1. How possible is it to observe goal orientation and planfulness in a specific situation (interrater correlation)?
2. Are the self- and the other-ratings, with reference to a specific situation (planning for a day in Athens), similar?
3. Is the self-report of the general questionnaire (obtained in Study 2) related to the specific behavior (i.e., planning for a day in Athens) as observed by the raters?

The results are shown in Table 3. The first column presents the correlations between Rater 1 and Rater 2 that are on the lower bound of acceptability. The low correlation may mean that the rater training was not sufficient or that it is difficult to rate goal orientation and planfulness from thinking-aloud protocols. In any event, the low interrater reliability has further repercussions by producing low correlations in the next steps. The correlations between self-rating and the raters' ratings of the subject's behavior in this particular situation (collapsed across the two raters) are also rather low and not quite significant (the *situationally specific* column of Table 3). The correlation between the original general questionnaire answers by the subject and the raters' judgments in the experiment is zero for goal orientation and again marginally significant for planfulness (the *cross-situational* column of Table 3).

One way to explain these results is related to errors that can influence the interobserver correlations and the correlations between self ratings and observers' ratings. There are at least three sources of errors: the difficulties of the thinking-aloud technique, particularly when rating a style that is not very florid (e.g., hysteric traits); the unreliability of each of the two ratings; and the differences between the situations used as vignettes in the general questionnaire and in a specific action like planning for a day in Athens (this is actually not really an error but it reduces the correlations).

Even given these sources of errors, these are not very encouraging data. By and large, the correlations are low. Apparently, it is difficult to observe goal orientation and planfulness. But is this the case generally or do subjects differ on observability of these styles? One could argue that some people express their action styles more clearly in their behaviors than do others. If this is the case, observers should do better at assessing action styles for these people, observers being either peers or raters in our experiment. Therefore, it seemed useful to ask in an a posteriori analysis whether some subjects are more easily observed than others.

What was needed for such an analysis was an independent measure of observability of action styles. Such a measure could be constructed because 22 of the 31 subjects in this study were also included in Study 4, the peer study. These peer ratings were used to develop an index on the *ease of observability* of a subject by calculating the difference between subjects' own ratings and the ratings of their peers. Those persons who show a high relation between their own ratings and their peers' ratings can be called easy to observe. A median split was performed on this variable, and in the following analyses data are presented for the easy-to-observe half of the subjects (11 subjects). Table 4 presents the results for this subgroup, redoing the same analysis given in Table 3 (because there are so few subjects, the significance criterion was changed to $p < .10$). In general, the correlations are much higher now. The interrater agreement is substantial for planfulness but less so for goal orientation; this is reminiscent of the fact that the peer–subject correlation was higher for planfulness than for goal orientation, as well. Furthermore, the situation-specific and the cross-situational correlations between subjects and observers are now much better (in the range of .50). Apparently, observability of this kind is general: It applies to peers as well as to the raters in this specific quasi experiment.

Two reasons for this ease of observability seem plausible. First, the stylistic component may be stronger in some subjects. So, for example, it would be difficult to miss the fact that an individual tends to make alternative plans if five or six fairly mutually exclusive plans are generated in the thinking-aloud

Table 3
Study 5: Objectivity of Action Styles in the Quasi Experiment (N = 31)

Action style	Correlation between Rater 1 and Rater 2	*p*	Correlation between self- and observer ratings: Situationally specific	*p*	Cross-situational	*p*
Goal orientation	.51	<.01	.28	.065	.03	*ns*
Planfulness	.55	<.01	.28	.065	.28	.062

Table 4
Study 5: Objectivity of Action Styles in the Quasi Experiment for the Subgroup of the Easy to Observe (N = 11)

Action style	Correlation between Rater 1 and Rater 2	Correlation between self- and observer ratings	
		Situationally specific	Cross-situational
Goal orientation	.43*	.52*	.51*
Planfulness	.76**	.52*	.44*

Note. Change of significance levels due to low *N*.
* $p < .10$.
** $p < .05$.

session, whereas a person who proposes only two such plans might appear not to make alternative plans. Second, some subjects may be more verbal about their behavior, using more planful and goal-oriented language and differing in the degree to which they discuss their motivations and the causes for their actions. Such a natural difference might be exaggerated by the conditions of the quasi experiment, which emphasize the planning component. This last point is related to the analysis of verbal protocols of Ericsson and Simon (1980).

Relations to impulsivity (Study 6). This study answers the question of how much and in what way action styles are correlated with measures of impulsivity. Kagan et al.'s indexes derived from the MMFT and Eysenck and Eysenck's two factors were used as indicators of impulsivity; Cronbach's alphas of the scales in this study are given at the bottom of Table 5.

As predicted, there are significant correlations of planfulness with the two Eysenck factors (cf. Table 5). These correlations are substantial, but they do not indicate identity of these measures. There is also one nearly significant correlation of this factor with MFFT errors. Interestingly, the Eysencks' factors are not significantly related to the MFFT scores. For goal orientation, there are no significant correlations with the MFFT scores. Two significant correlations appear with the Eysencks' factors but only one of them is substantial (with impulsivity in the narrow sense). However, these significant correlations are due to the common variance of goal orientation and planfulness. If planfulness is partialed out, the correlations drop considerably:

$$r_{\text{goal.nonplanfulness.planfulness}} = -.09$$

and

$$r_{\text{goal.impulsivity.planfulness}} = -.22.$$

How should these findings be interpreted? Clearly, there is no indication that goal orientation is a measure of the concept of impulsivity. But could our scale of planfulness be just another (and possibly better) measure of the concept of impulsivity? This is doubtful because the correlations with the MFFT scores (a measurement with well-established reliability and validity; cf. Messer, 1976) and even those with the Eysencks' factors are not really high enough to support the interpretation that these are operationalizations of the identical concept.

Thus, we can say that our scales—goal orientation as well as planfulness—are not just replicas of measures of impulsivity, as operationalized by the MFFT or the Eysencks' factors. However, the following questions cannot yet be decided and should be pursued in further research: Do the Eysencks' two factors really measure impulsivity? Is our questionnaire on planfulness just a theoretically more coherent replication of their nonplanning factor? If yes, what are the theoretical and empirical relations of planfulness and impulsivity? Is impulsivity the driving force behind lack of planfulness or does lack of planfulness make it possible to be impulsive? Or is there a third variable producing both planfulness and impulsivity?

Summary. There is evidence that goal orientation and planfulness can be measured reliably and that they are relatively stable attributes of a person. In terms of validity, the relation between self- and peer ratings is relatively high and follows a theoretically meaningful pattern. The results of the quasi experiment were not so encouraging. An a posteriori analysis suggests that some people are more observable than others. For those who are easily observable, there are substantial correlations between observers' ratings in the experiment and the subjects' report of their action styles. Finally, there is a relation, as yet not completely determined, of planfulness with impulsivity. However, our measures of action styles are not identical to the MFFT and to Eysencks' measures of impulsiveness.

Part 2: Action Styles, Psychological Disturbances, and Work Situations

When presenting a new person variable, it is not enough to establish the reliability and validity of the scales. Areas of practical importance should also be investigated, for example, clinical problems and work-related behaviors. Preliminary results relating to this issue are presented here. The main purpose of including them here in spite of their preliminary nature is to justify further research on planfulness and goal orientation.

Action styles may be of etiological significance in psychological problems. One aspect of several psychological disturbances is inefficient behavior (Schönpflug, 1985; Semmer & Frese, 1985). A strongly planful behavior is, for example, inefficient if elaborate and detailed plans are developed and maintained despite great environmental uncertainties. It is also inefficient

Table 5
Study 6: Intercorrelations of Action Styles With Indices of Impulsivity (N = 100 for Eysenck's Scales and N = 30 for MFFT)

Measure	1	2	3	4	5	6
1. Goal orientation	—					
2. Planfulness	.40*	—				
3. Impulsiveness/narrow	−.37*	−.49*	—			
4. Nonplanning	−.25*	−.45*	.37*	—		
5. MFFT—errors	−.04	.30[a]	.06	.10	—	
6. MFFT—mean latency	.08	−.05	−.03	.24[b]	−.52	—
Cronbach's alpha	.70	.76	.67	.50	—	—

Note. MFFT = Matching Familiar Figures Test.
[a] $p = .05$.
[b] $p = .099$.
* $p < .01$.

if plans and long-range goals are not developed in regular and redundant environments. In such a case, planning helps the planner use environmental resources and be in control of the situation, as bad events can be predicted and prevented or modified in advance.

Such an analysis is particularly relevant in the area of depression (Lewinsohn, 1974). One possible result of inefficient action might be the development of helplessness and depression (Peterson & Seligman, 1984; Seligman, 1975), because a person who does not develop competent goals and plans cannot foresee and quickly react to challenges but will be swept away by extraneous events. Therefore, we hypothesize that goal orientation and planfulness (at least with regard to everyday events as measured in this study) are negatively related to depression.

Another aspect of psychopathology that might be related to action styles is the coronary-prone Type A behavior (Jenkins, Zyzanski, & Rosenman, 1971). Type A behavior is characterized by hostility, hurry, competition, and the high importance of goals. This last aspect is related to our concept of goal orientation. The goals are urgent for the Type A person even if their objective urgency is not so apparent. Therefore, we expect a positive relation between these two concepts.

The situation at work and work behavior should also be related to action styles. The concept of planning strategy was developed by Hacker (1978; cf. Duscheleit, Frommann, & Volpert, 1978) to show that long-term anticipation and long-term planning help the individual work efficiently (i.e., lowering demands and raising output). The same reasoning may be applied to everyday actions, for example, actions taken in school, in relationships with friends, and in doing the tasks of everyday living (e.g., shopping). Because familiar everyday actions were the focus of our study, we assumed that planning and goal orientation would have certain advantages over nonplanning or minimal orientation to goals.

A particular example of the effects of action styles on work is their relation to achievement. There is an important prerequisite for this relation: There must be a certain amount of decision latitude (or control) at work. This means that a worker must have the possibility of influencing the choice of working methods, the order of the working steps, the time frame of the work, and the quality of the product. Additionally, the work must be planable and predictable. When this is not the case, performance will not be related to the individual action-style characteristics. Academic work of students has this characteristic of control. Students set goals and make plans to prepare and perform in their classes. Grade point average reflects achievement at school; it should therefore be related to goal orientation and planfulness.

Because action styles are conceptualized as propensities to act that are malleable, goal orientation and planfulness could be conceived not only as independent but also as dependent variables. For example, work has an impact on the development of person variables through occupational socialization (Frese, 1982, 1983). Of course, there is not only the impact of work on the person, but people will also choose their work situation with respect to their action styles. Thus, work conditions should be related to goal orientation and planfulness. An example of the fit of the job to the person's characteristics is the bookkeeper's exasperating exactness that also shows at home with his or her spouse.[4]

Specifically, one might argue that resources like control at work, job security, and social support from supervisors and coworkers give workers options so that they can approach different kinds of goals at work. Therefore, resources should be related to goal orientation. On the other hand, the demands and requirements from the work situation, like having to work very quickly or having to deal with organizational problems or the danger of accidents, should be related more to planfulness, as planning helps to deal with these demands from the work situation.

Method

Subjects

In Study 7, a subsample of subjects from Study 2 ($N = 70$) was randomly drawn to participate in a further study on clinical issues 2 months after their participation in Study 2.

In Study 8, a group of students in one undergraduate course at a U.S. university filled out an action-style questionnaire and provided us with their Scholastic Aptitude Test (SAT) scores and their grade point average ($N = 41$).

For Study 9, in a large-scale longitudinal study across 5 years on stress in blue-collar work, a reduced version of the action-style questionnaire was used in the second wave on 166 German male blue-collar workers in the metal industry.

Measures and Procedure

The same action-style questionnaire was used as in the earlier studies, except that in Study 8 the questionnaire referred specifically only to the term paper. In Study 9, only a general (non-situation-specific) form of the questionnaire was used, and the scales were shortened by one or two items.

Two other questionnaires were used in Study 7. The short form of the Beck Depression Inventory (Beck & Beck, 1972) is a screening instrument that has been validated for college students (Bumberry, Oliver, & McClure, 1978). The coronary-prone Type A behavior pattern was measured with the Jenkins Activity Survey (Jenkins et al., 1971). The usual weightings were used to derive a total score of the Type A behavior pattern.

In Study 8, grade point averages and the SAT scores were ascertained by asking the students for them.

In Study 9, various measures of resources at work, like control at work (determining the order of how one does tasks, being able to leave the work place), social support by supervisors and co-workers (how much they help or are emotionally supportive, as measured by Caplan, Cobb, French, Harrison, & Pinneau, 1975; cf. also Frese, 1986), and job security (danger of being laid off), and work requirements like complexity of work (complicated decisions have to be made), intensity of work (speed of work and concentration on work), danger of accidents, and organizational problems (e.g., material does not come on time; one has to use tricks to get the work done), were included. At Time 1, there were also observations of the workplace on these variables (cf. Semmer,

[4] Of course, given the choice, people will choose their jobs on the basis of their action styles. Action styles do not typically originate in the work situation. But, if a person is forced to use uniformly a specific action style in the work situation, the use of the respective heuristics of planning and goal setting gets practiced. This, in turn, might lead to a greater habituality of the action style.

Table 6
Study 7: Intercorrelations of Action Styles, Depression, and Type A Behavior (N = 70)

Measure	1	2	3	4
1. Goal orientation	—			
2. Planfulness	.58**	—		
3. Depression (BDI)	−.26*	−.19	—	
4. Type A behavior (JAS)	.28*	.09	−.11	—

Note. BDI = Beck Depression Inventory. JAS = Jenkins Activity Survey.
* $p < .05$.
** $p < .01$.

1982, 1984, for details on the measures of the working conditions). Additionally, the amount of activity in the labor union (Dunckel, 1980) was measured, and a translated scale on growth need strength by Hackman and Oldham (1975) was used. The latter instrument measures whether a worker is interested in getting a job that allows self-actualization, and it also assesses the desire for an interesting and complex job. To validate the clinical relations, a reduced scale on depression (Zung, 1965) and a scale on anxiety were used (Mohr, 1986).

Results and Discussion

Action Styles, Depression, and Coronary-Prone Type A Behavior (Study 7)

Are action styles related to depression and the coronary-prone Type A behavior? The relevant results are presented in Table 6. The correlations are in the predicted direction but are generally relatively low. Goal orientation is significantly related to Type A behavior and to depression. However, the hypothesized correlation between planfulness and depression ($r = -.19$) is only marginally significant ($p = .068$).

It is obvious that this correlational design can be only a first test of the usefulness of the action-style concept in relation to depression and the Type A behavior pattern. As pointed out, the efficiency of goal orientation and planfulness depends on the situation. We would suggest that the use of a habitual style (e.g., of persistent goal orientation) in situations where it is not functional will lead to negative emotional responses that may eventually lead to depression. A similar path might lead to depression via a lack of self-confidence: Low self-confidence is a result of inefficient use of action styles, which in turn leads to depression. Similarly, habitual responses of high goal orientation under conditions where it is not useful may aggravate Type A behavior and potential stress problems, leading to a higher risk of heart attack. In any case, the concept of action styles is theoretically interesting in this context and produces some significant empirical results.

Action Styles, Performance, and Working Conditions (Studies 8 and 9)

The grade point average was the index of performance in Study 8. It shows correlations of .38 with goal orientation ($p < .01$, $N = 41$) and of .24 with planfulness (*ns*). Compared with the low correlation of SAT and grade point average of .07 (*ns*), goal orientation, and to a lesser degree planfulness, seem to be interesting predictors of performance in a university.

The relation of goal orientation and planfulness with working conditions was studied in a longitudinal study across 5 years on German blue-collar workers (Study 9). Goal orientation and planfulness were included only at Time 2 because these concepts had not been developed at the time of the first wave of the study. At Time 1, this study included observations of the workplace as well as subjects' reporting on their working conditions. The correlations are shown in Table 7.

There is some, but not quite consistent, evidence for the hy-

Table 7
Study 9: Correlations With Work-Related Variables and Depression (N = 166)

Variable	Time 2	
	Goal orientation	Planfulness
Resources		
Control at work		
Observed, Time 1	.06	.04
Subjective, Time 1	−.02	.01
Subjective, Time 2	.08	−.14
Social support/supervisor		
Time 1	.23**	−.03
Time 2	.23**	.04
Social support/co-workers		
Time 1	.13[a]	.01
Time 2	.21**	−.09
Job security		
Time 1	.13[b]	−.13[c]
Time 2	.12[d]	−.11
Requirements		
Complexity of work		
Observed, Time 1	.03	−.04
Subjective, Time 1	.14*	.09
Subjective, Time 2	.12[d]	−.05
Intensity of work		
Observed, Time 1	.09	−.07
Subjective, Time 1	.19*	.08
Subjective, Time 2	.16*	.00
Organizational problems		
Observed, Time 1	.19*	.08
Subjective, Time 1	−.06	.15*
Subjective, Time 2	−.03	−.04
Danger of accidents		
Subjective, Time 1	−.01	.18*
Subjective, Time 2	−.05	.15*
Other variables		
Activities in the labor union, Time 2	.19**	−.09
Growth need strength, Time 2	.35**	.06
Depression, Time 2	−.31**	.00
Anxiety, Time 2	−.43**	.07

[a] $p = .07$. [b] $p = .05$. [c] $p = .06$. [d] $p = .08$.
* $p < .05$. ** $p < .01$.

pothesis that resources help encourage goal orientation: Control at work is not related to either goal orientation or planfulness, and social support by supervisors and co-workers, as well as job security, are related to goal orientation but not to planfulness. There is some, but by and large equivocal, evidence for the hypothesis that the requirements of the job are related to planfulness: Complexity of work and intensity of work are related to goal orientation and not to planfulness, and danger of accidents is weakly related to planfulness and not to goal orientation. It makes sense that to avoid a danger, it is necessary to plan. In terms of the other job-related variables, activity in the labor union is related to goal orientation, and growth need strength is relatively highly related to goal orientation. Apparently, goal-oriented persons are oriented not only toward specific goals but also toward higher order goals of self-actualization.

The correlation with depression reproduces the results gained with U.S. college students: There is a definite correlation with goal orientation but none with planfulness. Finally, anxiety is negatively related to goal orientation but not to planfulness. This is important, as it shows that we were able to develop a questionnaire that is not confounded with anxiety (as we think the nonplanning factor by the Eysencks is).

Overall Discussion

We stated earlier that in introducing a concept like action styles, it is important to establish the reliability and the validity of the measures and their significance in areas of theoretical or practical importance. How has the concept of action styles fared on these three points?

The reliability of the measures was quite adequate as shown with Cronbach's alphas, principal-components analyses, and test–retest stability. It was possible to cross-validate the results of the principal-components analysis in two studies (Study 1 and Study 2).

The validity was assessed in three ways. In the peer study (Study 4), it was shown that there is an adequate relation of subjects' responses with peers' ratings of them. The correlation for the planfulness variable, which is more easily observable, was in the upper range of what one finds in studies of this kind. The data of the quasi experiment (Study 5) are not so straightforward. The correlations between raters of the thinking-aloud protocols and self-responses were uniformly low. However, when we focused on a subsample of subjects who were easy to observe (high relation between self- and peer ratings), the correlations increased. The data of Study 6 point to some as yet unexplained relations of planfulness with impulsivity. However, theoretical and empirical reasons speak against the view that our measure of planfulness should be considered an operational replica of the concept of impulsivity. The correlations are not high enough for this view. In contrast to planfulness, the correlations of goal orientation with impulsivity are not substantial (particularly when controlling for planfulness).

In determining the usefulness of the concept, we looked into some preliminary data on the practical significance of the concept of action styles in two domains: psychological disturbances and work environments. Goal orientation shows correlations with both depression and Type A behavior. The correlation with depression was cross-validated with a different sample of different nationality and social class. Planfulness does not seem to be related to these variables. There are also relations between goal orientation and resources at work, like social support and job security. Similarly, there are relations of goal orientation and, to a lesser degree, planfulness with some of the job requirements. These relations are mainly small, but they exist even with observed indicators (e.g., organizational problems) and with job variables measured 5 years before the action styles were ascertained. There is a substantial relation of goal orientation with the concept of growth need strength, which may indicate that goal orientation is related not only to everyday activities but also to higher order goals (i.e., desiring work that is ego involving, interesting, and complex). Finally, goal orientation is related to one particular performance measure (namely grade point average) in students. This correlation is much more substantial than the correlation between reported SAT score and grade point average. Thus, there are interesting relations, albeit not always conforming to our specific hypotheses, in the areas of work and psychopathology.

Given these data, it is interesting to speculate on some further uses of the concept of action styles in the areas of work behavior and psychopathology. It is obvious that habitual goal orientation and planfulness are valuable in most achievement situations (e.g., getting good grades in school). But they may be less functional in leisure-type activities. Therefore, thought should be given to the consequences of developing various degrees and strengths of goal orientation and planfulness. By studying the relative usefulness and adaptability of particular degrees of goal orientation and planfulness, one might be better able to structure school and work environments. In work, action styles may determine how one deals with complicated situations and stressors (e.g., does one avoid accidents? By preplanning or by carefully monitoring the dangers?). There may also be differences in how people with different action styles learn in schools. A person low in planfulness may prefer a playful learning environment, whereas a person high in planfulness may prefer a highly structured instruction. Furthermore, action styles developed in one area might be useful in other domains or for important transition points in the life span, for example, retirement (Frese & Stewart, 1984).

Another issue regarding generalization of an action style is whether a high degree of generalization of a habitual style may be an indication of psychopathology itself. A related point is Shapiro's (1965) discussion of habitual and exaggerated patterns of behaving that disturb successful psychological functioning (e.g., compulsive behavior). In this regard, it is useful to differentiate generality from habituality. *Generalization* means to use an action style in different situations; *habituality* refers to an automatic use of an action style. Dysfunctions are most likely to arise when both are present.

We propose two ways to study habituality. First, experimental situations could be developed in which an individual's habitual action style is dysfunctional; the experimenter would measure the degree of persistence of the individual in using the style despite negative feedback. In this case, the action style would be generalized and habitual. Second, habituality of the style could be studied by measuring the speed of goal setting and plan development. The rationale here is that highly automatized styles

of goal orientation and planfulness would facilitate (speed up) the processes. In this case, generality does not play a crucial role.

Along these lines, we propose that an assessment of the action style of an individual seeking therapeutic help would be useful in determining an appropriate therapeutic approach. For example, cognitive therapy could be more effective (i.e., have a shorter course of therapy and lead to more stable improvements) for individuals who possess a habitual and generalized goal-oriented and planful action style than for those who do not. In the case of a highly planful or goal-oriented person, the therapist can use the habitual action style to work on the problem, whereas in the case of the person who plans little and is not goal oriented, the tendency to set goals and to plan would have to be developed before therapy could progress.

A second example is the treatment of addictions such as excessive alcohol or food consumption. One of the most successful approaches, that of Alcoholics Anonymous, combines very short-term goals with detailed planning (planning for one day at a time). As in the example in the last paragraph, this therapeutic approach also capitalizes on an already existing action style in that the practicing alcoholic has a short-term goal orientation (i.e., to stay drunk) with a very detailed planfulness (i.e., knowing every possible way of obtaining alcohol). The role of the alcoholic's counselor is to recalibrate the individual's persistence in longer term pursuits and in reflectivity about the goal while capitalizing on the already well-established action style.

Action styles may function as moderators in various other situations. For example, the question of what kind of psychopathology will develop in stress situations (e.g., hysteria, psychosomatic complaints, or compulsion) may be related to the type of action style a person possesses. High planfulness may lend itself to the development of compulsion, high goal orientation to the development of psychosomatic complaints, and low planfulness to hysteria under conditions of extreme stress. Similarly, certain aspects of psychopathology presuppose a high degree of persistence in a certain plan (e.g., anorexia nervosa or suicide).

In summary, the data support the following conclusions to a greater or lesser degree. Three main factors were found in the analysis of action styles, and two of them, goal orientation and planfulness, were studied in more detail. These two factors were found to be reliable and there is evidence of their validity. Individuals may differ in the degree to which their action style is observable. The relations between subjects' self-reports on action style and clinically relevant behaviors (depression, Type A behavior) were significant and in the predicted direction, albeit relatively small. Similarly, there are correlations with work-relevant variables, notably with grade point average, labor union activities, social support by supervisors and co-workers, intensity of work, danger of accidents, and growth need strength. These relations show up even when the measurement points are 5 years before ascertaining of action styles. These results are promising enough to encourage continued pursuit of the topic of action styles.

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Received October 9, 1985
Revision received May 2, 1986
Accepted December 12, 1986 ■