Motive Training and Motivational Competence

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1. McClelland and The Beginnings of Scientifically Informed Motive Training

1.1 Theoretical Background

The first targeted attempts to modify people's implicit motives were made by McClelland and colleagues in the 1960s (McClelland & Winter, 1969). Their work was inspired by the idea that economically underdeveloped countries could be more effectively supported by targeting the motivational basis of entrepreneurial behavior than by providing financial and technological aid.

There were empirical reasons to assume that the achievement motive plays a decisive role in the business world. (1) Individuals high in the achievement motive show characteristics that are essential for successful entrepreneurial behavior: constantly seeking to improve processes and procedures, a willingness to take calculated risks, actively seeking out information on the results of their actions, a tendency to feel responsible for those outcomes, etc. (see Chapter 2). (2) Businessmen—especially active and successful ones—scored higher on the achievement motive than other occupational groups (McClelland, 1961). These early findings have been substantiated by a recent meta-analysis (Collins, Hages, & Locke, 2004). (3) The more achievement oriented a society is overall (measured in terms of the frequency of achievement-related themes in popular literature or school textbooks), the more it stimulates and facilitates entrepreneurial activity in the upcoming generations. Indicators of societal achievement orientation thus predict subsequent economic growth and productivity (McClelland, 1961). Research attention has recently been drawn back to this relationship between societal achievement orientation and economic growth (Harrison & Huntington, 2000), sparking heated discussions. After all, this explanatory approach assigns societies partial responsibility for their developmental status, a conclusion that not everyone considers "politically correct" or accurate. (4) Because there seemed no point in trying to change the achievement orientation of whole societies given the limited resources available, programs were developed to foster the achievement-motivated experience, thinking, and behavior of those active in the business world at least.

1.2 Design of the Training Program

To this end, a training program was designed and first implemented in a group of Indian businessmen from the province of Andhra Pradesh in Kakinada. The core element of the interven-

tion was a 2-week training program involving self-awareness exercises, theoretical modules, and the development of a personal action plan. The program targeted the affective network of the achievement motive, which it aimed to (1) extend and strengthen, (2) render more clearly perceptible and identifiable, (3) relate to participants' everyday behavior and experience, and finally (4) align with participants' superordinate values of self-definition and cultural norms (McClelland, 1965; McClelland & Winter, 1969). The participants thus learned to think, feel, talk, and act like someone with a strong achievement motive.

Measured in terms of its economic effects, the program was a huge success. Participants who had completed the training program worked harder, invested more, and created more new jobs than businessmen in an untrained control group. Measured against the economic development of a parallel control group from another city in the region, moreover, the program proved to have far-reaching effects: 2 years later, there were almost one third more jobs in Kakinada than in the control city. Yet the psychological intervention was extremely cost-effective: state job creation schemes had to invest 12 times more to create one new job.

1.3   Was There Motive Change?

In view of this compelling evidence for the economic effects of McClelland's motive training program, the United Nations Industrial Development Organisation (UNIDO) initiated successful follow-up studies (Varga, 1977). From the theoretical perspective, however, it is not the programs' economic success that was astonishing, but the fact that the participants' achievement motive could apparently be modified at all. In fact, the training approach was entirely at odds with McClelland's own theorizing: McClelland conceived of motives as stable personality traits (McClelland, 1958) and later even assumed them to be partly genetically determined (Weinberger & McClelland, 1990). Any attempt to change a personality trait of this kind within a 2-week training program must surely be doomed to failure.

But was the participants' achievement motive in fact changed? The answer to this question depends on how "motive change" is defined. There is in fact no way of evaluating motive change in McClelland's pioneering study. Granted, the mean Thematic Apperception Test (TAT; see chapter _) scores for the achievement motive were higher after training than before training. Because participants in the program had learned to write stories that would score high in achievement motivation on the TAT coding system, however, the validity of the procedure was trivially reduced. Against this background, it is hardly surprising that the motive scores measured after the training program were unrelated to participants' subsequent entrepreneurial activity. Given that variants of his training program developed for use in schools

proved to have inconsistent effects, McClelland (1972) concluded that it was not the achievement motive itself that was fostered by his program, but life management skills.

If a motive is understood to describe, on a very basal level, a typical pattern of affective arousal elicited by certain natural incentives that are integrated within an extensive network of relevant stimulus cues during preverbal development, McClelland's interpretation seems reasonable. However, researchers soon noted that the direction of the action tendency elicited can differ, and that an approach motive could thus be distinguished from an avoidance motive. Atkinson (1957) distinguished hope of success (HS) versus fear of failure (FF) as the approach versus avoidance tendencies of the achievement motive.

In English-language research, an anxiety questionnaire (TAQ, Mandler & Sarason, 1952) was used to assess the tendency to avoid failure. Heckhausen (1963) took a different approach, developing a German coding system for the TAT procedure that assessed the hope and fear components of the achievement motive separately (see Chapter 2). McClelland's participants were not familiar with this coding system, and had not been trained to write stories with a certain profile of HS and FF scores. A reanalysis of their TAT protocols showed that the training program (a) had particularly favorable effects on participants who were initially high in fear of failure (FF > HS) and that (b) the direction of the motive (net hope = HS – FF) was indeed related to participants' subsequent entrepreneurial activity. Participants whose HS came to outweigh their FF over the course of the program were subsequently more active (Heckhausen & Krug, 1982). Varga (1977) reported similar findings from replication studies in Indonesia, Pakistan, Persia, and Poland.

Thus, if motive change is defined as change in the *direction* of the achievement motive (HS > FF), it can be concluded that McClelland's early motive training programs indeed stimulated motive change. As mentioned above, McClelland (1985) saw things differently. His interpretation was that the changes elicited by his program amounted to increased self-confidence and perhaps improved life management skills.

2.   Programs Designed to Reduce Fear of Failure

2.1   Heckhausen's Self-Evaluation Model

McClelland's motive training program was relatively complex. Moreover, not all of the 12 elements of his program were derived directly from motivation theory. Rather, the program included any and all techniques used by therapists or religious groups such as the Mormons or Jesuits to effect personality change (McClelland, 1995, p. 554). The question thus arose of whether—if the objective was "just" to change the direction of the achievement motive (HS >

FF), rather than its strength relative to other motives (power or affiliation)—it might be possible to develop more streamlined approaches that were more compatible with motivation theory. This question became increasingly urgent as it emerged that, despite the time and energy invested in McClelland's training program, its effects in other contexts, especially schools, were inconsistent (for a summary, see Heckhausen & Krug, 1982; McClelland, 1985).

A more direct and parsimonious concept for motive training programs could indeed be derived from Heckhausen's self-evaluation model of achievement motivation (Heckhausen, 1975). This model integrated three important process variables known to distinguish individuals higher in hope for success (HS > FF) from individuals higher in fear of failure (HS < FF): (1) *goal setting*, (2) *causal attribution*, and (3) *self-evaluative emotions* (pride and shame). (1) Research on the risk-taking model (Atkinson, 1957) had shown that success-motivated individuals prefer tasks of moderate difficulty and set themselves realistic standards ($P_s \approx .50$) (Heckhausen, Schmalt, & Schneider, 1985; Schneider, 1973). The fit between task demands and personal abilities makes the relationship between effort and outcomes (success vs. failure) very clear. Moreover, individuals who choose tasks of moderate difficulty are able to see their abilities developing over time. (2) This leads them to develop a pattern of causal attributions that is conducive to motivation: failure is attributed to variable and controllable causes, especially lack of effort, and success to internal causes, especially ability and effort (Heckhausen, 1972; Heckhausen, 1975; Weiner & Kukla, 1970). Attribution of failure to variable causes stops them from giving up too soon , and attribution of success to internal factors maximizes positive affect in cases of success. (3) Highly positive affective responses after success and chances for improvement after failure make achievement-related situations attractive and exciting. This in turn supports the strategy of setting realistic standards and preferring tasks of moderate difficulty ($p = .50$). Thus, three key characteristics of success-oriented achievement motivation can be seen a self-reinforcing system of three processes (goal setting, causal attribution, and self-evaluation). Table 1 gives a schematic representation of these processes.

Heckhausen (Heckhausen, 1975; Heckhausen & Weiner, 1972) proposed an analogous pattern of self-reinforcement for failure-oriented achievement motivation. Individuals high in failure motivation tend to set themselves unrealistic standards, meaning that they are more likely to choose tasks that are far too easy or too difficult for them. As a result, the relationship between their effort and the outcome is far from clear, and it is hard for them to see their abilities developing over time. They are thus more likely than individuals high in success motivation to attribute their successes to external causes (luck in the case of difficult tasks, ease of task otherwise). Because they are less aware of their abilities developing over time, they are less protected against the threatening attribution "lack of ability" that soon presents itself

after failure on easy tasks. Because failure on overly difficult tasks is a relatively regular occurrence, moreover, it invites attribution to stable causes (lack of ability, excessive demands). Attribution of success to external causes is unlikely to elicit positive self-evaluative emotions (pride). When failures are attributed to stable causes, making them seem inevitable, and attributions to "lack of ability" additionally threaten self-esteem, achievement-related situations seem threatening rather than challenging. Against this background, it is only rational that failure-motivated individuals avoid challenges and instead choose tasks that are either too easy or too difficult for them (Heckhausen, 1972, 1975; Heckhausen et al., 1985).

Table 1: Hope of Success Versus Fear of Failure as Self-Reinforcing Processes in
Hechausen's Self-Evaluation Model (1972, 1975)

Components of Self-Evaluation		Motive Direction	
		Hope of Success	Fear of Failure
Goal setting, level of aspiration		realistic, tasks of moderate difficulty	unrealistic, very difficult or very easy tasks
Causal attribution	Success	effort, high ability	Luck, ease of task
	Failure	lack of effort, bad luck	Low ability
Self-evaluation		Ratio of S to F balanced or slightly positive	Ratio of S to F negative

Note: S = experiences of success; F = experiences of failure

2.2 Implications for Training Programs

Within the framework of the self-evaluation model of achievement motivation, various findings on motive-specific differences in goal-setting behavior, causal attribution, and self-evaluative emotions fell into place like pieces of a jigsaw puzzle. The great advantage of using this model as a framework for the development of training programs was that it identified three processes that have to be targeted in order to reduce FF and boost HS. The focus on just these three processes meant a considerable reduction on the 12 elements of McClelland's original motive training program (see below).

At the same time, Rheinberg and Krug (1978) emphasized that enduring change in motive direction could not be achieved by targeting a single component in isolation. If failure-motivated individuals are encouraged to set themselves realistic standards, but their causal

attributions of failure are not addressed at the same time, achievement-related situations become even more threatening for them, as the failure to be expected on the serious challenges now facing them is attributed to their own failings. Such aversive experiences are incompatible with stable, self-reinforcing change. If, on the other hand, only causal attributions are addressed, the new explanatory strategy will soon come into conflict with reality unless realistic goal setting ensures that the "new" causal attributions are in keeping with real-life events. Only if the goal-setting strategy is modified will the new pattern of causal attributions be realistic. Thus, training programs exclusively targeting patterns of causal attribution cannot be expected to bring about permanent motive change either. Finally, the invitation to experience more pleasure in one's successes than displeasure in one's failures, and indeed to reward oneself for success, seems rather out of place if the causal interpretation of events suggests that there is, in reality, little reason to be proud of one's performance.

Thus, it follows from Heckhausen's self-evaluative model that training programs focusing exclusively on the behavioral aspect of realistic standard setting, the cognitive aspect of causal attribution, or on self-reward measures cannot possibly succeed, but that all three processes must be targeted at once to effect lasting change in the direction of the achievement motive (Rheinberg & Krug, 1978). Better goal-setting skills can enable people to structure everyday situations in ways that arouse their (achievement) motive more frequently. New patterns of causal attribution can make it easier for people to interpret the outcomes of their achievement-related behavior in a way that is conducive to motivation. It is only when both of these requirements are in place that achievement-related situations elicit the positive (self-evaluative) emotions that essentially mobilize behavior in everyday life, and that make these situations attractive rather than threatening.

2.3   Model-Based Training Programs

Krug and Hanel (1976) first implemented a training program based on these principles in a group of failure-motivated underachievers. In 16 training sessions, the fourth graders learned to set realistic goals, to identify causal attributions conducive to motivation, and to experience more pleasure in their successes than displeasure at their failures. The exercises were first conducted in the context of games (e.g., ring toss game), then with paper-and-pencil material (e.g., labyrinth tasks), and finally with school tasks. At each stage of the program, the trainer served as a model, demonstrating realistic goal-setting behavior and beneficial causal attributions, and verbalizing his or her thoughts aloud in both instances. In addition to demonstrating these behavioral and cognitive characteristics of success-motivated achievement behavior, the model expressed strong positive affect after success and only mild displeasure after failure.

The children then repeated the exercises in small groups. They also verbalized their cognitions aloud to begin with, later continuing them in "internal speech" (Meichenbaum & Goodman, 1971). Their expressions of positive affect were loud and joyful. Thus, although McClelland (1985, p. 553) suggested otherwise, this training approach did *not* target only cognitive variables, but also impacted behavioral and affective elements.

The intervention led to a decrease in fear of failure and an increase in hope of success. In other words, there was a change in the dominant direction of the achievement motive as directly expressed by the "net hope score" (NH): the difference between HS and FF. Figure 1 shows the pre- and posttest scores for the training group and two control groups in the Krug and Hanel (1976) study. HS and FF were measured using Schmalt's (1976a) AM grid (see below).
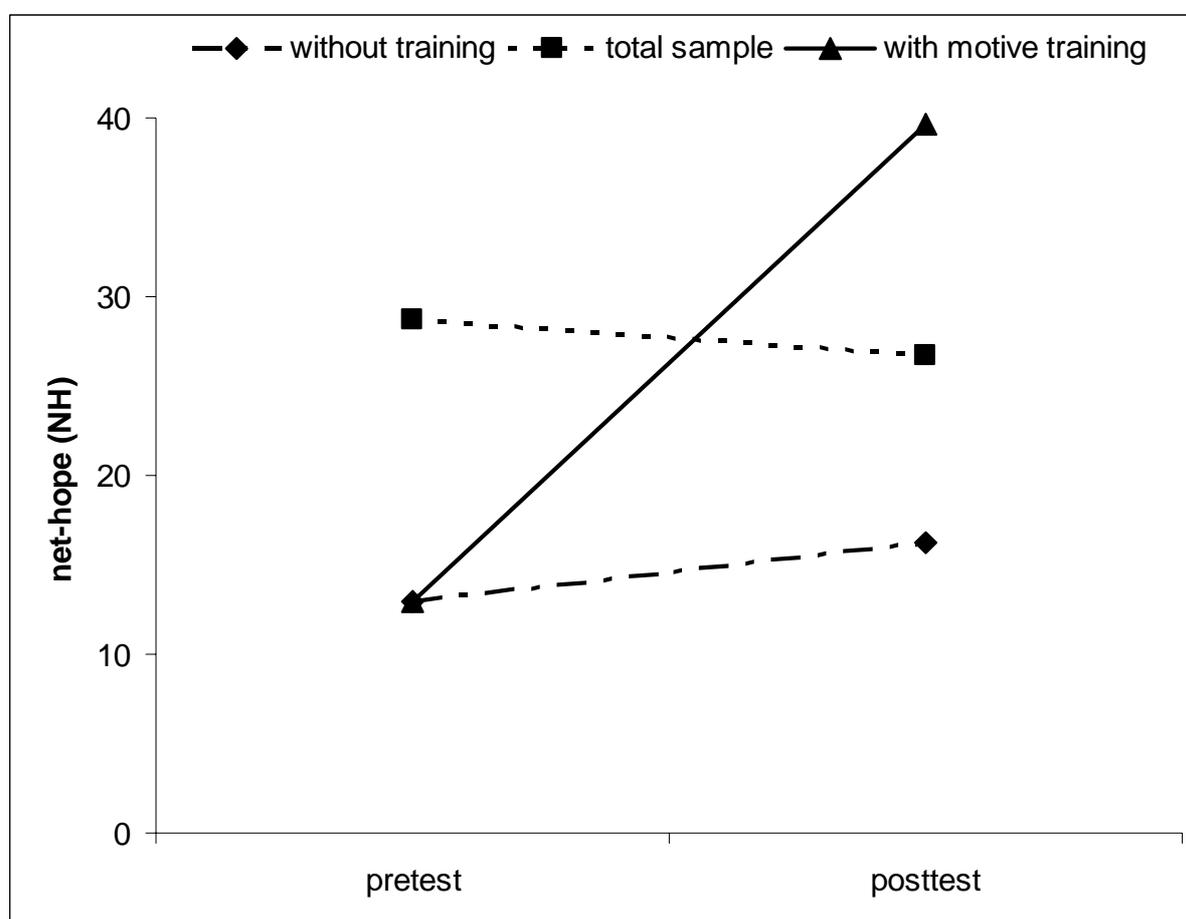
Fig. 1: NH scores for a training group (high FF students with motive training, *N* = 9) and a control group high in failure motivation (high FF students without motive training, *N* = 21) and for an unselected control group (total sample, *N* = 91) (based on Krug and Hanel, 1976)

The failure-motivated students who participated in the training program (high FF students with motive training) showed significantly higher NH scores at posttest. In contrast, a control

group of failure-motivated students (high FF students without motive training) who had worked on some of the same task material, but without the typical elements of the motive training program (training in goal setting, attribution, self-evaluation), showed no motive change. An unselected control group of students (total sample) showed the same mid-level NH scores as at pretest. The training program thus proved highly effective.

2.4 Motive Measurement in Training Studies

With the exception of one pilot study (see below), Schmalt's (1976a,b) Achievement-Motive grid (AM grid) was used to measure the effects of this and all subsequent training programs based on Heckhausen's self-evaluation model on participants' motives. This measurement technique uses achievement-related pictures to activate the achievement motive. Respondents do not generate stories of their own about these pictures, however, but are presented with a list of statements borrowed from the content categories of the TAT and asked to check those that apply to the person shown in the picture. The AM grid thus shares the component of motive arousal by means of picture cues with the TAT/PSE (see chapter _), but does not include the component of active imagery and language production.

Correlations between AM and TAT/PSE scores have been shown to be weak or non-existent. According to Langens & Schmalt (2008), however, the AM grid predicts similar criteria as the TAT/PSE and can thus also be considered a measure of implicit motives. It would go beyond the scope of this chapter to discuss this point in detail (see Chapters 5-7 and Schmalt, 2004). However, findings from numerous studies with samples of students unmistakably show that, in this population at least, the AM grid is sensitive to the *direction* of the achievement motive (HS vs. FF). Because the motive training programs based on Heckhausen's self-evaluation model indeed targeted motive *direction*, the AM grid—with its greater parsimony and objectivity—was used in preference to the TAT/PSE.

In one early pilot study, however, the TAT/PSE was used instead of the AM grid (Hecker, Kleine, & Wessling-Lünnemannn, 1979). The findings (decrease in FF scores) were in line with those emerging from subsequent studies with the AM grid.

2.5 Combined Training Programs

Numerous training programs based on the Krug and Hanel (1976) approach were conducted, replicating the findings reported above in various samples, including students with learning disabilities (Krug, Peters, & Quinkert, 1977; for summaries, see Heckhausen & Krug, 1982, and Rand, 1987). Later versions of the program, in which the principles of realistic goal setting, beneficial causal attributions, and positive self-evaluative emotions were applied to

learning- and achievement-related material proved particularly effective. Rheinberg and Schliep (1985) first tested this approach with fifth graders who had not yet learned to write. Remedial literacy materials were first broken down into numerous elements that were clearly graded by their level of difficulty. Having completed the game-based task devised by Krug and Hanel (1976), the students learned to set themselves realistic goals for the spelling exercises, to provide positive causal explanations for their performance, and to apply constructive self-evaluative strategies in this context as well. Relative to a control group that did not receive training, the participating students showed significant increases in both their NH scores as measured by Schmalt's (1976a) AM grid and their spelling skills (Rheinberg & Schliep, 1985).

Fries, Lund, and Rheinberg (1999) combined the principles of the motive training program with training tasks developed by Klauer (1991) to foster *inductive reasoning*. The fifth and sixth graders in the training group showed significant increases in both their NH scores as measured by Schmalt's AM grid (1976a) and their inductive reasoning as measured by Weiß's (1987) CFT 20 intelligence test. These findings have since been replicated in numerous studies (Fries, 2002).

Combined training programs of this kind probably have particularly sustained effects because students not only learn to act like success-motivated individuals in achievement-related situations, but also—through the specific content of the training program—acquire competencies that make school learning objectively easier for them. These programs thus preclude the counterproductive effects that may occur when participants in training programs return to their school work with great enthusiasm, but still lacking in the necessary academic skills, meaning that their increased effort does not lead to recognizably improved learning outcomes. The feeling that there is no change in one's achievement, irrespective of the effort invested, can lead to experiences of helplessness, as described by Dweck (1975). Indeed, training programs have occasionally been found to have such negative effects (Kraeft & Krug, 1979). To foster the achievement motive on the long term, it is thus vital that participants are able to see the effects of their increased efforts in the form of improved learning outcomes.

2.6 Programs Integrated in Classroom Instruction

Such perceptions are likely to be facilitated if the specific training situations are not entirely different from the everyday learning situations of regular classroom instruction. Some training programs have thus been integrated into regular lessons and implemented in cooperation with the participating students' teachers. This strategy had previously been attempted by scholars such as DeCharms (1976) and Mehta (1968), who trained teachers to integrate aspects of the

motive training program for Indian businessmen (McClelland & Winter, 1969; see above) into their lessons. These effects on student motives proved to be inconsistent, however. As in McClelland's original training program, many of the components implemented were not derived directly from motivation theory; moreover, they could not always be meaningfully integrated within regular instruction.

Based on Heckhausen's self-evaluation model, it was now possible to take a much more targeted approach to motive training. Instead of floundering through the various quasi-therapeutic and indoctrinatory elements of McClelland's original training program, the training procedure could focus on the three core elements of goal setting, causal attribution, and self-evaluation. In a 17-week training program reported by Rheinberg and Günther (2005), these three elements were consistently applied to regular classroom material. Figure 2 shows change in NH scores as measured by Schmalt's (1976a) AM grid for trained and untrained fifth graders.
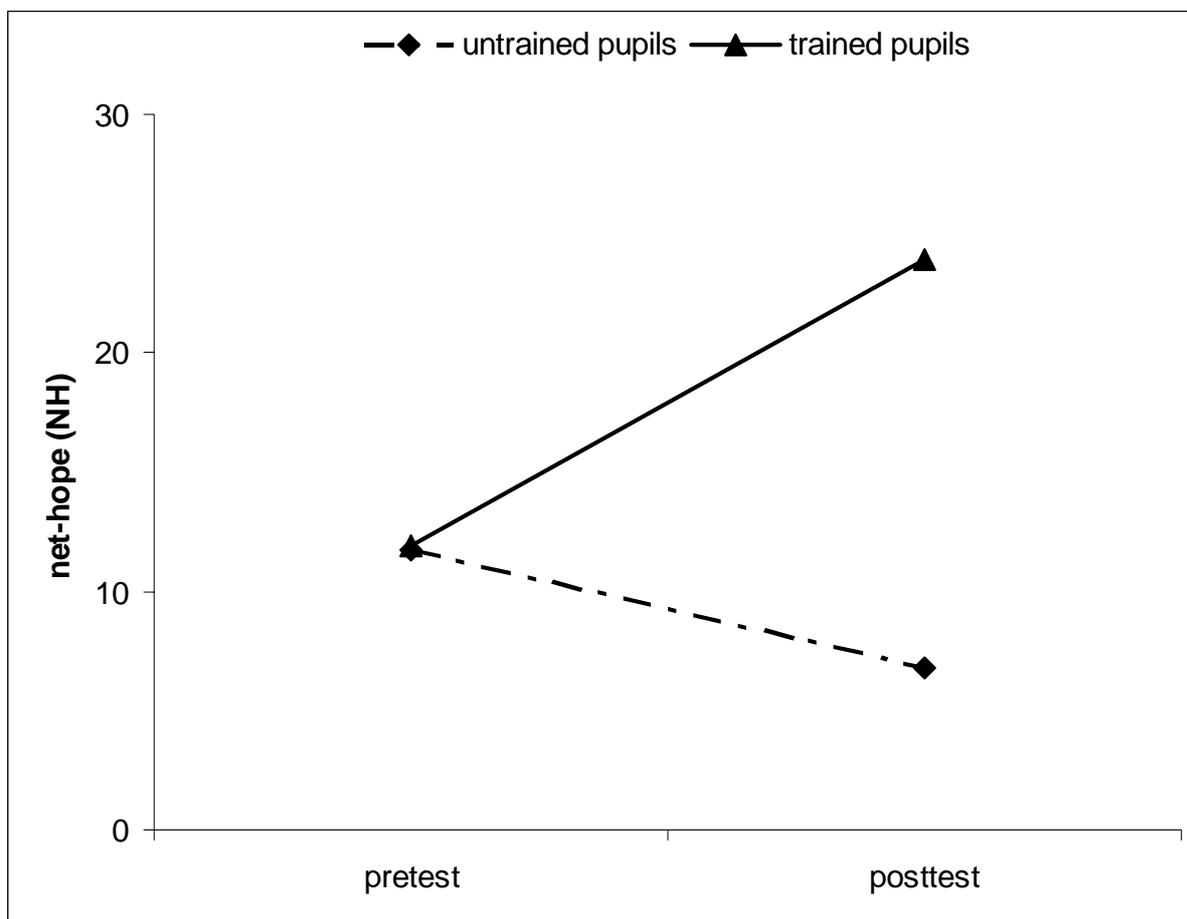

Fig. 2: NH scores (Schmalt's AM grid, 1976a) before and after a motive training program integrated in classroom instruction (trained students, $N = 35$; untrained students, $N = 24$) (data from Rheinberg & Günther, 2005, p. 64)

Relative to the untrained control students, the trained students showed a significant increase in NH scores. They also set more realistic goals, as assessed by a standardized measurement procedure. The same effect was observed when aspired school grades, rather than the standardized psychodiagnostic procedure, were used as the criterion for goal-setting. Moreover, the students in the training group were significantly more likely to attain the grades to which they aspired than their peers in the control group (see Rheinberg & Günther, 2005, p. 66).

The contents of physical education lessons proved a particularly favorable combination for the motive training elements of the self-evaluative model. The criteria for success and failure are especially visible in this context, and students can feel the effects of their increased effort and persistence directly and physically. Motive training programs were successfully integrated in physical education lessons from an early date (Hecker, Kleine, Wessling-Lünnemann, & Beier, 1979), and numerous studies have replicated the findings of an increase in NH scores as measured by the AM grid (Kleine, 1980; Krug, Mrazek, & Schmidt, 1980; Winterstein, 1991).

3. The Concept of Reference Norm Orientation

3.1 Social and Individual Reference Norms

Observations of classroom instruction revealed that some teachers implemented certain principles of the motive training programs described above although they were not familiar with either the programs themselves or the concept of motivation underlying the self-evaluation model. A research program conducted in the 1970s and 1980s established that the decisive variable was the type of reference norm that these teachers applied when evaluating their students' achievement.

Since McClelland, Atkinson, Clark, and Lowell (1953), the theme of achievement motivation has been defined as "concern with a standard of excellence." Yet standards of excellence differ not only in their levels, but also in their origins, that is, the reference system within which they are anchored. Much of the experimental research on achievement motivation has used socially defined standards to manipulate success versus failure or task difficulty: standards achieved by few are deemed to be difficult, those achieved by many to be easy; outcomes that are above average are deemed to be good, those that are below average to be poor. This approach is in line with the concept of *social comparison*, as formulated by Festinger (1954).

Application of social comparison standards is by no means mandatory in the achievement context, however. When the achievement motive is assessed by means of the TAT/PSE, the

first decision to be made in the coding process is whether a story contains any achievement imagery. One important criterion for this decision is whether the story generated by the participant describes something as being done particularly well or better (Atkinson, 1958), where "better" may mean either *better than others* or *better than before*. Whereas in the first case, a social comparison is made as described above (i.e., a social reference norm is applied), in the second case, an entirely different comparison is made, namely with an person's own previous achievements (i.e., an individual reference norm is applied).

Veroff (1969) was probably the first to investigate the application of these two standards of reference empirically. Although the co-existence of these different standards for evaluating students' learning outcomes had long been noted in the field of education (e.g., Herbart, 1831; Pestalozzi, 1807), they had not been theoretically derived or empirically investigated, but understood in purely normative or prescriptive terms. It was Heckhausen (1974) who systematically linked these two distinct approaches to the "standard of excellence" to achievement motivation, and who coined the terms social versus individual reference norms (Veroff, 1969, referred to "autonomous" rather than "individual" standards).

3.2   Teachers' Reference Norm Orientations

Drawing on Heckhausen's (1974) theoretical considerations, the distinction between social and individual reference norms was then applied to teachers' evaluations of their students' learning outcomes, leading to the establishment of an independent research program (Rheinberg, 1977, 1980, 2001). The great appeal of this research was that, based on the teachers' approach to performance evaluation, it was possible to derive, by relatively stringent means, further differences in their teaching practice that could in turn be expected to impact aspects of their students' achievement motivation—most specifically, the direction of the achievement motive.

Research first showed that teachers differ in the reference norm (RN) they consider fair and appropriate: a social reference norm or an individual reference norm. This difference in personal preferences was termed *reference norm orientation* (RNO; Rheinberg, 1980). Teachers who prefer to apply a social RN want to be able to compare the students in a class. They thus set all students the same tasks and provide the same instruction for all. Comparing the students then makes it very clear which students perform consistently better or worse than others. Perceptions of stable achievement invite stable causal attributions (Heider, 1958). Teachers with a social RNO thus prefer to attribute their students' learning outcomes to *stable causal factors* (ability), which in turn generate *long-term expectations*. As a result, teachers with a social RNO are relatively quick to decide which students are likely to show positive or

less positive development over time. Their *sanctions* (praise and criticism) are highly dependent on whether a learning outcome is above or below the class average. They thus communicate to their students what is important in life, namely to be better than others. Numerous studies have provided empirical evidence in support of these theoretically derived predictions (Rheinberg, 1980, 2001). Being taught by teacher with a social RNO is likely to prove extremely discouraging for students whose performance is below average. Table 2 provides an overview of the prototypical characteristics of the two RNOs.

Table 2: Prototypical Characteristics of the Social vs. Individual RNO

Variable		
	Social	**Individual**
Comparisons of student achievement	Cross-sectional comparisons *between* students	Longitudinal comparisons *within* a student
Causal attribution	More—and phenomenally more valid—attributions, especially of interindividual differences in achievement to stable factors	Attributions tend to be kept pending; relative preference for instructional factors
Expectations	Longer term, based on general levels of achievement	Short term, based on the current level of knowledge
Sanctions	Based on differences in students' achievement	Based on individual development
Individualization	Same instruction for all	Principle of fit

Teachers with an *individual RNO* compare a student's current learning outcomes with his or her previous performance. Because achievement tends to fluctuate intraindividually, they have a much more *variable conception of achievement* than teachers with a social RNO. When a student's current performance is measured against his or her previous learning outcomes, even slight improvements are highlighted, as if seen through a magnifying glass. Of course, the same holds in principle when performance deteriorates. But because students tend to learn cumulatively over time, *intra*individual comparison generally casts students' overall achievement in a positive light, showing more gains than declines. In contrast to the *inter*individual comparisons of teachers with a social RNO, class learning gains are irrelevant. Because teachers with an individual RNO are more attuned to the variability in student achievement, they are more likely to attribute their students' learning outcomes to *variable causes*

(effort, learning strategies, etc.). Their *sanctions* (praise and criticism) depend on whether or not a student's performance has improved over time. They thus establish realistic standards for each individual student. Because the emphasis is on individual students improving their own knowledge and skills, rather than on outperforming others, below-average students also see chances for positive evaluation. Because teachers with an individual RNO are more sensitive to whether or not a student is making progress, they soon ascertain that setting all students the same tasks and providing the same instruction for all overstretches some students and fails to stretch others enough. Instead, they seek to *individualize* instructional demands as far as practically possible. They do not necessarily award better grades, but students in their classes can be proud of having raised their grade from a D to a C, for example, and can nurture the hope that, with continued effort, they can do even better.

The parallels between the characteristics of the instruction delivered by teachers with an individual RNO, on the one hand, and the content of the motive training programs inspired by Heckhausen's self-evaluation model, on the other, are clear. The individualized demands of these teachers show students how to set realistic goals; the tasks they set are achievable only if effort is applied. At the same time, the teachers' attributions correctly communicate the belief that learning outcomes depend on the effort invested, and students' perceptions of consistent learning gains reflect their increasing competence. These perceptions make it more likely that they will experience positive rather than negative affect in achievement-related contexts and that experiences of failure will not undermine their hope of future success. Finally, positive affect in achievement-related situations is further supported by the students themselves adopting an individual RNO, which they use as a basis for their own self-evaluation. Taken together, exposure to teachers with an individual RNO can be expected to function as a "natural" motive training program (Rheinberg, 1980).

3.3   Effects of Teachers' Individual Reference Norm Orientations

Because the instruction of teachers with an individual RNO shares certain characteristics with motive training programs, it seemed reasonable to expect these teachers to foster a success-oriented achievement motivation in their students over time. A series of studies confirmed these predictions (Rheinberg, 1982). Figure 3 shows a typical pattern of results. Trudewind and Kohne (1982) constructed parallel comparison groups from a large sample of elementary students. One half of the students were taught by teachers with a pronounced social RNO over their first 4 years at school, the other half by teachers with a pronounced individual RNO.
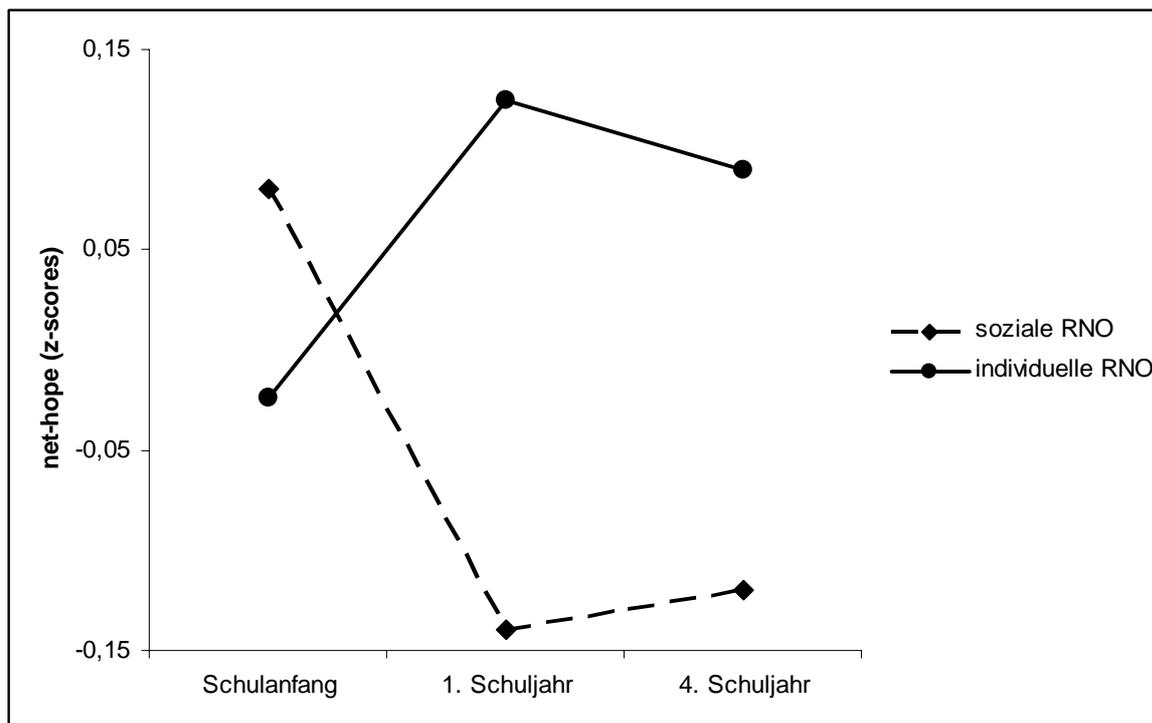
Fig. 3: Development of the direction of the achievement motive over 4 years of elementary schooling in students taught by teachers with a social RNO ($N = 143$) vs. an individual RNO ($N = 168$) (based on Trudewind & Kohne, 1982, p. 129)

The NH scores—as measured by Schmalt's (1976a) AM grid—of students who had been allocated teachers with a strong social RNO decreased in the first year of schooling; those of students taught by teachers with an individual RNO increased. The difference in the two groups' NH scores remained significant across the 4 years of the study.

These effects of teacher RNO on student motives have also been replicated in various samples of older students. Detailed analyses revealed that the effects of exposure to an individual RNO are most favorable in weaker students, who showed a marked decrease in fear of failure as measured by Schmalt's (1976a) AM grid. Figure 4 illustrates this pattern of results for fifth graders who were split into tertiles based on their scores on an intelligence test, and whose motive development was tracked from the start (T1) to the end (T2) of the school year. (In the German education system, students transfer to secondary school after fourth grade, with students from different elementary school classes being allocated to new classes at secondary level.)
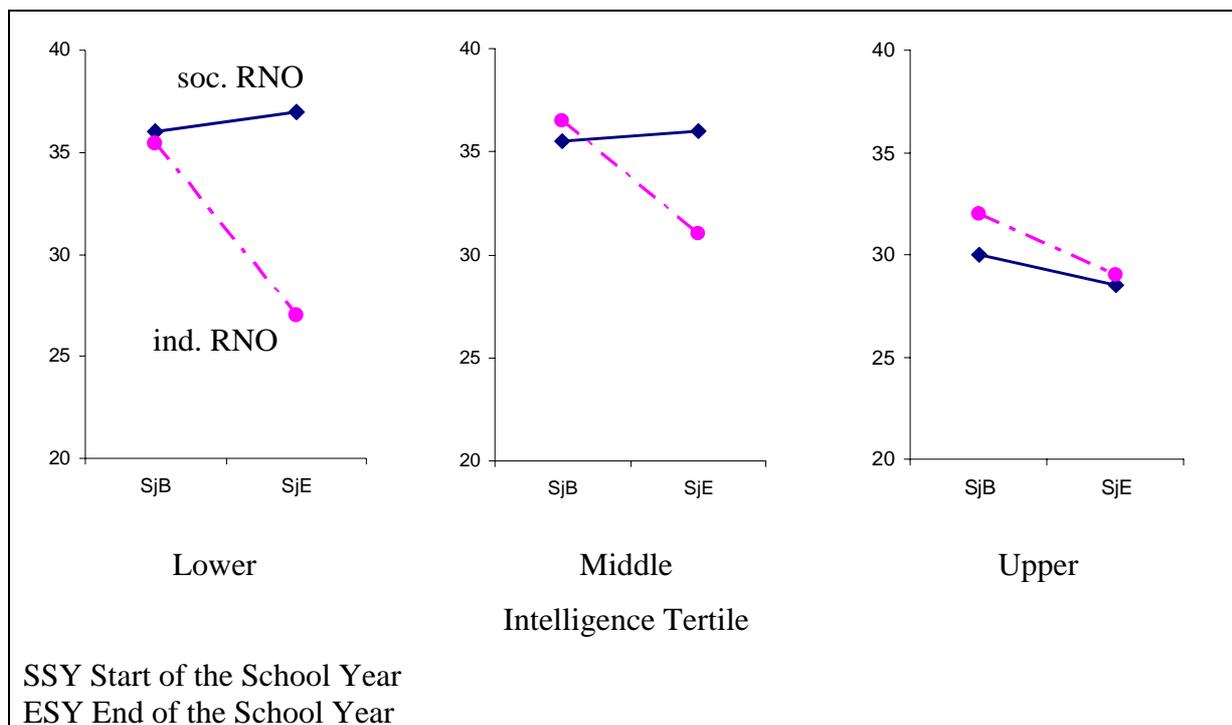
Fig. 4: Development of fear of failure in fifth grade students of different intelligence levels taught by teachers with a social RNO (*N* = 106) vs. an individual RNO (*N* = 91) (Rheinberg, 1979)

Students taught by teachers with a social RNO showed little change in fear of failure over the study period. After all, the instruction they were given was in keeping with what most of them had become accustomed to in elementary school. Students taught by teachers with an individual RNO showed decreasing fear of failure, with the most pronounced decrease being observed in the lower intelligence tertile. It is this group of students that experiences the greatest change when their performance is no longer compared with that of their better performing classmates, but with their own previous performance. Irrespective of their intelligence level, students allocated to teachers with an individual RNO showed a greater awareness of their increased proficiency at the end of the school year. And after 2 years, their self-concept of ability had also improved (Rheinberg & Peter, 1982). This finding has since been replicated for mathematics in samples representative of the German secondary school system (Köller, 2005).

3.4 Interventions Designed to Change Teachers' Reference Norm Orientations

Once the favorable effects of an individual RNO on students' motives had been established, interventions were developed to foster a stronger individual RNO in teachers (for a summary, see Rheinberg & Krug, 2005). The underlying strategy was borrowed from Mehta (1968) and DeCharms (1976). However, the interventions were no longer based on the complex programs

developed by McClelland and Winter (1969) for the business context, some aspects of which could not be integrated in classroom instruction. Rather, there was a specific focus on individualized task setting, patterns of causal attribution, and applying an individual RN to evaluate student learning outcomes.

As reported above for programs targeting students directly, effects on the achievement motive were most salient in physical education lessons. Weßling-Lünnemann (1982) trained 21 physical education teachers to apply an individual RN in their lessons. However, Rheinberg´s questionnaire for determining reference norm orientation (FEBO; Rheinberg, 1980) showed that not all teachers benefited from the program as intended. Seven of the participating teachers picked up some motivation techniques for their lessons, but continued to evaluate their students applying social norms. Figure 5 shows how the NH scores of students in the two training groups developed in the following school year relative to the scores of a control group whose teachers did not receive training.
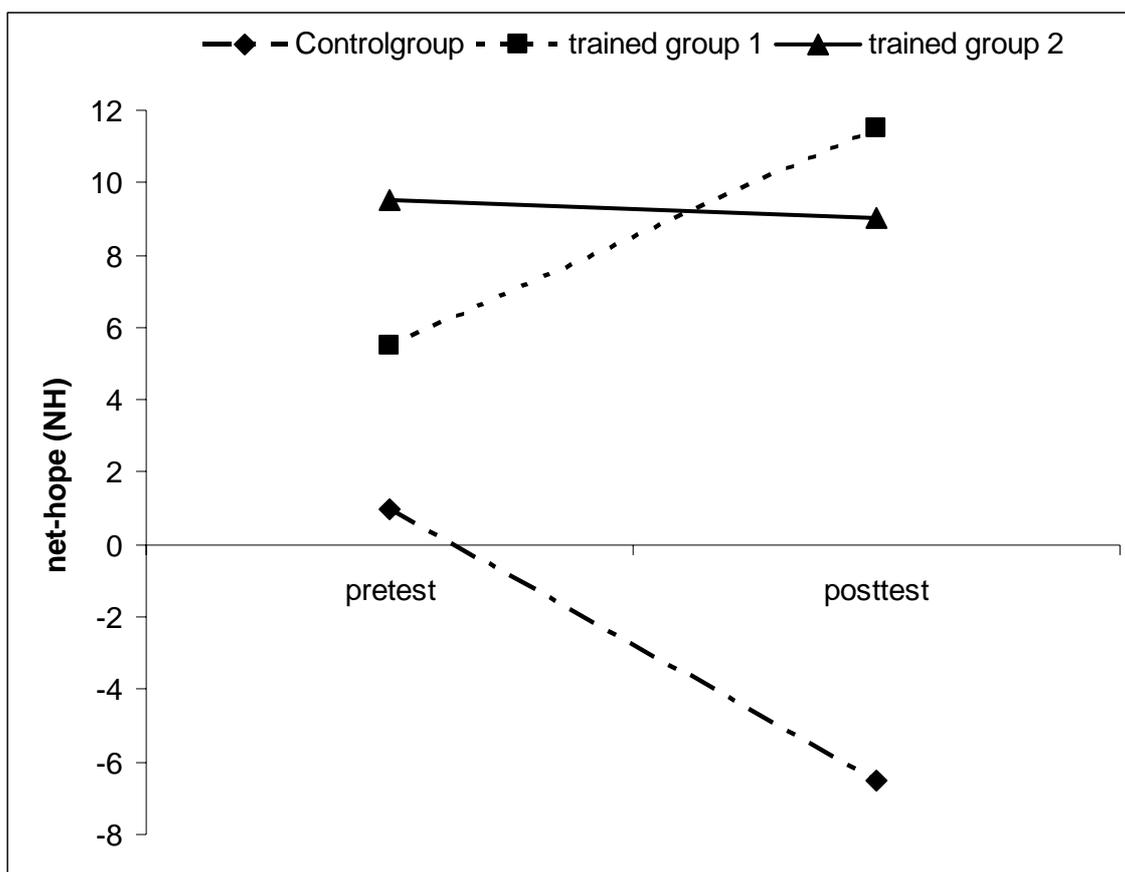

Fig. 5: NH scores (Schmalt's AM grid) of two training groups and a control group over a school year (based on data from Weßling-Lünnemann, 1982; training group 1: teachers applied an individual RN, $N = 249$; training group 2, teachers still applied a social RN, $N = 132$; control group, $N = 123$)

The NH scores of the control students decreased significantly over the school year. This pattern is typical of fourth graders in Germany: at the end of fourth grade, students are selected to the different tracks of the three-tiered secondary system, and many students worry that they will fail to meet their parents' high educational expectations. This typically leads to an increase in mean FF scores in fourth grade.

It emerged that only the successfully trained physical education teachers were able to reverse this unfavorable trend (training group 1). The students of the seven teachers who still applied a social RNO, even after the training program (training group 2), showed a somewhat more favorable development in NH than the control group, but the difference between the two groups was not significant.

Some studies conducted detailed investigations of training effects on student motivation over a short-term period. Of course, short-term interventions of this kind cannot be expected to affect students' motives, but interesting patterns of change in certain motivation-relevant student characteristics can be observed. In an instructional experiment reported by Rheinberg and Krug (2005), a teacher was trained to apply either an individual RN or a social RN in his classes. After a pretest (*zero* in Figure 6) he then delivered history lessons to two parallel classes for 5 weeks, applying an individual RN in one class and a social RN in the other. The students in each class were split into tertiles based on their learning outcomes. Figure 6 illustrates the students' responses to the question of how encouraged they felt to participate actively in class by performance tertile.

As shown by the three curves in the right panel, relatively little change was observed overall when the teacher applied a social RNO, though the weaker students felt even less encouraged to participate toward the end of the intervention. In contrast, some intriguing effects were seen in the class where the teacher applied an individual RNO (the three curves in the left panel). Both the above-average and the below-average students first showed sharp decreases in perceived encouragement to participate. In contrast to standard practice in the German education system, these students were no longer compared with the class average, but with their own prior performance. This makes a considerable difference, both to students who were previously always above average or "good," and to below-average students, who tend not to be called on very often in class. After just 2 weeks, however, the students no longer seemed to be irritated by the new RNO. By the end of the intervention, all three groups of students—even the below-average group—felt more encouraged to participate than did the above-average group in the social RNO class. Similar patterns of results emerged when oral participation in class discussions or objective performance data were taken as criteria (Rheinberg & Krug, 2005, pp. 100-111).
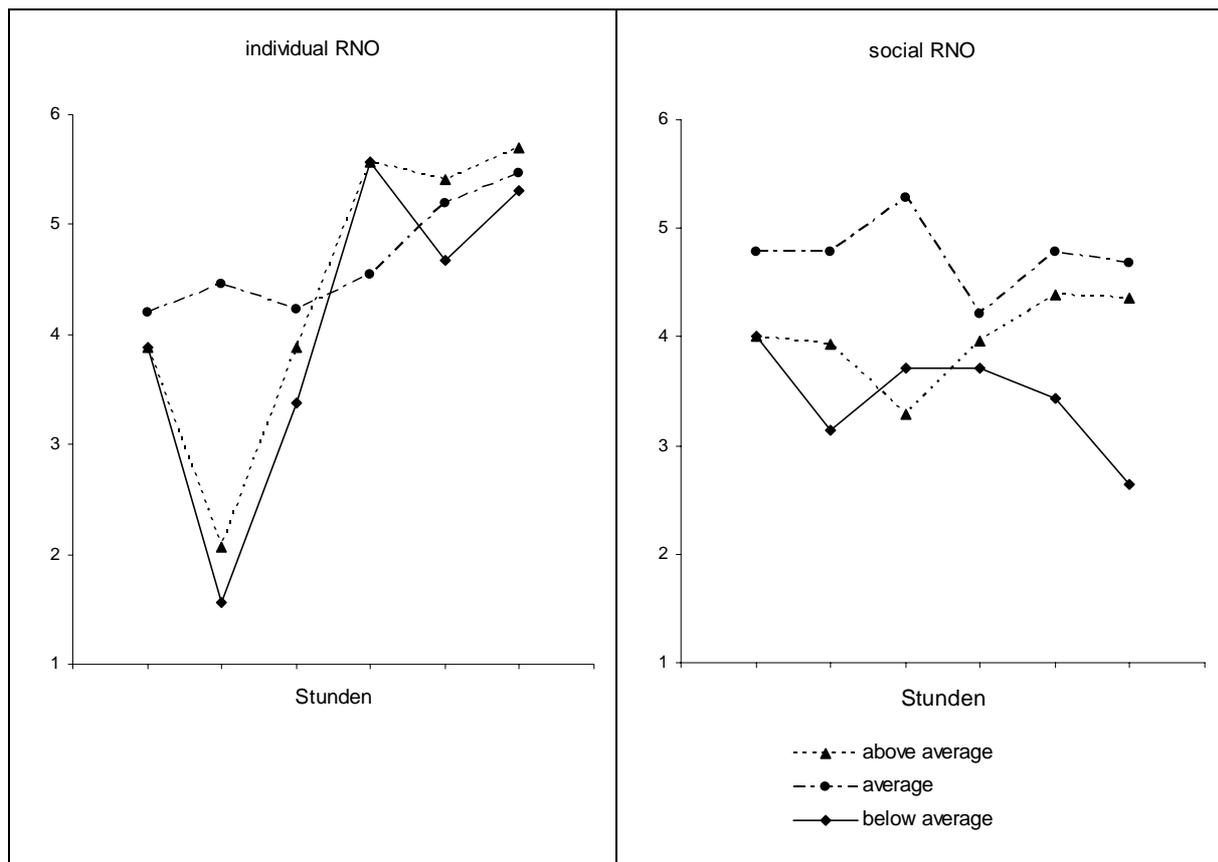
Fig. 6: Perceived encouragement to participate actively in class when exposed to an individual RNO (*N* = 17) vs. a social RNO (19): findings from a 6-week instructional experiment (based on Rheinberg & Krug, 2005, p. 104)

3.5   Training Programs for Parents

Because children's motivational development is influenced not only by their teachers, but of course also by their parents, the principles of the teacher training program have since also been applied to training programs for parents (Lund, Rheinberg, & Gladasch, 2001). In these programs, parents learn how to help their children set realistic goals, how to help them identify positive causal attributions for successes and failures, and how to encourage them to base their self-evaluation on an individual RN, without losing sight of whether their performance is better or worse than that of their peers (social RN).

Parents attended evening training sessions for 6 to 9 weeks. Relative to control groups, students whose parents participated in the training program showed a significant improvement in NH scores as measured by Schmalt's (1976a) AM grid. This development was the result of a reduction in fear of failure (FF; Schmalt, 1976b), which had declined even further at a follow-up test 8 months later. Figure 7 shows change in fear of failure (FF) in the control and training

groups. The effects of parental training were thus particularly sustained. The core elements of the training program have now been standardized and are available on CD (Lund, 2002).
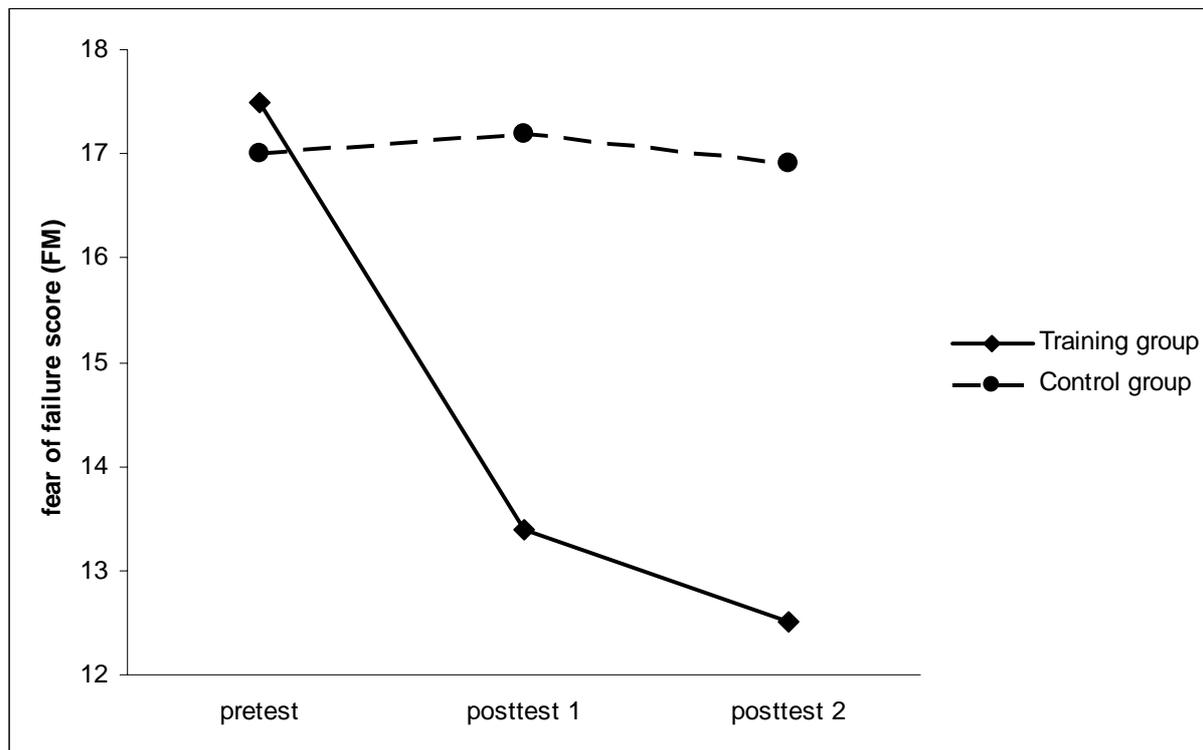

Fig. 7: Development in fear of failure scores (FF, Schmalt, 1976a) at three points of measurement (posttest 1 after 8 weeks, posttest 2 after 8 months) for the training group (*N* = 28) and the control group (*N* = 53) in a parent training program (Lund et al., 2001)

3.6 Reference Norm Orientation and Related Concepts

The concept of RNO was proposed by Heckhausen (1974) and investigated and developed in the school context by Rheinberg (1975, 1977, 1980, 2001). Independently of this German research program, similar concepts were later developed in the English-language literature, namely Nicholls' (1984) concept of *task vs. ego orientation* and Dweck's concept of *learning vs. performance goal orientation* (Dweck & Leggett, 1988). *Ego and performance goal orientation* involve a social RNO; *task or learning goal orientation*, an individual RNO.

Although there is broad overlap between these concepts and RNO, the approaches are not identical (Dickhäuser & Rheinberg, 2003). In particular, we are not aware of any studies taking a goal-orientation approach that have attempted to modify the implicit achievement motive. As such, we do not address these concepts in any further detail in this chapter.

3.7   What Do the Training Programs Achieve?

Our brief accounts of the training studies outlined above have focused on findings relating to the implicit achievement motive. (Some favorable training effects on measures of the explicit achievement motive have also been reported; for full accounts, see Heckhausen & Krug, 1982, and Rand, 1987). But precisely what effects did the programs have on students' achievement motives? Importantly, the programs did not aim to extend, strengthen, or reinforce the associative network of the achievement motive acquired in preverbal development, thus moving it to the top of the motive hierarchy. In other words, the objective was *not* to make strongly affiliation- or power-motivated people into strongly achievement-motivated people. Quite apart from the difficult ethical questions that such endeavors would raise, it is extremely doubtful that motive change of this kind would be at all feasible within such a short space of time.

Instead, the training programs based on the self-evaluation model and individual RNOs aimed to change not the *strength* of the implicit achievement motive, but its *direction*. The key objective was to enable participants to experience less fear of failure and more hope of success in everyday achievement-related situations, and to act accordingly.

There is no doubt that the training programs also impacted cognitive elements of motivation, especially causal attribution. Furthermore, they contained a habit-formation component, with students being taught (a) to start by setting goals in achievement-related situations and (b) to make those goals realistic. The combination of these goal-setting habits with the belief that success and failure are largely dependent on one's own actions leads to a change in the quality of experience of everyday school situations, which now tend to be interpreted as challenges rather than threats. There is no question that this changed perception of the situation amounts to more than just enhanced life management skills. Indeed, precisely these perceptions play a key role in the assessment of implicit motives in projective measures such as the TAT, PSE, or AM grid.

Of course, the implicit motive as a construct comprises more than the procedure used to measure it. But the motive-specific perception of situations that are open to different interpretations is also an important defining component of implicit motives on the construct level. From this perspective, the motive training programs described above certainly effected change in the implicit achievement motive: change in favor of success-oriented experience and behavior in open or ambiguous situations.

4. Training Programs Designed to Promote Motive Congruence

4.1 Motive Congruence and Motivational Competence

Given that it is probably not possible to change the hierarchy of implicit motives, the question arises of whether and to what extent people are aware of their relative motive strengths. If I have no way of influencing which motive-specific activity characteristics I find attractive and satisfying, it would at least be useful to know which forms of activity and types of situations are in line with my activity preferences. Indeed, this is one (of many) requirements for a self-determined way of life.

Surprisingly, it cannot be taken for granted that people are aware of their implicit motives and the associated activity preferences. In fact, the correlations between people's self-reports on what is important and attractive to them, as measured by motivation questionnaires, and their implicit motives, as assessed by the TAT/PSE, are very weak (Spangler, 1992; for a summary, see Brunstein, 2003). This remarkable finding was first reported by DeCharms, Morrison, Reitman, and McClelland (1955) and has since been discussed from various angles.

The perspective that guides current research draws on the work of McClelland, Koestner, and Weinberger (1989) and McClelland (1985). According to this approach, implicit motives are preferences for motive-typical classes of incentives that are partly genetically predetermined and that develop early in life via preverbal experiences. They are manifested in the individual's affective responsiveness to motive-congruent situations and activities. In contrast, self-reports on one's preferred incentives and value beliefs derive from the self-concept ("motivational self-concept," Rheinberg, 2002a). The motivational self-concept is represented in the medium of language, is thus acquired later, and contains not only accurate self-perceptions, but also rosy illusions, others' impressions, and adopted value beliefs of what is considered good and desirable in life.

The interrelations between affect-based, implicit motives and the cognitively represented value beliefs and perceived preferences of motivational self-concepts can be theoretically conceptualized in various ways (Brunstein, 2003; McClelland, 1985, see also Chapters 11 and 12). Heckhausen's (1977) "extended cognitive model of motivation" illustrates the influences of the two motive systems during a given action episode. The model breaks an action episode down into four stages: the *situation*, which is likely to unfold in a certain way, affording various action alternatives and temptations, the actual *activity*, which can take various forms and bring about specific *outcomes*, which may in turn have desired or undesired *consequences*. In contrast to the affect immediately associated with the outcome (e.g., pride or shame), the elaboration of an activity's consequences, their probabilities and desirability is a cognitive act.

Augmented by some additional assumptions, this episode-specific model has proved a powerful predictor of school learning motivation, even at the individual level (Heckhausen & Rheinberg, 1980; Rheinberg, 1989).
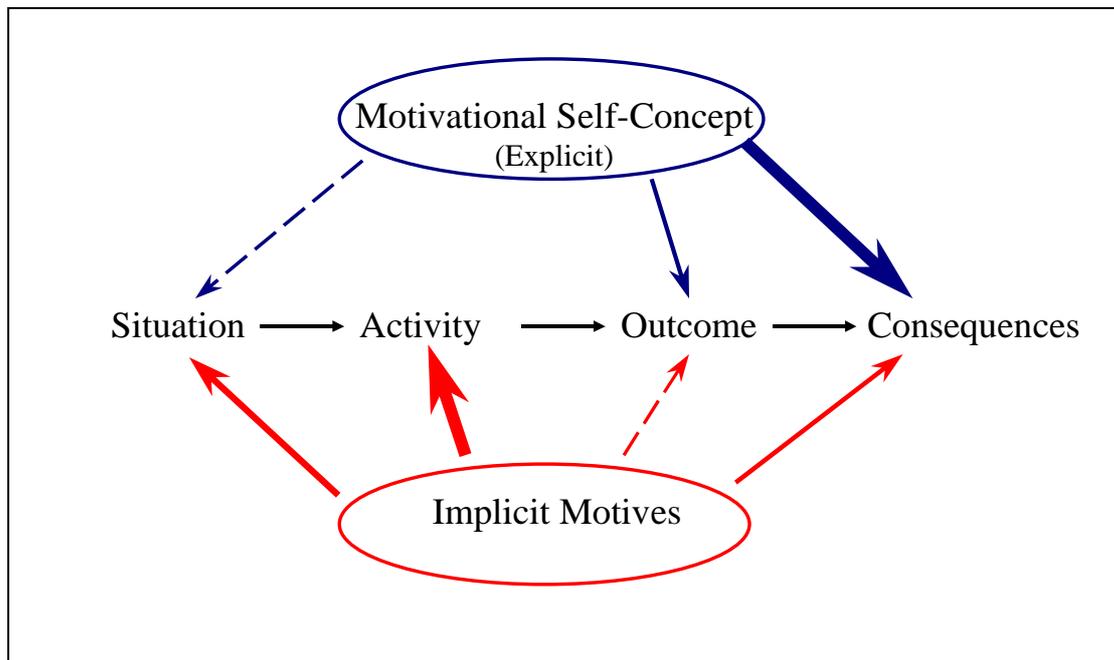

Fig. 8: The hypothesized effects of implicit motives and motivational self-concepts in Heckhausen's (1977) extended cognitive model of motivation (based on Rheinberg, 2002b)

Figure 8 illustrates the hypothesized effects of implicit motives and motivational self-concepts in an action episode. At the first station of the model, the *situation*, implicit motives influence the perception of the situation, determining which incentives are most salient to the individual. At the next station, the *activity*, implicit motives have a strong impact on the perceived attractiveness of different types of activity and serve to mobilize behavior. If the activity is congruent with the individual's motives (e.g., efficient task completion in someone with a strong achievement motive), implicit motives energize the necessary behavior and facilitate a positive quality of experience, keeping goal-directed behavior on course almost effortlessly. Implicit motives are thus sources of *activity-specific incentives* that are independent of the foreseeable consequences of the desired end states (Rheinberg, 1989). The thicker arrows to *situation* and *activity* in Fig. 8 highlight the particular influence of implicit motives on these two stations of the action model. In keeping with the predictions of the model, empirical findings show that respondents with a strong achievement motive are significantly more likely to select achievement-related goals when they are instructed to make sure that striving for that goal will be "enjoyable and exciting." When, on the other hand, they are instructed to select

goals that are "suitable" for them, the implicit achievement motive does not have the same effect (Job, 2007).

How the outcome of an activity is evaluated depends on the desirability of its potential *consequences* and on the perceived probability of their occurrence. These evaluations are thus the results of cognitive processes. If an activity is motivated solely by the attractiveness of its probable consequences, it will have to rely on value and efficacy beliefs, which are more or less consciously accessible. It is here that motivational self-concepts take effect; as cognitive schemata, motivational self-concepts contain information on what seems important and valuable to me, what seems to suit me, and what seems to be within the realm of my potential. Whenever people deliberate long and hard on whether or not to pursue a certain goal, their decision is based on their motivational self-concept. But how easy they then find it to engage in the necessary activities, and their quality of experience in doing so, depends on their implicit motives.

The ideal configuration is thus one in which individuals, based on their value orientations and self-knowledge, decide on goals and life projects that entail activities and situations which are in keeping with their implicit motives. The precondition for their making such choices is that their motivational self-concept is not radically at odds with their implicit motives. Someone with a strong implicit achievement motive and a weak implicit affiliation motive, but whose self-concept says quite the reverse, will frequently find him- or herself in situations and activities that require conscious effort and bring little or no enjoyment. Supposing herself to be someone who flourishes in social contexts, a student may opt to prepare for a test with a group of classmates, only to be constantly reminded how annoying it is when people keep chatting and having fun, rather than studying efficiently. Or she will talk herself into going to student parties and trying to maneuver herself into friendly conversations, although she soon finds the whole thing boring and loud, and would much rather be at home working out a complex problem on her computer. If her motivational self-concept and her implicit motives were congruent, she would have been able to spare herself such experiences.

The capacity make motive-congruent decisions can also be termed *motivational competence*: a person's ability to reconcile current and future situations with his or her activity preferences such that he or she can function effectively, without the need for permanent volitional control (Rheinberg, 2002a). The components of motivational competence are (1) an accurate motivational self-concept (congruence between one's implicit motives and self-attributed motives), (2) the ability to evaluate the potential incentives of future situations and, if necessary, (3) to endow situations with motive-congruent incentives. (4) When committing to longer-term projects, moreover, a person high in motivational competence does not consider only the

benefits to be expected upon its completion, but also the pleasure to be derived from the activities themselves. (5) Metamotivational knowledge, that is, knowledge of the internal and external conditions that influence one's motivational processes is also important (e.g., "I'd better not think about phoning my new girlfriend while I'm in the middle of preparing a difficult presentation"). An additional component in achievement-oriented societies may be knowledge of how to elicit a success-oriented motivational state (Rheinberg, 2002a). (This last component is less relevant in conflict-driven societies or societies based on inherited privileges.)

4.2   The Flow Hypothesis of Motivational Competence

Only the first of the five theoretically postulated components of motivational competence—congruence between implicit motives and motivational self-concept—has as yet been subject to close empirical investigation. The concept of congruence is by no means new; motivational competence is essentially a specification within motivation theory of the general idea of congruence presented by Rogers (1961). Brunstein's research group has been foremost in investigating what happens when people pursue goals that are congruent or incongruent with their implicit motives. As expected, the affective well-being of students who set themselves motive-congruent goals at the start of the semester was observed to increase as the semester progressed (Brunstein, Schultheiss, & Grässmann, 1998). Moreover, respondents whose implicit motives were congruent with their motivational self-concepts were show to be particularly adept at dealing with critical feedback under ego-involving conditions (Brunstein, 2001). See Chapters 11 and 12 of this volume for further evidence of the favorable effects of high motive congruence on well-being.

We now address a specific hypothesis that provides further theoretical justification for interventions designed to increase the congruence between implicit motives and motivational self-concept. As shown in Figure 8, implicit motives have a particularly strong impact on the performance of the activity. Motive-congruent activities are supported and energized by implicit motives. People can become completely absorbed in these activities; because they enjoy what they are doing, they do not have to keep pushing themselves to complete a prespecified plan of action. Csikszentmihalyi (1975) labeled this joyful absorption in a seemingly effortless activity *flow*. People are far more likely to enter flow states when involved in motive-congruent activities than when pursuing motive-incongruent activities, where the realization of goal-directed activities requires constant monitoring and volitional control.

Of course, even people with high motivational competence are not always be able to pursue motive-congruent activities that have intense experiences of flow; the objective conditions

of our lives state otherwise. However, it is reasonable to assume that people high in motivational competence do not engage *unnecessarily* in motive-incongruent activities. This should be especially apparent in leisure time, but also observable whenever people have a certain freedom of choice in how to go about their everyday activities.

People with low motivational competence, in contrast, can be expected to engage in motive-incongruent activities even when it is not necessary. Especially when they put a great deal of thought into whether the expected consequences of their involvement are in keeping with their person and their values, their decisions are made on the basis of the motivational self-concept. Because their motivational self-concept deviates from their implicit motives, however, it is under precisely these conditions that they are drawn into activities that do not correspond with their implicit motives. Given the desired consequences of these actions, they then have to force themselves to do what is necessary to attain their goal by means of permanent volitional control. Of course, it is quite possible to live this way, but it means doing without the recurrent experiences of flow that can make even the most difficult activities succeed as if of their own accord. Rather, people with low motivational competence are more likely to feel that their activities are not really self-determined, and that performance of these activities requires high levels of self-control. Given this background, the flow hypothesis of motivational competence predicts a positive relationship between motive congruence and flow experience, provided that the individual's way of life is not fully subject to the control of others.

The flow hypothesis of motivational competence was first investigated by Clavadetscher (2003) in a sample of $N = 60$ adult members of a Swiss cultural organization. The members supported the organization by volunteering for certain activities involved in the staging of cultural events (e.g., concerts). These activities ranged from inviting well-known artists to doing the organization's accounts or running the bar in concert intermissions. Members volunteered for activities that appealed to them. The respondents' implicit motives were measured using the Multi-Motive Grid by Schmalt, Sokolowski, and Langens (2000); their motivational self-concepts were assessed using the PRF by Stumpf, Angleitner Wieck, Jackson, and Belloch-Till (1985). Clavadetscher used the sum of the z-score differences between the explicit and implicit measure of each motive as a negatively valenced measure of motivational competence (the lower the differences between the respective measures of implicit and explicit motives, the higher a respondent's motivational competence). In addition, the Flow Short Scale (FSS; Rheinberg, Vollmeyer, & Engeser, 2003) was used to assess how often the respondents reported flow experience while performing their voluntary activities. The mean flow scores for the voluntary activities were above average (mean T-value of 55 on the FSS).

Moreover, as predicted by the flow hypothesis of motivational competence, the better the volunteers' motivational self-concepts corresponded with their implicit motives, the more flow they experienced in their chosen projects ($r = .34$; $p < .01$).

Most of the following studies on the flow hypothesis of motivational competence were conducted in achievement-related situations (e.g., in sporting, academic, and occupational contexts), and thus examined motive congruence with respect to the achievement motive. Rheinberg, Vollmeyer, and Manig (2005) used the experience sampling method (ESM, Csikszentmihalyi & Larson, 1987) to examine 28 scientists/managerial staff members and 53 secretaries/administrative assistants over a 1-week period. The participants were given a "pager" that emitted signals seven times per day, prompting them to rate their momentary flow state (FSS, Rheinberg et al., 2003) and to note down where they were and what they were doing. The TAT/PSE had previously been administered to assess the participants' implicit achievement motive and the Achievement Motives Scale (AMS, Gjesme & Nygard, 1970) to assess their self-attributions of success-oriented achievement motivation. Based on the difference between the two z-standardized motive measures, the sample was divided by median split into groups high vs. low in motive congruence.

Fig. 9: Flow experience of the two groups by motivational competence and type of situation

Across the total sample, participants with high motivational competence reported significantly higher flow scores than participants with low motivational competence. As shown in Figure 9, this effect was observed in both groups: the scientists/managerial staff and the secretaries/administrative assistants. There was one notable difference between the two groups, how-

ever. The flow scores of the scientists/managers were particularly high in achievement-related situations (writing papers, planning studies, running analyses, etc.), differing significantly from their flow scores in non-achievement-related situations ($p < .01$).

This situational effect was not observed in the group of secretaries/administrative assistants, whose flow scores were independent of whether they were engaging in achievement-related activities or talking to colleagues, taking a break, etc. At the same time, their overall flow scores were as high as those of the scientists/managerial staff. In other words, flow experience at work is not confined to the higher levels of the hierarchy, as had already been reported by Csikszentmihalyi and LeFevre (1989). This finding was now extended to the flow effect of motivational competence, which was shown to occur irrespective of the respondents' level in the occupational hierarchy. It should be noted, however, that the sample of secretaries/administrative assistants in the institutions examined (universities, research institutes) probably enjoyed a relatively high level of self-determination in their work.

Other researchers have not worked with difference measures, but with interactions between implicit motives and motivational self-concepts. One example is Steiner's (2006) study of badminton players. The players first imagined that they were playing a game of badminton and explored what exactly it was about the game that gave them particular pleasure. They then completed the FSS for badminton (Rheinberg et al., 2003). Figure 10 shows the findings for $N = 83$ male players.
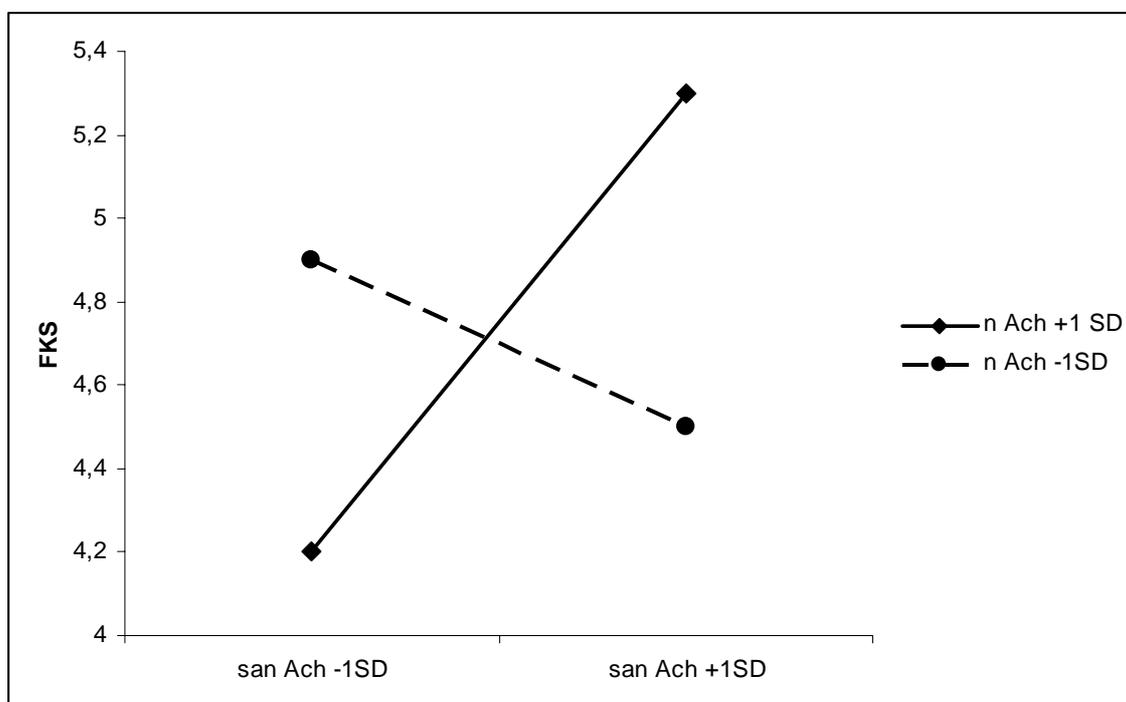

Fig. 10: Flow experience (FSS) in badminton players ($N = 83$) by implicit achievement motive (*nAch*) and self-attributed achievement motive (*sanAch*) (data from Steiner, 2006, p. 65)

The players' implicit achievement motive had previously been assessed using the MMG (Schmalt et al., 2000); their self-concept of achievement motivation using the PRF (Stumpf et al., 1985). A significant interaction ($p < .01$) emerged between the two motive measures. Players with high scores on both motive measures reported the highest levels of flow, followed by players with low scores on both motive measures. The lowest levels of flow were reported by players whose scores on the two motive measures were incongruent. This pattern of findings is exactly what is predicted by the flow hypothesis of motivational competence.

It also emerged that motive congruence is particularly relevant to flow experience when the implicit motive is strong. The contrast between high vs. low motive congruence was only significant for respondents with a strong implicit achievement motive, and not for those whose implicit achievement motive was weak (for details, see Steiner, 2006, p. 65).

Findings from a study by Engeser (2005) made this pattern of results even clearer. Engeser assessed the implicit achievement motives (TAT/PSE after Winter, 1991) and self-attributed achievement motivation (PRF, Stumpf et al.) of $N = 273$ psychology students enrolled in a statistics course. In addition, the Volitional Components Inventory (VCI) by Kuhl and Fuhrmann (1998) was administered to assess the students' self-regulation competence and feelings of self-determination in everyday situations (sample item: "I feel that most of the time I really want to do the things I do.")

Of course, harmonious self-regulation cannot be equated with flow experience; rather, it is the state that makes it easy to become effortlessly absorbed in an activity and to enter flow. It is this reasoning that informed the flow hypothesis of motivational competence. Figure 11 shows the interaction between implicit achievement motive (*nAch*) and self-attributed achievement motivation (*sanAch*) for harmonious self-regulation.

The interaction between implicit and self-attributed achievement motivation is significant. As is clearly shown by the data presented in Fig. 11, motive congruence is irrelevant to harmonious self-regulation if the implicit achievement motive is weak. In the case of a strong implicit achievement motive, however, whether or not the self-attributed achievement motive is accurate makes a considerable difference to harmonious self-regulation.
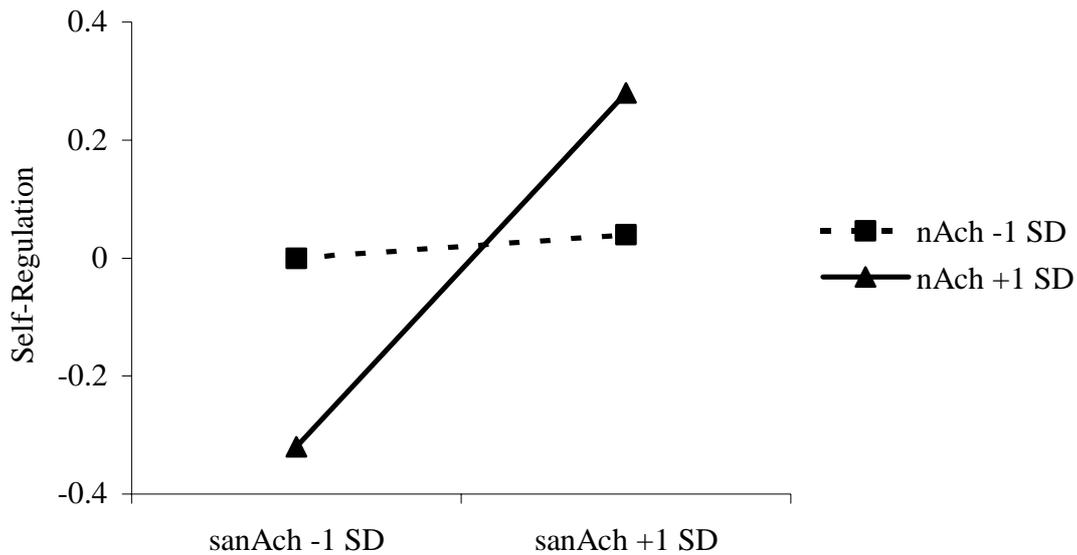
Fig. 11: Harmonious self-regulation in *N* = 273 students: interaction between the implicit and self-attributed achievement motive (z-scores; based on Engeser, 2005, p. 198)

4.3 How Can Motivational Competence Be Increased?

The findings outlined above show that the congruence between implicit and self-attributed motives not only has positive effects on emotional well-being (see Brunstein, 2003; Brunstein et al., 1998), but is also conducive to effective functioning in everyday life (flow experience and harmonious self-regulation). There is no doubt that motive congruence is a highly desirable personal characteristic, especially when the implicit motive in question is strong. So what can be done to increase motive congruence in oneself and in others?

Of course, it is possible to start by assessing people's motives using methods such as the PSE technique. However, it is important to note that, for various reasons, the PSE's accuracy on the individual level is low; it is less reliable than intelligence tests, for example. Nevertheless, PSE data, as far as they are available, can be expected to facilitate the development of a realistic self-concept (Rheinberg, 2004).

Alternatively, individuals facing an imminent decision on whether or not to engage in a certain activity can benefit from an experimental manipulation developed by Schultheiss and Brunstein (1999). In this experiment, participants were assigned the goal of counseling another person in a directive manner. This scenario activated both the affiliation motive and the power motive. One group of respondents participated in a goal imagery exercise before the counseling session, imagining how precisely they would go about counseling the client, how the client would respond, and how they themselves would feel during the exchange. Immedi-

ately before the session, participants' goal commitment was measured, that is, how committed they felt to attaining the goal of providing directive counseling. Findings showed scores on the implicit affiliation and power motives to be much more powerful predictors of goal commitment in the imagery group than in a control group. Participants high in affiliation and power motivation reported stronger goal commitment to engage in the—for them—motive-congruent activity than did participants low in these motives. The mental elaboration of the imminent situation evidently rendered it better "readable" for the participants' implicit motives. In the control group that did not participate in the goal imagery exercise, no such relationship was found between implicit motives and goal commitment.

In more general terms, imagery techniques of this kind can be applied to increase motivational competence in a given situation. In terms of the extended cognitive model of motivation (see Figure 8), the imagery exercise forces people faced with a decision to elaborate the *situation* and *activity* stations, rather than basing their decision solely on the *outcome* and *consequences* stations. In so doing, the influence of the motivational self-concept is temporarily weakened and that of the implicit motives strengthened. This intervention can also be expected to help people low in motivational competence to make a motive-congruent decisions.

More specific recommendations for increasing one's motivational competence can be derived from the findings of Schultheiss and Brunstein (1999). Table 3 presents a list of practical recommendations proposed by Rheinberg (2002a).

Tab. 3: Practical Recommendations for Enhancing Motivational Competence (Rheinberg, 2002a)

I) Retrospective Diagnosis
• Which activities do I prioritize and return to again and again even without the promise of reward?
• When has my work been particularly unproblematic and enjoyable; when could I have carried on endlessly? What was so special about that situation, task, or activity?
• When have I been particularly pleased with an outcome; when have I found myself unable to enjoy an outcome, despite its objective success?
• Which incentives/conditions must be in place for my involvement in an activity to be joyful, effective, and flow-like? (Discomfiting answers are also important here.)
II) Prospective Incentives
• Before adopting a goal, do not focus exclusively on its desirable consequences.
• Instead, imagine exactly what you will have to do to achieve that goal and how performing these activities will make you feel ("translation" into a form "readable" by your motives).
• Only then decide for or against the goal (provided you have the freedom to do so).

4.4 The Clarificatory Training Approach of Krug and Kuhl

The evident stability of implicit motives has implications for current motive training programs. Krug and Kuhl (2005) have continued to develop and refine the training program originally proposed by McClelland and Winter (1969) and Varga (1977), adapting it to European conditions. Like McClelland and Burnham (1976), they found that it is less the achievement motive than the power motive that predicts European (German) managers' success in large organizations. The managers' implicit power motive (PSE, Winter, 2001) was found to correlate significantly with employee satisfaction with their management ($r = .65$), satisfaction with working in the team ($r = .58$), and satisfaction with the team's performance ($r = .49$) ($N = 122$; Krug & Kuhl, 2005, p. 177). No such relationships were found for the managers' implicit achievement motive.

Had the stability of implicit motives not been established, researchers might have attempted—like McClelland—to strengthen the implicit power motive in training programs. Krug and Kuhl have now moved from such a modificatory approach to a clarificatory one: although it is clear that training cannot modify the strength of implicit motives in the short to medium term (Krug, 1983), measures should at least be taken to ensure that individuals are properly aware of their implicit motives. This would increase the congruence between implicit motives and motivational self-concept, thus bolstering the main component of motivational competence. Interventions of this kind would help managers to understand (a) why they feel uncomfortable with certain managerial tasks and tend to avoid them more often than advisable. They would also gain a better awareness of (b) how they can modify the scope of their duties through restructuring and delegating tasks, thus tailoring themselves a new sphere of activity that is a better fit to their implicit motives and motive-specific activity preferences. Finally, it would (c) give them a sound basis for predicting whether the new tasks that will face them if they accept a promotion or move to a higher paid position in another company are in keeping with their motive structure.

The question is whether a 4- to 5-day training program using methods of self-exploration can succeed in modifying participants' motivational self-concept. All participants in the training studies reported by Krug and Kuhl were administered the PSE prior to the training program, meaning that scores on the achievement, power, and affiliation motive were available for each participant. Like the program devised by McClelland and Winter (1969), the Krug and Kuhl program includes theoretical modules on the motive constructs as well as "games" and self-awareness exercises. The participants re-assess their own motive profile every day of the program.

In a sample of $N = 63$ managers, Krug and Kuhl examined how well the participants' motivational self-concepts corresponded with their PSE scores in terms of the dominant motive identified. At the beginning of the first day, only 32% of participants were able to identify their dominant motive—very nearly the percentage to be expected if answers were given at random. Most managers made the mistake of ascribing themselves a dominant achievement motive, when in fact they had a dominant power motive. By the end of the training period, before they were told their actual PSE scores, 80% of participants were able to identify their dominant motive (Krug & Kuhl, 2005). What is important is that this considerable increase in motivational competence was facilitated by guided self-exploration. It seems reasonable to assume that the effects of the participants' new knowledge about themselves are sustained.

Whether and how the increase in the participants' motivational competence impacted their success as managers will be a subject of future research (Krug & Kuhl, 2006). The findings presented in section 4.2 suggest that positive effects are to be expected on the managers' emotional well-being and effective functioning. Kehr (2005) has since developed a similar training approach.

4.5   A Potential Problem of Modified Self-Evaluations

Given the stability of implicit motives and their considerable effects on behavior and experience, this chapter has recommended that motivational competence be enhanced by bringing self-concepts into line with implicit motives. We do not now intend to withdraw this recommendation. However, it is important to draw attention to a problem potentially entailed in this approach. Because motivational self-concepts are embedded within an overarching self-concept that also contains many other self-evaluations and value beliefs, the possibility cannot be excluded that a change in motivational self-concept may cause conflict with a person's core value beliefs.

A participant in a training program who gradually comes to realize that, contrary to what he had always believed, his behavior is not in fact achievement motivated, but driven by a dominant power motive, may—against the background of his value orientations—experience this new knowledge of himself as shameful. In this case, our recommendations would be to make him aware (a) that there is no way of changing the dominance of his implicit power motive anyway, (b) that a strong power motive can take a very positive form that he can choose to cultivate ("socialized power motive"), and (c) that he can enhance his emotional well-being and effective functioning by ensuring that his (working) life is endowed with motive-congruent contexts and situations.

Of course, recommendations of this kind only make sense if implicit motives are considered to be of greater consequence than cognitive self-definitions and value orientations. An alternative view might be that it is important not to "capitulate" to one's basal biopsychological incentive systems, or motives. Instead, one might ascribe to a view of humanity in which we humans, as rational beings, are challenged to define ourselves on the basis of our reasoned values. The value-oriented formation of our self would then be a guiding goal in our lives and we would actualize ourselves on a daily basis by acting in accordance with our self-created self-definition.

Of course, people may choose to live according to this noble principle of cognitive self-creation. But they should be warned that, if their self-definition is in stark contradiction to their dominant implicit motive, life will be relatively joyless and devoid of flow experiences. Rather, the realization of their values and aspirations will necessitate constant volitional self-control (as Martin Luther pointed out, the Old Adam has to be drowned anew each day). There is no doubt that life is easier, more joyful, and more successful if one's self-definition corresponds with one's implicit motives.

5.   References

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