Antecedents and consequences of motive-goal congruence

Job, Veronika

Antecedents and Consequences of Motive-Goal Congruence

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Veronika Job

of Dürnten / ZH

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Summary

The present thesis concentrates on congruence between motives and personal goals as an important antecedent of well-being. Previous research repeatedly demonstrated that incongruence between *implicit motives* and goals affects well-being in a negative way. Thus, Part I of the present thesis explores a mechanism to promote congruence between personal goals and implicit motives. It is postulated that goals become congruent with implicit motives when an individual focuses on motive-specific affective incentives during goal setting. Part II considers whether congruence between *explicit motives* and personal goals has an impact on well-being too. Altogether seven studies are reported. The three experimental studies of Part I demonstrate that participants who focused on motive-specific affective incentives set goals congruent with their implicit motive dispositions more than participants in two control conditions. In Part II two cross-sectional studies, a four-week dairy study, and a longitudinal study over three months reveal that incongruence between explicit motives and personal goals is related to low emotional and physical well-being. Taken together, the results of the seven studies have important theoretical implications. First, they underscore the importance of distinguishing implicit motives, explicit motives, and personal goals as distinct theoretical concepts. Second, they led evidence to the assumption that for both, implicit and explicit motives, their constellations with goals (congruence or incongruence) are considerably related to emotional experience. Finally, they pinpoint a mediating mechanism for achieving congruence between implicit motives and goals, namely, by considering possible future emotional experiences (motive-specific affective incentives) when setting goals.

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Introduction

The present thesis is taking a motive- and goal-theoretical perspective to explain affect and general well-being. From this perspective, well-being is not explained by external factors, such as life circumstances (e.g., income), but by motivational variables within the person. More specifically, individual aspirations (goals) and needs (motives) and their interaction in predicting psychological and physiological well-being are investigated.

In motivational psychology aspirations and needs have been conceptualized in terms of *personal goals* (what a person wants to achieve in his / her current life situation; Klinger, 1977; Emmons, 1986; Little, 1983) and *motives* (basic needs represented in an implicit and explicit motive system; McClelland, 1985; McClelland, Koestner, & Weinberger, 1989). Of particular current interest is the question about constellations (congruence vs. incongruence) between these two concepts, meaning that some people strive for goals that are not inline with their basic motives. Several studies demonstrated that such incongruence between implicit motives and goals has an impact on well-being (Baumann, Kaschel, & Kuhl, 2005; Brunstein, Schultheiss, & Grässmann, 1998; Hofer & Chasiotis, 2003). The present thesis is tying on this research, by investigating a way of promoting congruence between goals and implicit motives (Part I) and by showing that congruence between explicit motives and goals is related to well-being (Part II).

Before explaining these questions and the concepts involved in more detail, this introduction starts with a brief overview on well-being research. The aim is of emphasizing and specifying the role of goals and motives within the explanation of affect and well-being.

The Role of Goals for Well-Being

Early research and theoretical formulations on subjective well-being were focused on so called bottom-up factors (Diener, 1984; Wilson 1967). The question was how external events, situations, and demographics influence happiness. In numerous studies factors such as income, age, gender, education and marital status were related to well-being with varying results. Some studies reported that age, education, and income seemed to be unrelated or only moderately related to well-being while others revealed significant relations to marital status and employment in the sense that marriage is a positive predictor and unemployment a strong negative predictor of well-being (for a review see Diener, 1984). However, all the external and objective variables together did not reach the expected effect sizes (but explained only 8 – 20 % of the variance in subjective well-being; Andrews & Withey, 1976; Campbell, Converse, & Rodgers, 1976; Diener, Suh, Lucas, & Smith, 1999; Myers, 2000). Therefore, researchers turned to top-down factors to explain variability in well-being. Hence, variables within a person that determine how events and circumstances are perceived have been further investigated as determinants of well-being.

The top-down research perspective started from observations and findings where happiness was considerably stable, independent of changing life circumstances (Brickman, Coates, & Janoff-Bulman, 1978; Costa, McCrae, & Zonderman, 1987; Diener & Larsen, 1984; Lyubomirsky, 2001). Subjective well-being seems to have trait-like properties meaning that some people are happier than others through their whole life even if they experience difficult times. From a construal perspective these findings can be explained as follows: People do not experience events or situations passively. Life events are cognitively processed and constructed, meaning that people actively frame, evaluate, interpret, and remember what is happening to them. Thus, one can assume that interindividual differences in the cognitive processing moderate the impact

of events, life circumstances, and demographic factors on well-being. These assumptions were investigated regarding several affectively relevant psychological processes, such as social comparison, dissonance reduction, self-reflection, and self-evaluation (Lyubomirsky, 2001). There is accumulating empirical evidence provided for the hypothesis that chronically happy individuals in comparison with chronically unhappy individuals experience and react to events and circumstances in more positive and adaptive ways (Lyubomirsky & Ross, 1999; Lyubomirsky & Tucker, 1998). As an example, happy people are less responsive to potentially negative information concerning social comparison than unhappy people (Lyubomirsky & Ross, 1997).

A further central perspective which can also be counted to the top-down explanations on well-being is the focus on *personal goals*. Analyzing personal goals puts the emphasis on everyday behavior and experience – a research perspective which became more and more prominent in motivation and emotion psychology since the 1980s (Csikszentmihalyi & LeFevre, 1989; Emmons, 1986; Klinger, 1977).

Goals are defined as conscious representations of anticipated end-states which provide meaning, structure, and direction to an individual's life (Emmons, 1986; Klinger, 1977; Little, 1983). Several theorists and research findings proposed that the successful pursuit of meaningful goals plays an important role in the development and maintenance of individuals' well-being (Brunstein, 1993; Diener, 1984; Diener, Suh, Lucas, & Smith, 1999; Emmons, 1986; Maier & Brunstein, 2001; Schmuck & Sheldon, 2001). For example, in a longitudinal study by Brunstein (1993) goal progress was essentially related to enhanced subjective well-being. The general conceptual model linking personal goals to well-being assumes that making progress towards a goal is experienced as positive and that failure in the striving for a goal is experienced as negative. Thus, the core idea is that "goals serve as an important reference standard for the affective system" (Diener et al., 1999, s. 284). Following this idea Carver and

Scheier (1990, 1998) argue in their control-process view of positive and negative affect that emotions serve as indicators of the rate of progress toward a goal. Positive affect results when the rate of approach toward a desired goal exceeds an individual standard. If the rate of goal attainment falls short of the standard, then negative affect is a likely consequence. Further, there are theories emphasizing the role of goals for well-being apart from goal progress or goal attainment. Cantor and Sanderson (1999) underlined the importance of *having* goals. According to them, commitment to a goal provides a sense of personal agency and a sense of structure and meaning to daily life.

Goal Properties Moderating the Influence of Goals on Well-Being

An important finding is that not all goals are equally suitable concerning consequences of goal-commitment and goal-progress on the promotion of high well-being (Emmons, 1996). Some goals do not cause an increase in well-being or they even have a deleterious impact on affect, health, or life-satisfaction, even if a person makes progress towards them. These moderating goal-properties can be distinguished in structural goal-properties and goal-contents.

Structural goal properties

One example for a goal property moderating the relationship between goal striving and well-being is the perceived *difficulty* of a goal. Wiese and Freund (2005) conducted a 3-year longitudinal study with young professionals. They found that only adults who perceive their goals as difficult to reach report an increase in positive affect depending on the progress on their goals. Progress in easy goals is not related to enhancement in affective well-being.

A further goal-property which has an influence on well-being is the *level of goal specification*. People differ in the level at which they tend to characterize their goals

(Little, 1989; Vallacher & Wegner, 1989). Some individuals describe their goals in primarily broad and abstract ways (e.g., “be an organized person”) whereas others tend to frame their goals in concrete and specific terms (e.g., “keep my books straightened on my shelves”). Emmons (1992) showed that high levels of goal-specification were associated with more psychological distress (anxiety and depression) but better physiological well-being than low level goals. He explained these findings according to Littles’ (1989) description of a tradeoff between having manageable versus meaningful goals (Emmons, 1996).

A next goal property which received much attention in the last decade is the orientation in the formulation of a goal. If the goal is positively formulated as an *approach goal* (“I want to achieve X”) or if it is negatively formulated as an *avoidance goal* (“I want to avoid not achieving X”) has an influence on well-being. Several studies demonstrate that individuals, who are concerned with avoiding negative outcomes reported higher levels of psychological distress, compared to persons with primarily approach orientations (Elliot, Gable, & Mapes, 2006; Elliot, Sheldon, & Church, 1997; Emmons & Kaiser, 1996; Higgins, 1997).

Goal content

Besides the structural properties of goals which have an impact on diverse well-being variables, there are findings about effects of goal-content on well-being. Kasser and Ryan (1993) found that persons who rate financial success as more important than self-acceptance, community feeling, or affiliation goals report lowered well-being. Making progress in material goals as making money did not contribute to higher levels of well-being. The authors explained their findings by assuming that success in some goals (e.g., wealth, fame, beauty) does not meet *intrinsic human needs* and therefore does not contribute to enhanced well-being. They based their explanation on self-

determination theory (Deci & Ryan, 1991) which postulates that humans have three basic psychological needs: competence (feeling that one is able and effective in one's behavior), autonomy (feeling that one's behavior is self-chosen and meaningful), and relatedness (feeling that one is connected to important others). Deci and Ryan (1991, see also Ryan 1995) argue that these three needs are universal, meaning that their fulfillment is important for high well-being. Several longitudinal studies support the assumption that striving for goals which are straightened in the direction of the fulfillment of these needs is related to high levels of well-being (Sheldon & Elliot, 1999; Sheldon & Kasser, 1995). This research implicates that, for optimal functioning and high well-being, all individuals should align their goals in the direction of the fulfillment of these basic and universal needs.

A somewhat different perspective is taken by researchers who stress individual differences in the strength of need specification. Research on social *motives* (McClelland, 1985) takes this perspective arguing that for each individual other goals are functional, depending on his or her particular motive dispositions. In several studies, this assumption was confirmed for the fit of goals with implicit motives (Baumann, Kaschel, & Kuhl, 2005; Brunstein, Schultheiss, & Grässmann, 1998; Hofer & Chasiotis, 2003). For example, Brunstein, Schultheiss, and Grässmann (1998) found that only progress toward individually motive-congruent goals was related to increased well-being.

The present thesis takes the same perspective by centering interindividual differences in motive dispositions as important factors in the explanation of the relationship between goal striving and well-being. Therefore, the concept of motives will be briefly introduced in the next paragraphs.

Motives

Research on human motives was spearheaded by McClelland (1985) and his colleagues. In his theorizing, human motivation can be ultimately explained by a limited number of motives. He defined them as relatively enduring preferences for a broadly defined class of incentives that direct and energize behavior. Three motives are assumed to be relevant in the domain of social motivation: the achievement motive (need for accomplishing something difficult and attaining a high standard), the affiliation-intimacy motive (need for being together with other people and establishing deep and warm relationships with them), and the power motive (need for having impact on other people).

In the last years, the differentiation between implicit and explicit motives became highly important for the research on motive dispositions (McClelland et al., 1989). McClelland and colleagues suggested that each motive is represented in two different motivational systems. In general, *implicit motives* are unconsciously represented as they develop early in life by affective, not verbally processed experiences (McClelland & Pilon, 1983). These early experiences determine the motive strength of a person. This motive strength is associated with the capacity to experience the consummation of motive-specific incentives as rewarding and pleasurable (McClelland, 1985; Schultheiss, 2006). For example, an individual with a high implicit affiliation motive experiences intensive joy and happiness when being together with his or her friends. Because implicit motives are non-conscious, they must be measured by indirect, usually projective methods like the Thematic Apperception Test (TAT; Murray, 1943). *Explicit motives* are verbally represented ideas people have about their outlasting affective preferences. For example, an individual high in the explicit affiliation motive thinks that he or she needs and enjoys being together with other persons. Explicit motives develop

later than implicit motives in a more verbally controlled social context. As they are cognition based and consciously represented they can be assessed by self-report.

The present thesis focuses on both motive systems in their relation to personal goals. The first part is concerned with implicit motives, their congruence with personal goals and a possibility of promoting the congruence between implicit motives and goals. In the second part, the explicit motive system is investigated in its relation to personal goals. It is shown that for an individual, goals can differ from his or her explicit motives and that such a discrepancy between explicit motives and personal goals has negative consequences on well-being.

Part I: Promoting Congruence Between Goals and Implicit Motives

As already described, the pursuit and progress toward goals that are incongruent with implicit motives is detrimental to well-being (Baumann et al., 2005; Brunstein et al., 1998; Hofer & Chasiotis, 2003). Finding ways of promoting congruence between goals and implicit motives is therefore a request of practical relevance within several contexts where goal-content can be affected (e.g., career counseling). Besides this practical relevance for the promotion of well-being, the question of promoting congruence between goals and implicit motives is of theoretical interest. The search for mechanisms which promote congruence between goals and implicit motives is connected to the following question: How can implicit motives which are genuinely not accessible to introspective self-reflection be willfully activated for having impact on cognitive processes as choice of goals and goal-commitment?

An answer to this question can be deduced from the theoretical conception of implicit motives provided by McClelland (1985). Implicit motives are defined as recurrent concerns about a specific class of *affective incentives*. This means that the core of implicit motives forms the seeking for affective experiences. Important for the present

research question is the further assumption about the qualities of these affective experiences. McClelland postulated that each motive is connected with the experience of *specific emotions*. As an example the implicit achievement motive is assumed to be connected with the experience of interest-surprise (McClelland, 1985; Zurbriggen & Sturman, 2002). These specific emotions form the core of the implicit motive system and as such they are the key to activating an implicit motive.

Building up on these conceptions, the assumption on which the first part of the present thesis is based is the following: Individuals are more likely selecting goals which are congruent with their implicit motives, when they anticipate the presence or absence of motive-specific affective incentives during the goal setting process.

A procedure that enables to anticipate the affective incentives which could be connected with goal striving and goal attainment is *mental simulation* (Taylor & Pham, 1996). Research on mental simulation indicates that this imitative representation of an event makes it possible to experience the way social reality occurs on a perception like level. This means that mental simulation evokes emotions similarly to real experiences (Decety, 2002; Grezes & Decety, 2001; Larsen & Ketelaar, 1991; Philippot, Schaefer, & Herbette, 2003; Schwartz, Weinberger, & Singer, 1981; Lang, 1979; Miller, Patrick, & Levenston, 2002; Strack, Schwarz, & Gschneidinger, 1985).

In the present research, mental simulation was used to enable individuals to anticipate the affective incentives connected with several goals. I postulated that mental simulation only promotes congruence between goals and implicit motives when motive-specific affective incentives are focused on during the simulation. This approach should have the character of a *degustation*, of getting a taste of the possible incentives that striving for a goal might include. Because a person's implicit motive disposition determines the experience of motive-specific emotions during goal imagery, the corresponding motive should be activated only in individuals with a high implicit motive

disposition. As a consequence, goals should be chosen or rated in a motive-congruent way.

This hypothesis ties on research by Schultheiss and Brunstein (1999). Their studies are the first and so far single approach for the promotion of motive-goal congruence. They applied goal imagery for establishing motive-congruent commitment to a goal. The present research goes further by emphasizing the focus on motive-specific emotions as the relevant aspect in goal imagery. Therewith, a mechanism which may promote the congruence between implicit motives and goals is emphasized.

The first part of this thesis is focused on congruence between goals and implicit motives. More specifically, a possibility of promoting this congruence is investigated. The second part is focused on congruence between goals and explicit motives. Until now this type of motive-goal congruence did not obtain any research interest. Thus, the first steps in the establishment of this phenomenon will be to show that goals are often not congruent with explicit motives and that this incongruence has an impact on well-being, too.

Part II: Discrepancies between Explicit Motives and Goals

In previous research on motive goal-congruence and well-being the focus lay solely on congruence between goals and implicit motives or on the congruence between implicit motives and explicit motives. The question whether congruence of goals with explicit motives has an influence on well-being has not been investigated so far.

One reason might be that the literature in the past sometimes subsumed goals and explicit motives under the same construct and labeled them as a part of the explicit motive system (Hofer & Chasiotis, 2003; Schultheiss & Brunstein, 1999). This is quite plausible as both explicit motives and goals are cognitively elaborated and consciously represented and both have the aspect of directing a person in a particular future

direction. Nevertheless, studies where explicit motives and goals were assessed show only moderate correlations between them (in the range of .20 to.30, see Emmons & McAdams, 1991; King, 1995; McAdams, Hoffman, Mansfield, & Day, 1996). Although some of the variance can be explained by methodological variations (idiographic assessment for goals and nomothetic assessment for explicit motives), explicit motives and personal goals can be clearly distinguished on a theoretical level. Explicit motives are conceptualized as a part of a person's self-concept. They are self-descriptions people have about their own affective preferences concerning the global themes of achievement, affiliation-intimacy, and power. Thus, they represent the cognitive representation of past behavior and affective experience in specific situations. By comparison, goals are cognitive representations of and individual commitments to specific future outcomes the person wants to achieve by his /her own behavior. After their attainment goals stop being of future guiding relevance and other goals get current.

In the present research, explicit motives and goals are investigated as distinct theoretical concepts. One focus thereby lies on the relationship between these two concepts. A small or only moderate relationship between explicit motives and goals may indicate that there are different constellations between them exist. Thus, some people might strive for goals that are not in line with their explicit motives (with their self-concept). Regarding these constellations the following hypothesis will be tested: Congruence of goals with explicit motives is related to well-being.

This assumption is based on the general deliberation that incongruence between psychological systems and different aspects of a person is a source of intrapersonal conflict. If explicit motives and personal goals point to different goal-states, then activities tailored to satisfy explicit motives may not be conducive to progress toward personal goals and vice versa. This implicates a conflict between contradictory

behavioral tendencies caused by incongruence between explicit motives and goals. In the literature about goal-conflict it is well known that discrepant behavioral tendencies may affect well-being as they disrupt striving for the conflicting goal-states (Emmons & King, 1988; Kehr, 2003; Riedinger & Freund, 2004). In the case of discrepancies between explicit motives and goals this means that on the one hand the striving for the goal is impaired and on the other hand the explicit motive will not be satisfied.

Recapitulating, the second part of the present thesis is emphasizing a further goal-aspect to the list of goal-properties which moderate the relationship between goal striving and well-being, namely congruence with explicit motives. The key message connected with this research implicates the following: Motivational processes are most effective and most conducive to a higher emotional well-being when they work in synchrony. Goal-pursuit is facilitated and beneficial for high well-being, if an individual pursues goals which serve the satisfaction of his or her individual affective needs (implicit motives) and if they are consistent with the individual's self-concept (explicit motives).

Part I

Get a Taste of Your Goals:

Promoting Motive-Goal Congruence by a Focus on

Motive-Specific Affective Incentives

Abstract

Congruence between implicit motives and personal goals is an ongoing research question in psychology on motivation (Brunstein et al., 1998; Baumann et al., 2005). Studies show, that motive-gaol congruence is an important predictor of well-being, but little is known about the factors that may promote congruence between implicit motives and goals. Relying on McClelland's (1985) conception of implicit motives, we are postulating that goal imagery with a focus on motive-specific affective incentives (affect-focus imagery), promotes motive-congruent gaol setting. This hypothesis was tested in three experimental studies. In Study 1 (N = 93) and Study 2 (N = 94) participants were asked to select goals regarding a hypothetical scenario, in Study 3 (N = 179) they rated their commitment to personal goals for their actual life-situation. In each study one experimental group was instructed to focus on motive-specific affective incentives while imagining goal striving and goal attainment. Further, there was one control group focusing the self during goal imagery and a second control group with no specific instructions. The results of all three studies show that the participants with affect-focus goal imagery selected or rated their goals congruent with their corresponding implicit motive dispositions. In the two control groups, goal indices were not related to implicit motive dispositions.

Introduction

In the last decades personal goals have been investigated as an important motivational driving force (Austin & Vancouver, 1996; Brunstein, 1993; Emmons, 1986; Gollwitzer & Moskowitz, 1996; Klinger, 1975; Little, 1983; Locke & Latham, 1990; Oettingen & Gollwitzer, 2004). Briefly, they were defined as representations of anticipated end-states with individual meaning, containing what a person wants to achieve or avoid in his or her current life situation. Goal researchers agree that goals are relevant to the self-regulation of behavior, meaning that individuals organize their behavior according to the goals they are actually striving for (Carver & Scheier, 1998; Pervin, 1989).

Numerous theories were concerned with the question about antecedents of goal setting, asking about variables (e.g., self-efficacy; Bandura, 1997) and processes (e.g., deliberative mind-set; Gollwitzer, 1990) determining which goals a person will commit to. In some theories a major role within the goal setting process was attributed to *motive dispositions,* which refer to preferences for general classes of incentives. Emmons (1989) postulated a hierarchical model where personal strivings are seen as the ways in which global motives are expressed. Thus, he postulated that motives are the major source of actual goal setting. Similarly, within the goal orientation theory (Elliot & Church, 1997; Thrash & Elliot, 2002) latent motive dispositions such as the achievement motive with approach and avoidance characteristics are seen as antecedents of achievement goal setting.

However, recent research demonstrated that there mostly is no relationship between motives and goals. The correlations are typically around zero (Brunstein, Schultheiss, & Grässmann, 1998; Emmons & McAdams, 1991; King, 1995). This means that diverse constellations between motives and goals do exist, so that some people strive for goals that are congruent with their motives while others are committed to goals

that are incongruent with respect to their implicit motive dispositions. In the last decade several researches were concerned with the question about consequences of such congruence or incongruence between motives and goals on well-being. Brunstein and his colleagues (Brunstein, Lautenschlager, Nawroth, Pöhlmann, & Schultheiss, 1995; Brunstein et al., 1998) conducted studies where they showed that progress towards goals that are not congruent with implicit motives is related to lover positive affect than progress towards goals that are congruent with implicit motives. Further it could be shown that incongruence between implicit motives and goals is connected with lower life-satisfaction (Hofer & Chasiotis, 2003), impaired emotional well-being and more physical symptoms (Baumann, Kaschel, & Kuhl, 2005).

Thus one can conclude that congruence between motives and goals is desirable, as it plays an important role for a person's emotional and physical well-being. The present research is engaged with the question about mediating mechanisms that promote congruence between goals and motives. We are investigating the question under which circumstances goal setting is in line with motives and how it's possible to promote congruence between goals and implicit motive dispositions.

Implicit (and Explicit) Motive Dispositions

Current motivational theory distinguishes between two types of motive systems: Implicit and explicit motives (Brunstein & Maier, 2005; Kehr, 2003; McClelland, Koestner, & Weinberger, 1989; Spangler, 1992). They differ with respect to their cognitive representation and accessibility. Whereas explicit motives as a part of a person's self-concept are verbally represented and consciously accessible, implicit motives work outside of a person's awareness and can not be accessed by conscious reflection. Accordingly, implicit and explicit motives have to be measured with different procedures: implicit motives with picture story exercises such as the Thematic Apperception Test

(TAT; Murray, 1943) and explicit motives with self-report questionnaires such as the Personality Research Form (PRF, Jackson, 1974). Implicit motives develop very early in life via affective, not verbally processed experiences. In contrast, explicit motives develop later in a social, verbally processed context (McClelland & Pilon, 1983). Both motive systems predict different classes of behavior. Implicit motives predict what is called operant behavior in open, low structured situations and explicit motives respondent behavior in situations that are verbally and socially structured (Brunstein & Hoyer, 2002; McClelland, 1985; McClelland et al., 1989; Spangler, 1992). In this article we focus on the relationship between implicit motives and goals. Therefore implicit motives are described in more detail in the next paragraphs.

Implicit motive dispositions are individual differences in the strength of recurrent concerns about a specific class of affective incentives. They are “built on affective experiences with natural incentives early in life” (McClelland et al., 1989, p. 697). McClelland (1985) also described them as networks of associations which are connecting situational cues with basic affective experiences. This means that the implicit motive disposition determines the type and amount of situations which yield the possibility of a corresponding affective experience.

Further, a motive disposition includes an energizing component. If motive-specific incentives are present, the motive disposition determines the actual strength of motivation directing to the achievement of the desired goal-state which, in turn, affects effort, persistence, and learning on a task. Also memory processes are mediated by implicit motive dispositions. According to Woike, Lavezzary, and Barsky (2001) implicit motives “act as channels for new knowledge and are linked to specific ways of organizing information” (p. 942). It could be shown that an individual has best access to information which in content and structure is congruent with his or her implicit motive

dispositions. Thus, in general people remember more motive congruent episodes from their life than motive incongruent episodes (Woike & Polo, 2001).

According to McClelland (1985) there is a small number of implicit motives which are appropriate for every person but with significant inter-individual differences in strength. Three motives were postulated to be relevant within social motivation: the achievement motive (need for the experience of accomplishing something difficult and attaining a high standard), the affiliation-intimacy motive (need for the establishment and maintenance of positive relationships with others), and the power motive (need for having impact on other people).

As mentioned before, McClelland (1985) postulated that the core of each of these implicit motive dispositions is the seeking for satisfying affective experiences. In the following we will name them *affective incentives.* McClelland postulated that each motive centers on *specific emotions* which can be exclusively allotted to the distinct motives. So the implicit achievement motive is assumed to be connected with the experience of *interest-surprise and pride*, which can be circumscribed as a flow-like state including fun and strong interest on a challenging activity. The implicit affiliation motive is postulated to be related to the experience of *loving, joy and happiness,* while being in a close, warm, and friendly relationship. McClelland (1975) describes the *feeling of strength* being the positive affective incentive of power motivated behavior*,* which can result from experiencing oneself or others as the source or object, respectively, of power and influence. Empirically, the hypothesized link between specific emotions and the three basic motives were investigated in several experimental studies, which yielded evidence for the suggested relationships (Woike, 1994; Zurbriggen & Sturman, 2002).

Motive Congruent Goal Setting

As described above, congruence between implicit motives and personal goals is detrimental to well-being. Finding ways of promoting congruence between them is of practical and theoretical relevance. The aim of the present research is to introduce a possibility of promoting congruence between implicit motives and personal goals. We are testing a mechanism which aids to motive-congruent goal setting. This approach is connected with the following question: How can implicit motives, which are genuinely not accessible to introspective self-reflection, be willfully activated for having impact on cognitive processes, such as choice of goals and goal commitment?

Anticipation of incentives. Our approach to answer this question is based on the conception of implicit motives described in the previous paragraphs, concretely on their activation via the anticipation of motive-specific affective incentives (specific emotions). We assume that goals may become congruent with implicit motives when an individual during goal setting focuses on motive-specific affective incentives. In other words, an implicit motive disposition may be determining for goal setting when before the decision on a particular goal the person anticipates whether the striving for and attainment of the goal could be connected with motive-specific affective experiences.

An effective way to promote the anticipation of possible incentives that are related to an action is by *mental simulation* of the action. The term mental simulation refers to the “imitative representation of the process of an event or a series of events” (Taylor & Pham, 1996, p. 219). Mental simulation makes it possible to experience the way reality occurs on a perception like level. A variety of studies have demonstrated that there is much overlap in the activation of neural regions when actions are produced, observed, or when they are imagined (Decety, 2002; Grezes & Decety, 2001). Mental simulation further evokes emotions similarly to the real experience of an emotion-arising situation. Accordingly, imagination techniques are used in research to

effectively induce distinct emotions by having people imagine corresponding events or autobiographical memories (Larsen & Ketelaar, 1991; Philippot, Schaefer, & Herbette, 2003; Schwartz, Weinberger, & Singer, 1981; Lang, 1979). Also, physiological responses (e.g., heart rate, blood pressure, and electrodermal activity) are affected by mental simulation of events (Miller, Patrick, & Levenston, 2002; Strack, Schwarz, & Gschneidinger, 1985).

Mental simulation may foster the congruence between goals and implicit motives as follows: The vivid and perception-like anticipation of goal striving behavior within goal relevant situations makes it possible to experience the incentives connected with the goal. This process has the character of sampling, of *getting a taste* of the possible incentives that the striving for a goal might include. Because the anticipation of positive satisfying experiences is dependent on a person's implicit motive disposition, imagery should arouse this motive only in people with a high corresponding implicit motive disposition. This in turn should result in more motive-congruent goal setting.

To the best of our knowledge, only one study examined the question of promoting congruence between goal commitment and implicit motive disposition by goal imagery (Schultheiss & Brunstein, 1999). Following a goal imagery exercise, participants' implicit power and affiliation motives predicted the commitment to a social-interaction situation which contained power and affiliation related incentives. Specifically, participants were told that they will have to counsel another participant in a directive manner. Via headphones, the participants of the experimental group then received instructions about the imagination task of this counseling situation. They were instructed step by step to visualize giving advice to another participant who is talking about an unsolved problem and interrupting him or her for guiding the conversation in the right direction. Commitment to the goal (counseling another participant in a directive manner) was assessed after this goal imagery exercise. In the experimental group the

participants' goal commitment was more congruent with their implicit motive dispositions than in a control group with no goal imagery. Thus, in the group with goal imagery only participants high in the implicit power motive and high in the implicit affiliation motive were highly committed to the goal of directive counseling.

In a second study Schultheiss and Brunstein (1999) further explored the influence of goal imagery on effort and performance on a goal striving task. The goal given to the participants was to surpass a current number-one player within a computer game. The experimental group was instructed to imagine the goal striving and attainment phase whereas the control group visualized neutral details of the task. Only in the group with goal imagery the performance in the game was significantly related to the implicit power motive. In this group participants with a high implicit power motive disposition attained higher scores and reached the assigned goal more often than participants with a low implicit power motive. In the control group the performance was not related to any implicit motive disposition. These findings imply that the procedure of goal imagery *activated* the participants' implicit motives. Participants with a strong implicit power motive disposition were more energized in the direction of attaining the power goal than those with a weak implicit power motive.

Schultheiss and Brunstein were the first to examine a procedure facilitating the congruence of goal commitment and goal striving with implicit motive dispositions. However, there are still a variety of points that need further investigation and corroboration.

First, Schultheiss and Brunstein (1999) gave their participants only one goal to imagine. By measuring the commitment to this single goal they found that this goal commitment was related to the participant's implicit motive dispositions. An open question regarding the operationalisation is whether the imagery procedure would have led to motive congruent goal setting in face of more than one goal. It can not be

excluded that participants with strong implicit motive dispositions, which were activated by imagery, would have committed themselves to non-congruent goals as well. This possibility must be tested in a setting where multiple goals are presented and the participants have to choose from different goals or to specify their commitment to several goals representing different thematic contents.

Second, the mediating mechanism that might be responsible for the congruence between goals and implicit motives following goal imagery should be further investigated. In Study 2 Schultheiss and Brunstein (1999) demonstrated that goal imagery may activate the implicit motive system, as their participants' implicit power motive significantly predicted behavior variables (effort and performance) after goal imagery. A further step would be to specify the element of goal imagery which is responsible for this implicit motive activation and congruent goal setting. We postulate that it is the *anticipation of motive-specific affective incentives* that promotes motive-goal congruence after goal imagery.

The imagination script, which the participants of the study by Schultheiss and Brunstein (1999) were listening to during goal imagery, included several questions about the experience of emotions, such as "how do you feel about this?" This could be interpreted as an induced focus on affective incentives. However, it is not clear what role the focusing on affective incentives really played in the motive activation and promotion of motive-goal congruence. Because the focus on affective incentives was not experimentally manipulated, its importance has not yet been verified.

Goal imagery might promote motive-goal congruence by activating semantic networks in a person's self-related memory. As mentioned before, implicit motive dispositions mediate the content, structure, and accessibility of memories (Woike & Polo, 2001; Woike et al., 2001). Mental simulation of goals is naturally relaying on previous experiences in related contexts. Thus it is quite plausible that it activates self-

related semantic memory networks. It could be argued that this activation per se promotes motive congruent goal setting.

To test the hypothesis that the anticipation of affective incentives is the mediating element and not the cognitive activation of self related memory content the following approach would be appropriate: Goal imagery with a focus on affective incentives (*affect-focus imagery*) should be tested in comparison with another self-relevant focus (e.g., *self-focus imagery*). If only affect-focus imagery facilitates motive congruent goal setting and not self-focus imagery, one could exclude the possibility that it is only the activation of self-relevant memory content that promotes congruence between goals and implicit motives.

According to McClelland (1985) affective incentives are motive-specific, so it is of further importance to compare motive-goal congruence between the three basic social motives (affiliation, achievement, power) following affect-focus imagery. If the anticipation of *motive-specific* incentives is the mediating element, an induced focus on a particular motive-specific affective incentive (e.g., feelings of happiness and joy) should promote the congruence only with the corresponding implicit motive (e.g., affiliation) and not with the other motives (i.e., achievement or power).

The Present Research

The aim of the present research was to examine the open questions described above. Three experimental studies were conducted to investigate the role of motive-specific affect-focus imagery with a multiple-goal paradigm. In the first two studies a scenario was described and participants had to select out of a list of different goals which of them they would strive for in the described situation. In Study 3 participants specified their commitment to goals that might be important in their actual life-situation, which was the first semester at the university. With these procedures it was possible to explore the

influence of the experimental conditions on motive-goal congruence in the face of more than one possible goal.

The hypothesis of all three studies referred to the role of affect-focus imagery for the establishment of motive-goal congruence. Motive-goal congruence, regarding an implicit motive, should be enhanced when motive-specific affective incentives are focused during goal setting. The experimental settings included one experimental condition and two control conditions. In the experimental condition, *affect-focus imagery* was induced meaning that participants in this group were instructed to focus on motive-specific affective incentives (i.e., motive-specific emotions) during goal setting. Participants in the first control condition were instructed to focus on the self while setting goals *(self-focus imagery)*, the participants in the second control condition received no specific instructions. We hypothesized that only in the group with affect-focus imagery the selection of goals and goal commitment would be congruent with the corresponding implicit motive disposition. For the two control conditions we expected motive and goal variables not to be related to each other.

Further, we expected enhanced motive-goal congruence only for the motive whose motive-specific emotions were focused in the affect-focus imagery. For the other two social motives motive-goal congruence should not be enhanced. Thus, if affiliation specific affective incentives were focused, we expected no congruence between goals and implicit motives for achievement and power.

In each of the three studies the hypotheses were tested with respect to the congruence between a goal parameter and a different implicit motive disposition. That is, in Study 1 the experimental group with affect-focus imagery was instructed to focus on *affiliation* specific emotions and we expected to enhance congruence between the selection of affiliation goals and the implicit affiliation motive disposition. Study 2 was designed to replicate the results from Study 1 regarding the congruence between goal

setting and the implicit achievement motive. Therefore the experimental group with affect-focus imagery was instructed to focus on *achievement* specific emotions. In Study 3 we measured the commitment to personal goals relevant for first semester students. Participants in the affect-focus condition were instructed to focus on *power* specific emotions.

Study 1: Goal Setting with Focus on Affiliation Specific Incentives

In our first study, we tested the hypotheses in an everyday scenario. Participants had to imagine they were up to start on a new workplace and they were thinking about possible goals they would strive for at this new position. For somebody who finds himself in the described situation goals of all three domains (i.e., affiliation, achievement, and power) could be relevant. This scenario therefore provided the possibility of confronting the participants with multiple goals.

We hypothesized that only in the experimental group with affiliation specific affect-focus imagery the implicit affiliation motive disposition would predict the amount of selected affiliation goals. We expected that there would be no congruence between the implicit achievement or power motive and the selection of achievement goals and power goals, respectively, in this experimental group. We further expected all three motives to be unrelated to goals in the two control conditions.

Method

Participants and Procedure

Ninety-three (62 female and 31 male) students from different faculties at the University of Zurich and from the Swiss Federal Institute of Technology participated in this study. They were recruited in lectures. For their participation they received no monetary

compensation. Mean age of the participants was 23 years (*SD* = 3.3). In a university classroom they filled in a set of questionnaires.

Materials

Implicit motive assessment. The Thematic Apperception Test (TAT, Murray, 1943) was administered to measure participant's implicit motive dispositions. Participants were instructed according to the standard procedure (Atkinson, 1958). They were asked to write four imaginative stories referring to picture cues which displayed the following subjects: (1) A ship's captain talking with another man, (2) a man sitting at a desk, (3) two female scientists in a laboratory, and (4) a man and a woman on a trapeze (Smith, 1992). The content of each story was coded according to Winter's (1991) *Manual for Scoring Motive Imagery in Running Text* by two independent coders. They reached an agreement of Cohen's (1960) Kappa of .85 for the affiliation motive, .84 for the achievement motive and .80 for the power motive. Scoring disagreements were fully discussed. Participants' motive scores for affiliation (*M* = 2.13, *SD* = 1.57), achievement (*M* = 2.17, *SD* = 1.34), and power (*M* = 2.96, *SD* = 1.75) were correlated with protocol length (*M* = 348 words, *SD* = 83), *r* = .25-.37, *p* < .01. In accordance to Smith, Feld, and Franz' (1992) procedure we therefore corrected the raw scores for protocol length by regression. The corrected scores were than converted to *z* scores for further analyses.

Goal setting scenario. Participants read the following instruction, to imagine themselves in the following scenario:

> Imagine you finished your education. You passed a short time searching for employment and found a job as a project leader in a company. The job-description and your first impression of the work and the whole company correspond with what you desire. You will start your job in a few days. You are now thinking about the goals you want to strive for at your new workplace.

Then a goal selection task was announced, informing participants that they will have to select goals from a list, which they could strive for in the scenario just described.

Experimental focus induction. Before the goal selection task, participants were randomly assigned to one of three conditions: (a) affiliation specific affect-focus imagery, (b) self-focus imagery, or (c) no focus. Participants in the experimental condition read the following instruction including a focus on affiliation specific emotions: “Try to imagine for each goal how you strive for it. How do you feel? Do you experience intensive positive feelings by striving for this goal, such as happiness, joy, and well being?” Participants in the control condition with self-focus imagery read this instruction before goal setting: “Try to imagine for each goal how you strive for it. Is this goal suitable for you? How well does this goal fit to your person?” Participants in the second control group had no specific instructions besides the scenario description.

Goal selection task. Then, participants were presented 15 possible goals they might strive for at a new workplace. These goals were selected based on a pilot study with the same scenario. Five of them had typical affiliation content (e.g., “I want to get to know my colleagues privately.”). The other goals contained achievement themes (e.g., “I want to perform better than expected from somebody in my position.”) or power themes (e.g., “I want to be respected by my colleagues.”). Participants were instructed to carefully read every goal and to decide whether or not they want to strive for it at the new work-place. In average, 2.30 affiliation goals (*SD* = 1.10), 2.49 achievement goals (*SD* = 1.30), and 2.32 power goals (*SD* = 1.30) were selected. As the total number of selected goals differed between the participants from 2 to 13 (*M* = 7.12, *SD* = 2.24), we decided to compute *relative goal indices* by dividing the number of selected affiliation, achievement, and power goals with the number of total selected goals.

Goal feasibility. After the goal setting phase was completed participants were asked to indicate the probability that they could reach this goal at the new work place, separately for each of the 15 goals. They made their specification on a 5-point scale (1 = *not probable*, 5 = *very probable*). The average score of affiliation goal feasibility was *M* = 3.81 (*SD* = .56). This value was significantly higher ($F(1, 92) = 25.5$, $p < .001$) than the ratings for goal attainability the participants made for the achievement goals (*M* = 3.54, *SD* = .59) and for the power goals (*M* = 3.42, *SD* = .56).

Identification with the scenario. A precondition for successful imaginative procedures is that the participants really manage to identify themselves with a scenario. At the end of the goal questionnaire we therefore asked the participants about their identification with the scenario. They had to answer three questions ("How well could you imagine yourself in the scenario?", "How realistic did you perceived the scenario?", "How plausible did you find the goals in the list?") on a five-point-scale (1 = *not at all*, 5 = *very much*). The three items were reliable (α = .71). Thus, we computed an index of mean identification with the scenario by averaging the three items (*M* = 3.76, *SD* = .67). This index ranged from 1.67 to 5.00, indicate that there were people who could not identify with the scenario very well. So we decided to concentrate our analysis on those people who managed to imagine themselves well in the scenario. We therefore made a median-split on the identification variable. The reported analyses on the focus-hypothesis were computed without participants that were below the median on the identification variable. The total number of remaining participants was *N* = 46.

The two groups (high identification vs. low identification) were compared regarding demographics and the central variables of the research question (i.e. implicit motive dispositions and goal indices). There was only one significant difference ($F(1,92) = 5.04$, $p < .05$): Participants that could identify well with the scenario were on average of older age (*M* = 24.06; *SD* = 5.98) than participants who had difficulties identifying

themselves with the new-workplace scenario (*M* = 21.90; *SD* = 2.60). Regarding the important goal and implicit motive variables, there was no difference between these two groups.

Results

Preliminary Analysis

First, we compared the three experimental conditions concerning the central variables of the research question. There were no statistical differences between the three conditions regarding age, implicit motive dispositions, the relative goal indices, and goal-feasibility (see Table 1).

To verify the validity of the goal selection procedure we further analyzed whether participants selected goals consistent with goal feasibility, as goal feasibility is known to be a mayor determinant of goal setting (Ajzen, 1985; Heckhausen, 1991; Gollwitzer, 1990; Locke & Latham, 1990; Oettingen & Gollwitzer, 2004). We therefore compared selected and non-selected goals according to the participants' feasibility ratings. The variance analyses with this variable for selected and non-selected goals as a within-subjects factor with repeated measure and the experimental conditions as a between-subjects factor revealed a main effect for goal selection ($F(1.46) = 85.23$, $p < .001$). Feasibility of selected goals was much higher (*M* = 4.01, *SD* = .43) than for non-selected goals (*M* = 3.13, *SD* = .62). There was no interaction between the experimental conditions and goal feasibility for selected and non-selected goals ($F(1.46) = .30$, $p = .74$). This means, that consistent across all experimental conditions the goals were selected in accord with goal feasibility ratings.

Table 1 Descriptive Statistics of Central Variables Study 1

	Affect-focus imagery (N = 17)		Self-focus imagery (N = 13)		No focus (N = 16)	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
Implicit Motives						
Affiliation	1.76	1.25	2.35	1.06	1.77	1.30
Achievement	1.82	1.29	2.35	1.54	2.30	1.32
Power	3.59	1.28	2.76	1.64	2.46	1.76
Goal selection						
Affiliation	0.33	0.17	0.33	0.12	0.30	0.10
Achievement	0.33	0.21	0.37	0.18	0.36	0.17
Power	0.34	0.17	0.30	0.17	0.34	0.19
Feasibility						
Affiliation	3.92	0.58	3.64	0.46	3.88	0.65
Achievement	3.67	0.55	3.56	0.65	3.34	0.55
Power	3.55	0.49	3.28	0.44	3.42	0.76

Testing the Hypotheses

Affiliation Motive-Goal Congruence. Our first hypothesis about the role of affect-focus imagery refers to the relationship between the implicit affiliation motive and the choice of affiliation goals within the three experimental conditions. Hence, for the three groups we separately computed correlations between the two variables. As postulated, the implicit affiliation motive was significantly correlated with the affiliation goal index in the condition with affiliation specific affect-focus imagery ($r = .57$, $p < .05$). In the self-focus imagery condition this correlation was negative ($r = -.47$, $p < .05$). Thus, in this condition the selected goals were very discrepant from the implicit affiliation motive. In the control condition with no specific focus there was no relationship between the implicit affiliation motive and the affiliation goal index ($r = -.04$).

To further verify and illustrate our hypothesis, a hierarchical regression analysis was conducted on the relative affiliation goal index. In the first block the implicit affiliation motive and the experimental conditions were coded as a dummy variable (i.e., affect-focus imagery = 1, other two conditions = 0). They were entered in the regression equation followed by their interaction in the second block (see Table 2). No main effects of the variables turned out to be significant. But, importantly, the interaction between the implicit affiliation motive and experimental condition was significant, $\beta = .54$, $t(46) = 3.32$, $p < .01$.

Unstandardized regression weights conducted with a range of ± 1 *SD* for the implicit affiliation motive were used to illustrate this interaction (see Figure 1). The relation between the implicit affiliation motive and the relative affiliation goal index varied as a function of experimental condition. Simple slope analyses (O'Connor, 1998) revealed a significant slope for the relative affiliation goal index on the implicit affiliation motive when affiliation specific incentives were focused on ($t(43) = 3.16$, $p < .01$). The slopes in the other two conditions were not significant. Thus, only in the experimental group with an induced focus on affiliation specific emotions participants with a high implicit affiliation motive chose relatively more affiliation goals than participants with a low implicit affiliation motive.

Post hoc analyses (Aiken & West, 1991) further revealed that participants with a high implicit affiliation motive in the condition with affect-focus imagery selected more affiliation goals than participants with a high implicit affiliation motive in the control conditions, $t(46) = 2.99$, $p < .01$. No statistical difference occurred between the experimental conditions for participants with a low implicit affiliation motive.

Table 2 Hierarchical Regression of Affiliation Goal Index on Implicit Affiliation Motive and Experimental Condition (Study 1)

Block	Variable	ΔR^2	*df*	ΔF	*b*[a]
1	First-order terms	.01	2, 44	.20	
	n Aff				.04
	Condition[b]				.09
2	Multiplicative interaction term	.20	1, 43	10.60**	
	n Aff x Condition[c]				.54**
	Cumulative R^2	.20	3, 43	3.7*	

Note. [a]*b* = slope at point of entry into standardized regression equation. *n Aff* = implicit affiliation motive. [c]Dummy coded condition with affiliation specific affect-focus imagery coded as 1 and the two control conditions coded as 0.

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

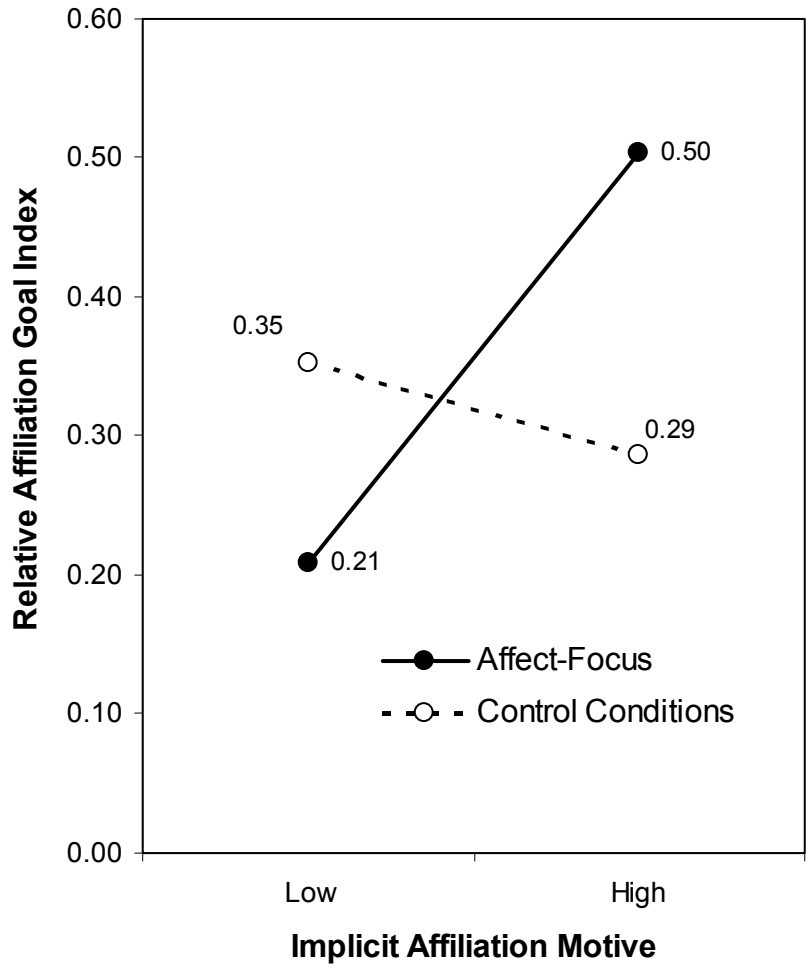

Figure 1 Relative affiliation goal index as a function of implicit affiliation motive and experimental condition with affiliation specific affect-focus imagery and the two control conditions in Study 1. Low and high values on the implicit affiliation motive correspond to one standard deviation below and above the mean, respectively.

Achievement and Power Motive-Goal Congruence. We further postulated no positive relationships between implicit motive dispositions and goal indices concerning the domain of achievement and power. Consistent with this assumption the implicit achievement motive and the achievement goal index were not correlated in the affect-focus imagery condition (r = .06, p = .82) and in the self-focus imagery condition (r = -.09, p = .73). In the control group with no specific instruction the relationship even was negative (r = -.53, p = .07). In none of the three conditions the implicit power motive was

related to the power goal index (r = -.27 - .03, p > .28). Again hierarchical regression analyses were separately computed for the power and achievement motives. The experimental condition (dummy variable) and the implicit motive dispositions were entered in the first block followed by their interaction term. Neither for the power motive nor for the achievement motive a term predicted the relative goal index significantly.

Brief Discussion

In Study 1 participants who were instructed to imagine their goal striving and thereby focusing affiliation specific affective incentives (i.e., affect-focus imagery) chose goals from a goal-list congruently with their implicit affiliation motive disposition. Thus, they chose more affiliation goals when their implicit affiliation motive was high than when their implicit affiliation motive was low. This result provides a first support for the hypothesis that the anticipation of motive-specific incentives is crucial for the enhancement of congruence between implicit motives and goals. The fact that the affiliation specific affect-focus imagery did not promote congruence within the achievement and the power domain further supports this assumption.

Self-focus imagery did not promote congruence between implicit motives and goals for neither of the three motive dispositions. The participants' implicit achievement motive was not related to the choice of achievement goals in this condition. For the implicit power and affiliation motive the relationship with goal selection was even reverse, meaning that participants with high implicit motive dispositions focusing on the self actually selected fewer corresponding goals. Thus, participants in this group selected their goals very discrepant from their implicit motives. These results further emphasize the importance of the anticipation of affective incentives during goal imagery. It is not only the activation of self-related memory content during goal-imagery

that may foster motive-goal congruence, but rather the anticipation of motive-specific incentives.

Study 2: Goal Setting with Focus on Achievement Specific Incentives

Study 2 was designed to replicate the results from Study 1 with respect to congruence within the achievement motive domain. In the experimental condition with affect-focus imagery a focus on achievement specific affective incentives was induced to promote congruence between the implicit achievement motive disposition and the selection of achievement goals.

Method

Participants and Procedure

Ninety-four participants were recruited in lectures at the University of Zurich. Data of two of them were excluded because one person did not participate in the implicit motive assessment and the other did not fill in the goals questionnaire. The mean age of the remaining 92 participants (59 woman and 33 men) was 25.40 years (*SD* = 5.76). They filled in the questionnaires in the same order as in Study 1, in a university classroom. First, they filled in the implicit motive measure. Then, they read the scenario and administered the goals questionnaire, this time on a computer.

Materials

Implicit motive assessment. As in Study 1 the Thematic Apperception Test (TAT, Murray, 1943) was administered to measure participant's implicit affiliation, achievement, and power motive dispositions. We followed the same procedure as in Study 1 (Kappa of >.80). Participants' affiliation motive scores (*M* = 2.13, *SD* = 1.57),

achievement motive scores (*M* = 1.21, *SD* = 1.14), and power motives scores (*M* = 1.73, *SD* = 1.30) were corrected for protocol length (*M* = 348, *SD* = 83) by regression (Smith et al., 1992) and converted to z scores for further analyses.

Goal setting scenario and experimental focus induction. Participants read the same scenario as in Study 1. From a list of 15 goals they were asked to choose goals they would wish to set for themselves within the work context. As in Study 1, the focus induction was placed between the scenario description and the presentation of the goals. The three conditions were randomly distributed: (a) achievement specific affect-focus imagery, (b) self-focus imagery, and (c) no focus. Only the instruction for the condition with affect-focus imagery differed from the instruction of Study 1. We decided to take the experience of fun and excitement as achievement specific affective incentive. The participants in this group were instructed as follows: “Try to imagine for every goal how you strive for it. How do you feel? Is it enjoyable and exciting for you to strive for this goal? Can you have fun during goal pursuit and goal attainment?”

On average, participants selected significantly more achievement goals (*M* = 2.71, *SD* = 1.24) than affiliation goals (*M* = 2.28, *SD* = 1.22) and power goals (*M* = 2.26, *SD* = 1.15), $F(2, 91) = 4.47$, $p < .05$. The total number of selected goals ranged from 3 to 13 (*M* = 7.25, *SD* = 2.28). We therefore decided to compute relative goal indices by dividing the number of selected goals per domain (affiliation, achievement, and power) with the total number of selected goals.

Goal feasibility. When participants completed the goal setting phase the goals appeared again in randomized order. Participants were asked to rate the probability that they would reach each goal in percent (i.e. 1-100%). The mean probability for achievement goals was 59.76 % (*SD* = 15.96 %) and did not differ statistically from the probabilities rated for the affiliation goals (*M* = 60.03 %, *SD* = 15.94 %) or for the power goals (*M* = 57.63 %, *SD* = 15.05 %).

Identification with the scenario. At the end of the goals questionnaire the participants were asked how well they could identify themselves with the scenario. The average identification was 3.59 (*SD* = .74) and ranged from 1.25 to 5.00. We again identified those participants who could well identify with the scenario by a median-split (*N* = 47). They did not differ regarding age, implicit motive dispositions, relative goal indices, and goal feasibility from participants with low identification. As in Study 1 the latter ones were again excluded from further analyses.

Results

Preliminary Analysis

There were no statistical differences between the three conditions regarding implicit motive dispositions, the relative goal indices, and the identification with the scenario (see Table 3).

As in Study 1, we scrutinized whether the selected and non- selected goals differed in respect to goal feasibility and whether there was a difference between the three experimental conditions concerning the relationship between goal selection and goal feasibility. The variance analyses with feasibility for selected and non-selected goals as a within-subjects factor and the experimental conditions as a between-subjects factor revealed only a main effect for selected vs. non- selected goals ($F(1.43) = 64.19$, $p < .001$). In all conditions the selected goals (*M* = 69.60 %, *SD* = 13.02 %) were rated higher for goal feasibility than the non-selected goals (*M* = 49.60 %, *SD* = 18.16 %).

Testing the Hypotheses

Achievement Motive-Goal Congruence. A first step for testing our hypotheses concerning the role of affect-focus imagery was to compute the correlation between the implicit achievement motive and the relative achievement goal index for the three

experimental conditions. In accordance with the hypothesis, this correlation was significant in the condition with achievement specific affect-focus imagery (r = .76, p < .05). No other conditions revealed a significant correlation between the implicit achievement motive and the achievement goal index (self-focus imagery: r = -.16, p = .54; no focus: r = -.12, p = .62).

Table 3 Descriptive Statistics of Central Variables Study 2

	Affect focus imagery (N = 9)		Self-focus imagery (N = 17)		No focus (N = 20)	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
Implicit Motives						
Affiliation	1.67	1.32	2.03	1.04	2.63	1.86
Achievement	1.33	1.12	1.56	1.32	0.90	0.85
Power	1.44	0.88	1.76	1.30	1.45	0.84
Goal selection						
Affiliation	0.34	0.15	0.27	0.12	0.33	0.15
Achievement	0.35	0.13	0.42	0.12	0.37	0.17
Power	0.32	0.09	0.31	0.15	0.31	0.15
Feasibility						
Affiliation	62.98	16.51	58.40	18.52	60.08	13.84
Achievement	71.36	14.94	58.26	15.31	55.82	15.16
Power	66.07	16.44	58.80	16.12	52.84	12.03

Again, a hierarchical regression analysis was conducted on the relative achievement goal index. In the first block the implicit achievement motive and the experimental conditions coded as a dummy variable (affect-focus imagery = 1; other two conditions = 0) were entered in the regression equation, followed by their interaction in the second block (see Table 4). The interaction between the implicit achievement motive and the experimental condition was marginally significant,

β = .32, t(45) = 1.97, p = .056. This result indicates a strong tendency in the direction of the expected result and is illustrated in Figure 2.

Table 4 Hierarchical Regression of Achievement Goal Index on Implicit Achievement Motive and Experimental Condition (Study 2)

Block	Variable	ΔR^2	*df*	ΔF	*b*
1	First-order terms	.02	2, 43	.42	
	*n*Ach				-.08
	Condition[a]				-.15
2	Multiplicative interaction term	.08	1, 42	3.86[+]	
	*n*Ach x Condition[a]				.32[+]
	Cumulative R^2	.10	3, 42	1.58	

Note. b = slope at point of entry into standardized regression equation*; n*Ach = implicit achievement motive. [a] Dummy coded condition with achievement specific affect-focus imagery coded as 1 and the two control conditions coded as 0. [+] p = .056.

Again, a hierarchical regression analysis was conducted on the relative achievement goal index. In the first block the implicit achievement motive and the experimental conditions coded as a dummy variable (affect-focus imagery = 1; other two conditions = 0) were entered in the regression equation, followed by their interaction in the second block (see Table 4). The interaction between the implicit achievement motive and the experimental condition was marginally significant, β = .32, t(45) = 1.97, p = .056. This result indicates a strong tendency in the direction of the expected result and is illustrated in Figure 2.

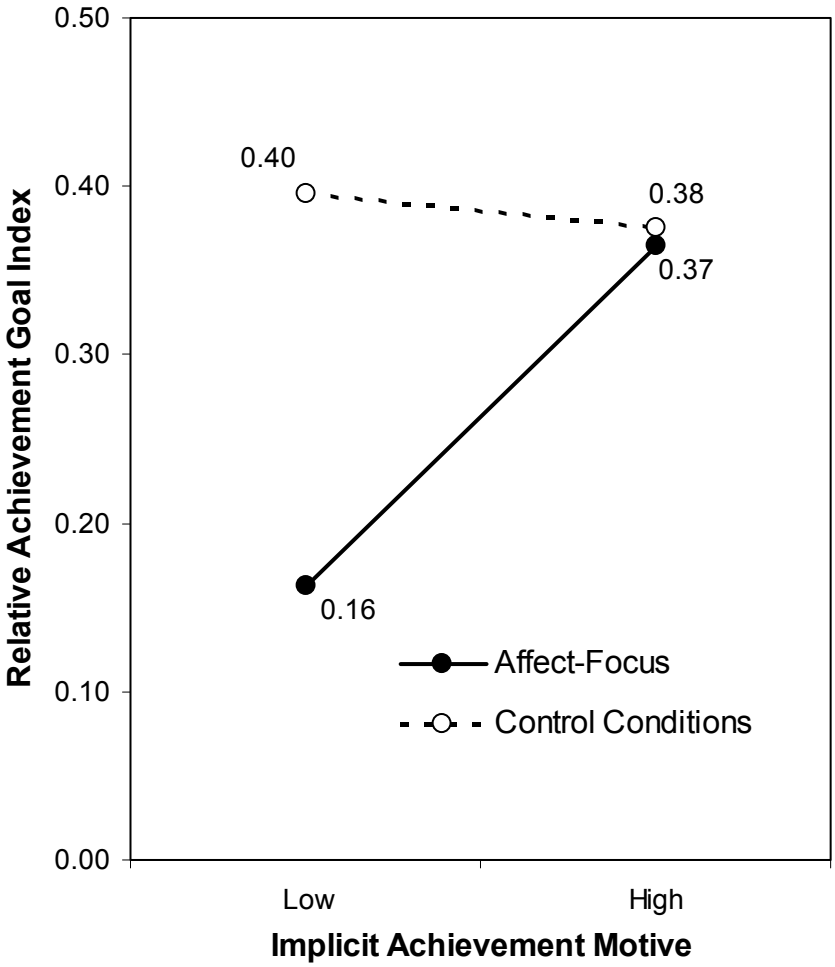

Figure 2 Relative achievement goal index as a function of implicit achievement motive and experimental condition with achievement specific affect-focus imagery and the two control conditions in Study 2. Low and high values on the implicit achievement motive correspond to one standard deviation below and above the mean, respectively.

Unstandardized regression weights conducted with a range of $\pm$ 1 *SD* for the implicit achievement motive were used to depict the interaction. The relation between the implicit achievement motive and the relative achievement goal index varied as a function of experimental condition.

Post-hoc analysis (Aiken & West, 1991) further revealed that, in the experimental group with affect-focus imagery, participants with a low implicit

achievement motive selected a significantly lower rate of achievement goals than participants with a low achievement motive in the other conditions ($t(46) = -2.06$, $p < .05$).

Affiliation and Power Motive-Goal Congruence. The implicit affiliation motive and the affiliation goal index were not correlated in any of the experimental conditions. In the group with affect-focus imagery r was -.36 ($p = .29$), in the condition with self-focus imagery -.19 ($p = .46$), and in the control group with no specific instruction .15 ($p = .54$). The same result pattern occurred for the relationship between the implicit power motive and the power goal index. None of the correlations in any of the conditions reached a level of significance (affect-focus imagery: $r = .18$, $p = .65$; self-focus imagery: $r = .12$, $p = .64$; no focus: $r = .04$, $p = .86$). As expected, the hierarchical regression analyses which were computed analog to the achievement motive-goal congruence analyses revealed no relationship between implicit motive dispositions and goal selection regarding affiliation and power, respectively.

Brief Discussion

The pattern of correlations in Study 2 strongly supports the hypotheses of the present research. In the condition with achievement specific affect-focus imagery there was a significant correlation between the implicit achievement motive and the relative amount of selected achievement goals. In none of the other two conditions this correlation was under the .25 level of significance. In the domain of affiliation and power motivation the implicit motive dispositions did not correlate with goal indices. This result outlines the importance of motive-specificity of anticipated incentives for congruence between implicit motives and goal setting. The results of the hierarchical regression show the postulated pattern. In the affect-focus imagery condition, participants with a low implicit achievement motive disposition selected fewer achievement goals.

The results from Study 1 and Study 2 affirm the hypothesis about the promotion of motive-goal congruence via anticipation of motive-specific affective incentives in a scenario. If the same results could be obtained regarding individuals' real personal goals, this would be an even stronger confirmation. Furthermore, measuring real goal setting would make it possible to circumvent the problem that many participants could not imagine themselves well in the scenario. The central aim of Study 3 was therefore to test the hypotheses with a setting that enables measuring participants' real personal goals.

Study 3: Goal Setting with Focus on Power-Specific Incentives

The aim of Study 3 was to test the hypotheses concerning the congruence between implicit motives and personally meaningful goals. We wanted to show that affect-focus imagery may foster motive-goal congruence when people think about the things they want to achieve at the beginning of a new life situation. Our participants were students which were at the beginning of their first semester at the university. In this study we used a different procedure to measure goal setting. Participants in Study 3 did not select goals as in the Studies 1 and 2 but they rated their goal commitment for all the goals on a list.

The aim of Study 3 was similar to the aim of Studies 1 and 2: To outline the role of affect-focus imagery as a mechanism for the promotion of motive-goal congruence. In Study 1 it was possible to create congruence within the affiliation domain by affiliation specific affect-focus imagery. Study 2 replicated the results for achievement motive-goal congruence. Thus, in Study 3 we focused on the third important motivational area, namely power.

In a pilot-study (*N* = 333 first semester students; 236 women and 69 men) we allocated the content of goals students in their first semester may strive for. The aim of this pilot-study was to get an idea about the content and the commonness of power, achievement, and affiliation goals within the population of first-semester psychology students in Switzerland. Participants of this study were asked to write down four goals they will strive for in the coming months. The content of power, achievement, and affiliation of these goals was rated and revealed that students in the first semester at the University name no power goals. Less than 1% of the specified goals had power content as opposed to 45% achievement goals (e.g., “I want to successfully pass the first exam”) and 23% affiliation goals (“I want to find new friends”). 31% could not be rated for any motive-specific content (e.g., “I want to find the balance between studying and spare time”). The results reveal that the power motive of a student in this population (mainly female psychology students in the first semester) can not be satisfied by the striving for power goals, as they are not available. Thus, the satisfaction of the power motive must happen through different not explicitly power related channels. One possibility, to reach situations which can be perceived as satisfying for the power motive, is high achievement. Schultheiss and Brunstein (1999) made use of this possibility in their second study. The power goal they gave to their participants was to surpass another player in a computer-game by playing as well as possible. Obviously achievement behavior can be a way of satisfying the power motive when it includes the component of surpassing others. Because of this close interweaved relationship between achievement and power goals we assumed that for a student with a high power motive striving for achievement goals may also include power specific incentives. Because we did not find any power goals that seem to be plausible for our population, we expected that the anticipation of power related incentives may foster the relationship between the implicit power motive and the commitment to achievement goals. But we

expected that the focus on power specific incentives would not promote congruence between the implicit achievement motive and achievement goals.

Method

Participants and Procedure

Participants were 179 (150 female, 29 male) psychology students enrolled at the University of Zurich. Their mean age was 24.34 years (*SD* = 7.83). In the second week of their first semester, they received a questionnaire, including a Thematic Apperception Test, a goal-commitment questionnaire, and written instructions. They were asked to complete the questionnaire by themselves at home and bring it back to the course a week later. In exchange for the completed materials they received extra course credits.

Materials

Implicit motive assessment. Like in Study 1 and 2 the Thematic Apperception Test (TAT, Murray, 1943) was administered to measure participant's implicit motive dispositions, following the same procedure (Kappa was > .80). Participants' affiliation motive scores (*M* = 4.16, *SD* = 2.12), achievement motive scores (*M* = 1.26, *SD* = 1.24), and power motive scores (*M* = 2.75, *SD* = 1.72) were correlated with protocol length (*M* = 420 words, *SD* = 144), *r* = .29 - .50, *p* < .001. We again corrected the raw scores for protocol length by regression (Smith et al., 1992). The corrected scores were then converted to z scores for further analyses.

Experimental focus induction. Before they completed the goals questionnaire participants were randomly assigned to three experimental conditions. Participants in the condition with power specific affect-focus imagery read the following instruction: "Imagine for every goal how you strive for it and how you reach it. Is it possible for you to experience a feeling of strength, importance or influence during the striving or attaining of this goal?" Participants in the first control condition with self-focus imagery

read this instruction: “Imagine for every goal how you strive for it and how you reach it. Is this goal suitable for you? How good does this goal fit to your personality?” The second control group filled in the goal commitment questionnaire without any special instruction.

Goal commitment questionnaire. In the goal commitment questionnaire we asked the participants to rate their commitment to five achievement goals (e.g., “I want to achieve very high grades.”) and five affiliation goals (e.g., “I want to get to know many other students.”) Because in the pilot study with first semester psychology students, no plausible power goals were stated, we did not account for power goals.

Participants rated their commitment to each goal by answering the following question: “How much will you try to achieve this goal?” The participants indicated their answers on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). Commitment ratings within the group of five achievement goals (alpha = .70) and five affiliation goals (alpha = .81) were sufficiently reliable. We therefore averaged the five achievement goal commitment ratings in an index of achievement goal-commitment (M = 4.75, SD = .92) and the five affiliation goal commitment ratings in an index of affiliation goal commitment (M = 4.27, SD = 1.19). Participants were significantly more committed to achievement than to affiliation goals, $F(1, 178) = 25.36$, $p < .001$.

Goal feasibility. At the end of the goal commitment questionnaire participants once again rated each goal concerning its feasibility. They were asked to indicate on a 7-point scale how probable it is for them to reach this goal (1 = *not probable*; 7 = *very probable*). The average feasibility rating for achievement goals was 4.48 (SD = .98) and for affiliation goals 4.38 (SD = 1.21). The feasibility of achievement goals and affiliation goals did not differ statistically, $F(1, 178) = 1.66$, $p = .20$.

Results

Preliminary Analysis

First of all we compared the three experimental conditions regarding the central variables of the research question. There were no statistical differences between the three conditions; neither in the implicit power, achievement and affiliation motive disposition nor in the achievement and affiliation goal commitment (see Table 5).

Table 5 Descriptive Statistics of Central Variables Study 3

	Affect-focus imagery (N = 62)		Self-focus imagery (N = 54)		No focus (N = 63)	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
Implicit Motives						
Affiliation	4.06	2.00	4.00	2.18	4.39	2.18
Achievement	1.35	1.26	1.07	1.00	1.33	1.41
Power	2.72	1.66	2.70	1.85	2.83	1.68
Commitment						
Affiliation	4.20	1.15	4.27	1.11	4.35	1.29
Achievement	4.76	1.01	4.57	0.87	4.90	0.85
Feasibility						
Affiliation	4.31	1.30	4.39	1.23	4.45	1.12
Achievement	4.37	0.88	4.51	1.02	4.61	1.05

We further analyzed whether in all experimental conditions participants committed themselves more to goals with high feasibility. Therefore, feasibility of goals with high commitment (i.e., greater than 4 on the 7-point scale) was compared with feasibility of goals with low commitment (i.e., smaller or equal 4 on the 7-point scale). The variance analysis with repeated measures yielded a significant main effect for goal commitment ($F(1, 173) = 383.54$, $p < .001$). That means that goals with high

commitment ratings were perceived to be more feasible (*M* = 5.04, *SD* = .81) than goals with low commitment ratings (*M* = 3.62, *SD* = 1.0). There was no interaction between experimental conditions and goal commitment on feasibility ratings ($F(2, 173) = .98$, $p = .38$). Thus, in all experimental conditions goal commitment was related to goal feasibility.

Testing the Hypotheses

Implicit Power Motive and Achievement Goal Commitment. First we tested the hypothesis concerning the relationship between the implicit power motive and the commitment to achievement goals. We postulated that the correlation between the two variables to be higher in the experimental condition with power specific affect-focus imagery than in the two control conditions. The findings corresponded with this assumption. In the group with power specific affect-focus imagery the implicit power motive correlated significantly with achievement goal commitment ($r = .31$, $p < .05$). In the other two conditions this correlation was around zero. Specifically, in the group with self-focus imagery the correlation was $r = .09$ and in the control-group with no focus $r = -.03$.

We further computed hierarchical regression analysis as in the studies 1 and 2 on achievement goal commitment to verify and illustrate this result (see Table 6). No main effects of the variables turned out to be significant. But as expected, the interaction between the implicit power motive and experimental condition was significant, $\beta = .18$, $t(177) = 2.00$, $p < .05$. Unstandardized regression weights conducted with a range of ± 1 *SD* for the implicit power motive were used to depict this interaction (see Figure 3). The relation between the implicit power motive and achievement goal commitment varied as a function of experimental condition. Thus, in the experimental group with an induced focus on power specific incentives participants

with a high implicit power motive chose more achievement goals than participants with a low implicit power motive. Simple slope analyses (O'Connor, 1998) yielded a significant difference between participants with a low and a high implicit power motive when they focused on power specific incentives ($t(174) = 2.67$, $p < .01$).

Table 6 Hierarchical Regression of Achievement Goal Index on Implicit Power Motive and Experimental Condition (Study 3)

Block	Variable	ΔR^2	*df*	ΔF	b^a
1	First-order terms	.02	2, 175	1.6	
	n Pow				.13
	Condition[b]				.01
2	Multiplicative interaction term	.02	1, 174	4.0*	
	n Pow x Condition[c]				.18*
	Cumulative R^2	.04	3, 177	2.4$^+$	

Note. [a]*b* = slope at point of entry into standardized regression equation. *n Pow* = implicit power motive. [c]Dummy coded condition with power specific affect-focus imagery coded as 1 and the two control conditions coded as 0.

* $p < .05$. ** $p < .01$. $^+$ $p < .10$.

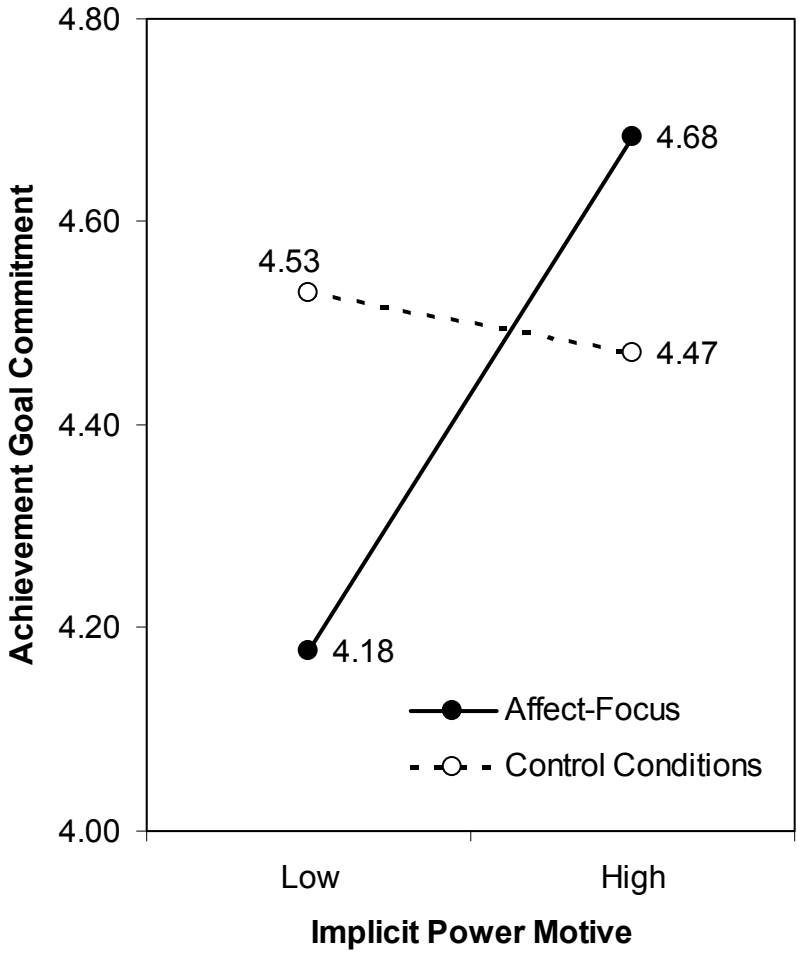

Figure 3 Achievement goal commitment as a function of implicit power motive disposition and experimental condition with power specific affect-focus imagery and the other two conditions in Study 3. Low and high values on the implicit power motive correspond to one standard deviation below and above the mean, respectively.

Implicit Achievement Motive and Achievement Goal Commitment. We further computed correlations between the implicit achievement motive and achievement goal commitment, separately for the three conditions. None of the correlations were significant. In the condition with power specific affect-focus imagery the correlation was r = .12 (p = .36), in the condition with self-focus imagery r = -.06 (p = .66) and in the control group with no specific instruction r = -.05 (p = .72). These results are compatible with the assumption that power specific affect-focus imagery does not promote

congruence between the implicit achievement motive and achievement goal commitment.

Implicit Affiliation Motive and Affiliation Goal Commitment. We further postulated no relationships regarding the affiliation motive and affiliation goal commitment. In accordance with this assumption, in none of the experimental conditions the correlation reached significance. In the condition with power specific affect-focus imagery the correlation was $r = .16$ ($p = .23$), in the condition with self-focus imagery $r = .11$ ($p = .39$) and in the control group with no specific instruction $r = .20$ ($p = .11$).

Brief Discussion

Study 3 was designed to test the hypothesis that power specific affect-focus imagery promotes congruence between the implicit power motive and goals which are conducive for the satisfaction of the power motive. Unlike Studies 1 and 2, the participants in Study 3 were asked about their own actual personal goals. The sample was recruited from students at the beginning of their first semester at the university.

Because explicit power goals seem to be very rare in the population of first semester psychology students in Switzerland (manly female), we assumed that for this population the power motive can be satisfied by the pursuit of achievement goals. Power and achievement goals are conceptually related to each other as they are both in terms of Bakan (1966) *agentic* goals, belonging to the same behavioral orientation towards the achievement of independence, self-assertion, and mastery experience (Brunstein et al., 1998; Woike et al., 2001). We therefore postulated that power specific affect-focus imagery would affect a stronger commitment to achievement goals in people with a high power motive, but not in people with a high achievement motive.

The results strongly support the hypothesis. Only in the experimental condition with power specific affect-focus imagery the implicit power motive was significantly

related to the average achievement goal commitment. In the other two conditions (self-focus imagery and no focus) there was no relationship between the implicit power motive and commitment to achievement goals. Consistent with our hypotheses there was no relationship between the implicit achievement motive and the commitment to achievement goals in any of the experimental conditions.

Summarizing these findings, the mediating role of a focus on motive-specific affective incentives for the promotion of motive-goal congruence was replicated for the area of power motivation. Also while imaging goal striving and goal attainment in an actual life situation the focus on motive-specific affective incentives helped the participants to commit themselves more to goals that yield the possibility for the satisfaction of a basic implicit motive.

General Discussion

Summary and Discussion of the Results

In the present research, we postulated that focusing on motive-specific affective incentives during goal imagery promotes motive-congruent goal setting. We tested this assumption in three experimental studies, each of them focusing on one of the three basic social motives (affiliation, achievement, and power). Goal setting was operationalized in two different ways: either as goal selection (Studies 1 and 2) or as the rating of goal commitment on personal goals (Study 3). All three experiments included an experimental condition where goal imagery was combined with a focus on motive-specific affective incentives (i.e., affect-focus imagery). Participants were asked to imagine how they strive for a goal and how they reach it for a variety of possible goals on a list. Thereby they were instructed to focus on motive-specific emotions. That is to ask themselves whether a goal would be connected with the experience of a specific

emotion. This group was compared with two control groups with either a focus on the self during goals imagery (self-focus imagery) or without a specific focus (no focus). We hypothesized that only in the experimental condition with affect-focus imagery goal setting indices would be significantly related to the corresponding implicit motive disposition.

In each study the results revealed the same pattern of relationships. Participants in the affect-focus imagery condition set their goals congruently with their corresponding implicit motive disposition. That is, in Study 1, participants focusing on affiliation specific emotions selected goals congruently with their implicit affiliation motive disposition meaning that participants with a high implicit affiliation motive selected more affiliation goals than participants with a low implicit affiliation motive. In Study 2, achievement specific affect-focus imagery promoted goal selection which was congruent with the implicit achievement motive disposition. In Study 3 participants focusing on power specific emotions rated their commitment to goals which are conducive for the satisfaction of the power motive, congruently with their implicit power motive disposition. In none of the two control conditions (self-focus imagery and no focus) goal indices were related to implicit motive dispositions. There was also no congruence between goal setting and implicit motives regarding the implicit motives which affective incentives were not focused on.

The present research is tying on studies on goal imagery as a possibility to promote congruence between an implicit motive disposition and goal commitment (Schultheiss & Brunstein, 1999). Our studies extend this research in several ways. First, our results implicate that affect-focus imagery is successful in the promotion of motive-congruent goal setting, when participants are confronted with several goals for selection instead of only one goal. Second, the previous study on motive-goal congruence (Schultheiss & Brunstein, 1999) was concentrated on the combination of the implicit

power and affiliation motive. In the present research we could convincingly demonstrate for all three implicit motives separately that focusing on a motive-specific affect enhances motive-goal congruence. This finding provides evidence for generalisability on all three basic social motives. Third, we successfully established affect-focus imagery as the mediating mechanism in the promotion of congruence between implicit motives and goals.

The theoretical significance of these results is due to their pointing to a mechanism promoting motive-congruent goal setting. The anticipation of motive-specific incentives activates the implicit motive system which then contributes to motive congruent goal selection and goal commitment. One can compare this process with a kind of *degustation*. Imagery makes it possible to get a taste of the affective experiences that could accompany goal striving and goal attainment. These affective incentives work together with implicit motive dispositions resulting in actual motivation. Schneider and Schmalt (2000, p. 19) describe this interaction of motive disposition and incentive as follows:

> A motive (…) can only affect behavior in the degree, as it is aroused by situational incentives. On the other hand, an incentive (…) can also affect behavior only in the degree, as it meets an individual's motive disposition. The coming together of motive and incentive is called motive-arousal which results in a state of motivation.

Thus if, due to her high implicit motive disposition, a person is sensitive to motive-specific affective incentives, she will experience these incentives during affect-focus imagery more intensively than a person with a low corresponding implicit motive disposition. In addition, the intense presence of these incentives will trigger the motive and should then evoke the desire to strive for and achieve the anticipated goal state.

One might alternatively argue that goal imagery activates self-related memory content as mental simulation of a goal is relaying on experiences that have been previously made in related contexts. Because there is a link between implicit motive dispositions and memory content and structure (Woike & Polo, 2001; Woike et al., 2001) it is possible that goal-imagery is promoting motive-goal congruence mediated by such an activation of self-related memories. This would mean that it is the availability of previous experiences in the context of the goal which is mentally simulated that has an influence on motive-congruence in goal setting. According to this explanation a person with a high implicit motive disposition would have more memories activated when mentally simulating a motive congruent goal. Regardless the emotional quality of these memories it could be that such a person would feel more committed to a goal than a person that has fewer memories activated. The former has a clearer idea about what he or she can do and what can happen during goal striving. To exclude this possible explanation we tested affect-focus imagery against a control group with focus on the self (self-focus imagery). As predicted, participants who focused on the self during goal setting did not select or rate their goals congruent with their implicit motives.

Techniques of Mental Imagery

The goal imagery procedure used in the present research can be compared to techniques that have been widely used in the context of goal striving and self-regulation of behavior. In the following paragraphs we will discuss two prominent researches of this area (mental simulation and mental-contrasting) in comparison with the technique of affect-focus imagery introduced in this research. The aim is to position this new technique in the wilder context of mental imagery research.

Mental Simulation

The first research being discussed is the one concerning mental simulation as a technique to facilitate goal attainment. Mental simulation was investigated by comparing two different possibilities of goal-imagery: *process- and outcome-simulation* (Taylor & Pham, 1996; Taylor, Pham, Rivkin, & Armor, 1998). Process-simulation is the mental simulation of events and actions that lead to a desired outcome. This technique can be summarized in the question “How can I reach the goal”. Outcome-simulation follows the question “Where do I want to be” by the envisioning of a final goal state. It could be shown that process-simulation is much more effective than outcome-simulation in promoting progress toward a set goal (Pham & Taylor, 1999; Taylor et al., 1998).

The instructions for affect-focus imagery in our studies did not differentiate between the two aspects of goal striving. Participants were asked to imagine the striving as well as the attainment of the goals. This decision was based on the assumption that motive-specific affective incentives are experienced during goal striving and during goal attainment (e.g., feeling happiness while getting to know new persons as well as while having established close relationships). However, paralleling our research to the research on process- vs. outcome-simulation the question could arise whether the imagery of a goal striving process compared with the imagery of goal attainment in combination with a focus on affective incentives would make a difference concerning the functionality for the promotion of motive-goal congruence. It could be an interesting question for further research to distinguish and vary the two possibilities of goal imagery.

A further difference between the techniques of mental simulation (process simulation and outcome simulation) and affect-focus imagery concerns whether and how the imagination of affective incentives is instructed. To our knowledge, instructions on process-simulation do normally not include any emotional aspect. Participants are

just instructed to visualize the goal striving activities. Instructions on outcome-simulation on the other hand do emphasize the affective experiences after goal attainment. But, different from affect-focus imagery in our approach, the instructions for outcome-simulation lead participants to mentally simulate a specific emotional state, e.g., feeling happy or joyful after they reached their goal. In our studies participants were *asked* whether they would experience a specific emotion. They were instructed to check the presence of a motive-specific affective incentive and not instructed to imagine the experience of a motive-specific incentive. The procedure of affect-focus imagery therefore provides a new approach in the application of imagery in the goal striving process. The imagery is not inserted to build up affective incentives for the facilitation of persistent goal striving but affect-focus imagery provides a supportive strategy for an individual to find out whether he or she can experience a particular affective incentive.

Mental Contrasting

The second research which should be discussed in relation to the technique of affect-focus imagery is based on the *model of fantasy realization* (Oettingen, 1999). This research is engaged with processes of goal setting by thinking about a possible future. It postulates three different routes to form goal commitment which differ regarding the way people deal with their fantasies about possible future outcomes. According to the model, two routes of fantasy realization are quite dysfunctional: Indulging in fantasies about a desired future outcome as well as dwelling on the impeding reality. The model postulates that the most preferential route is mental contrasting, where fantasies about the desired future are alternated with the actual reality that contravenes the desired future. In several studies it could be shown that this method of dealing with fantasies leads to realistic and for goal attainment functional goal

setting (Oettingen & Thorpe, in press; Oettingen, Mayer, Thorpe, Janetzke, & Lorenz, in press).

As in our research, the model of fantasy realization is concerned about goal setting processes and it suggests a technique for adaptive goal setting. The main difference between the two techniques is that they promote congruence of goals with two different goal aspects. Mental contrasting promotes goal setting which is congruent with *attainability* estimations. In theories of motivation and goal setting (Ajzen, 1985; Atkinson, 1957; Feather, 1982; Heckhausen, 1977) this goal attribute was postulated to be a basic determinant of goal setting. It was conceptualized in various ways, e.g., as the subjective likelihood of performing the goal-directed behavior (self-efficacy, Bandura, 1977, 1997), the belief that this behavior will effect a desired outcome (instrumentality beliefs, Vroom, 1964) or the expectation of desired outcomes in general (optimism, Scheier & Carver, 1994). Many research demonstrated that the higher such expectations are the better persons cope with difficulties and the higher is their emotional and physical well-being (e.g. Flammer, 1990; Schwarzer & Fuchs, 1996). The technique of mental-contrasting is conducive for goal attainment and well-being by helping individuals to commit to goals on which their expectations of attainment are high and disengage from goals which seem to be unattainable. Therefore one can say that mental-contrasting is promoting *expectancy based motivation.*

In contrast, the technique of affect-focus imagery introduced in the present research is aiming at the promotion of goal setting which is oriented on the affective values of goal striving and attainment. The congruence with implicit motives implies the possibility of basic need satisfaction by the experience of positive affective incentives. Therefore one can say that the technique of affect-focus imagery promotes *incentive based motivation* (Atkinson, 1957; Hull, 1952; Lewin, 1936; McClelland, 1985).

In our view the two research lines complement each other as both aspects play an important role for goal attainment and subjective well-being (Brunstein, 1993; Brunstein et al., 1998; Maier & Brunstein, 2001). They should ideally be combined to promote realistic and though satisfying goal striving. We further would suggest that the two techniques by themselves are functional in different contexts. The technique of mental contrasting starts with fantasies about a positive future outcome. Indulging in these positive fantasies can be seen as an undiluted savoring of positive incentives. In order to have an action guiding function the gap between these fantasies and real possibilities must be manifested and their feasibility must be checked. Thus, the mental contrasting technique helps to anchor the immoderation of incentive orientation in the possibilities of the actual real life situation. The technique of affect-focus imagery is positioned and appropriate in the opposite context. The starting point of our research is the situation where a person is confronted with a goal or a variety of goals which are suggested by the situation or other persons. In such a context (e.g., on a new workplace) the incentive component of goals has to be stronger emphasized to advance the choice of goals which yield the possibility of satisfying the individuals affective needs. However, promoting goal setting by affect-focus imagery that does not correspond with goal attainability would be dysfunctional. The results indicate that this is not the case. In all three studies the goal setting variables (choice of goals in Studies 1 and 2 and goal-commitment in Study 3) were highly related to the ratings of goal feasibility. This was true for all experimental conditions, thus also in the condition where goal striving and goal attainment was imagined with a focus on motive-specific affective incentives. This result indicates that in this condition the congruence between implicit motives and goals was promoted without being at the cost of feasibility anchorage.

Limitations and Future Perspectives

By using the method of hypothetical scenarios in the first two studies we had to handle the problem that some participants could not manage to imagine themselves in the described situation. The whole procedure of imagining a situation and then further imagining goal striving and goal attainment for a list of 15 goals required more imaginativeness than the simple imagination of a given scenario would do. We decided to take only those participants into consideration in further analysis that could identify well with the scenario. As a consequence the reduced sample sizes challenge the ecological validity of our results. Even though Study 3 replicated the hypothesized results with a greater sample by measuring real goal commitment without scenario technique it is desirable to collect more empirical evidence in real goal setting situations.

Further, it would be interesting to bring the data on enhanced motive-goal congruence via affect-focus imagery together with data on affective well-being, and on goal progress. From these three studies we have hints for the promotion of motive-goal congruence with affect-focus imagery but we actually do not know whether the motive-goal congruence might cause lasting impact on goal commitment or even on general well-being variables. Therefore longitudinal studies on long-term effects of promoted motive-goal congruence by affect-focus imagery on goal striving and well-being should be conducted.

In the present research a technique for the promotion of congruence between implicit motives and goals was investigated. Promotion of congruence between explicit motives and goals was not the object of research interest yet. The second part of this thesis demonstrates that incongruence between explicit motives and personal goals has deleterious effects on well-being too. Thus, future studies on motive-goal congruence should include both types of (in)congruence.

Practical Implications

Personal goals and their characteristics recently became of growing interest in therapeutic settings and clinical research (Michalak & Grosse Holforth, 2006; Michalak, Püschel, Joormann, & Schulte, 2006). The congruence of goals with implicit motives can be associated with patients' symptoms as well as their motivation with respect to the therapeutic process. Thus, affect-focused imagery could be valuable as a therapeutic technique to promote motive-congruent goal setting.

Further the technique of affect-focus imagery can be appropriate generally in contexts where decisions about future directions have to be done and where several possibilities of more or less equal feasibility are available (e.g., career counseling). The professional assessment of implicit motive dispositions would thereby be a precondition for the application of the technique in these contexts. The knowledge about individuals' implicit motives allows deriving the appropriate instruction for a focus on a specific emotion for the promotion of congruence between goals and the predominant individual motive-disposition.

Part II

Discrepancies Between Explicit Motives and Goals

They Are Related to Well-Being

Abstract

The present research is based on the theoretical conception of implicit motives, explicit motives and personal goals as distinct theoretical concepts. Previous research demonstrated that discrepancies between implicit motives and goals are a rather common phenomenon with negative consequences on well-being (e.g. Brunstein, Schultheiss, & Grässmann, 1998). These findings were extended on the explicit motive system with four studies investigating the role of discrepancies between explicit motives and goals for well-being. Consistent with the expectations high discrepancies between explicit motives and goals were related to high negative affect, low positive affect, low physical well-being and few positive experiences measured with self-report diary (Studies 1, 2, and 3). Longitudinal Study 4 showed that positive affect, negative affect and physical well-being could be significantly predicted from discrepancies between explicit motives and goals measured more than 3 months earlier while controlling for initial well-being. These findings are discussed in relation to the role of implicit motives, explicit motives and personal goals in affect-regulation and well-being.

Introduction

Over the last decades, personal goals have been investigated as central determinants of human motivation and self-regulation (Austin & Vancouver, 1996; Emmons, 1986; Gollwitzer & Moskowitz, 1996; Klinger, 1975; Little, 1983; Locke & Latham, 1990; Oettingen & Gollwitzer, 2004; Pervin, 1989). Via personal goals people structure and organize their lives. Having goals and successfully striving for them is seen as a source of overall well-being (Brunstein, 1993; Diener, Suh, Lucas, & Smith, 1999; Emmons, 1986; Maier & Brunstein, 2001; Schmuck & Sheldon, 2001). Since the beginning of personal goal research there has been one question of particular interest: Which specific goal characteristics are particularly associated with high well-being? Numerous theoretical approaches have specified different goal properties that moderate the relationship between goal striving and well-being (e.g., abstraction level, Emmons, 1992; goal difficulty, Wiese & Freund, 2005; approach- and avoidance orientation, Elliot, Sheldon, & Church, 1997; goal content, Kasser & Ryan, 1993). Presently, the issue of motive (in)congruence is prominently investigated (Baumann, Kaschel, & Kuhl, 2005; Brunstein, et al., 1998; Hofer & Chasiotis, 2003; Schultheiss & Brunstein, 1999). In various studies it became clear that the discrepancy between the content of personal goals and a person's basic motives negatively affects well-being.

Motive dispositions (or needs) are defined as enduring preferences for specific classes of incentives (McClelland, 1985; Schultheiss & Brunstein, 2005). The three motives which have attracted most research interest are the achievement motive (need for accomplishing something difficult, attaining a high standard and feeling proud), the affiliation motive (need for the establishment and maintenance of positive relationships with others and feelings of closeness and belonging together), and the power motive (need for having impact on other people and feeling strong). In the last years a

conceptual differentiation became of central importance for the research on motive dispositions - the differentiation between *implicit* and *explicit motives* (McClelland, Koestner & Weinberger, 1989). McClelland and colleagues suggested that each motive is represented in two different motivational systems, and posit that “implicit motives represent a more primitive motivational system derived from affective experience, whereas self-attributed [explicit] motives are based on more cognitively elaborated constructs” (McClelland et al., 1989, p. 690). Implicit motives are thought to operate on an unconscious level, whereas explicit motives are thought to be cognitively represented.

There is abundant empirical evidence that these two motivational systems operate independently of each other. Numerous studies have demonstrated that measures of implicit and explicit motives are largely uncorrelated (e.g. deCharms, Morrison, Reitman, & McClelland, 1955; King, 1995; McClelland, 1980; McClelland et al., 1989; Schultheiss & Brunstein, 2001). Furthermore, research has consistently shown that the two motivational systems are activated by different classes of incentives, predict different classes of behavior, and develop in a different manner. More specifically, implicit motives are instigated by activity incentives, support spontaneous behavioral trends over time, and develop through early, pre-linguistic affective experiences with parents. On the other hand, explicit motives are activated by social incentives, regulate immediate responses to structured situations, and develop through explicit teaching by parents, teachers and others as to what motivational tendencies are important for the child to pursue (Brunstein & Maier, 2005; McClelland et al., 1989; Spangler, 1992).

With respect to the issue of motive-goal discrepancy and its impact on well-being, solely the discrepancy of personal goals with implicit motives was investigated so far. Several studies have demonstrated that discrepancies between implicit motives and

personal goals have a negative impact on well-being whereas congruence of personal goals and implicit motives bolsters emotional and physical well-being. As an example, most recently Baumann, et al., (2005) showed that discrepancies between the implicit achievement motive and the number of achievement goals a person is striving for are related to impaired emotional well-being and more physical symptoms. Similarly Brunstein and colleagues (Brunstein, Lautenschlager, Nawroth, Pöhlmann, & Schultheiss, 1995; Brunstein et al., 1998) found that striving for and attaining of personal goals is related to higher emotional well-being only if goals are not discrepant from an individual's implicit motives (see also Hofer & Chasiotis, 2003).

Recapitulating, one can conclude that discrepancies between implicit motive dispositions and personal goals compromise a person's emotional and physical well-being. With respect to a potential negative effect of discrepancies between explicit motives and goals on well-being, however, there is no research up to now. To fill this gap, in the present paper, we will argue and provide empirical evidence that the negative effect of motive-goal discrepancies on well-being is not restricted to implicit motives, but extends to explicit motives as well.

Explicit Motives and Personal Goals

Explicit motives, also called self-attributed needs (McClelland et al., 1989; Weinberger & McClelland, 1990), are cognitively elaborated and verbally represented concepts people have about their enduring preferences and motivational inclinations. A person with a high explicit affiliation motive thinks that she is very sociable and that she likes and needs to be together with and close to other people. A person who is explicitly achievement motivated thinks of herself to be somebody who always strives to do her best. People with a high explicit power motive think they are dominant and they prefer influencing others to being influenced. These motivational self-concepts are measured

by self-report scales and personality inventories, such as the Personality Research Form (Jackson, 1974). They are relatively stable over time (Stumpf & Angleitner, 1989) and share considerable variance with the Big Five personality traits (Costa & McCrae, 1988; Olson & Weber, 2004; Winter, Stewart, John, Klohnen, & Duncan, 1998).

For the formation of explicit motives cultural and social requirements play an important role. In a longitudinal study McClelland and Pilon (1983) found that the amount of learning- and performance-tasks which parents set for their children was related to these individuals' explicit achievement motive 25 years later. Social feedback and social comparison processes continue influencing and forming a persons explicit motives. This happens simultaneously with the development of knowledge about one's own abilities and possibilities. In accordance with this assumption, previous research demonstrated that believes about abilities and explicit motives are highly correlated (Nicholls, 1984; Trope, 1986). As an example Helmke and Weinert (1997) reported that children in grade school, who estimated themselves to be better in language and mathematics than their peers, described themselves as highly achievement motivated.

Since explicit motives are strongly anchored within the social context, they respond to social-extrinsic incentives (Weinberger & McClelland, 1990). In turn, they predict what McClelland (1980) termed respondent behavior, which means that they influence conscious attitudes, judgments, choices and decisions in response to structured situations. For example, a high self-attributed need to achieve determines the decision to keep on working on a task when feedback indicates below-norm performance (Brunstein & Maier, 2005).

Explicit motives are abstract representations of a small number of needs a person ascribes to herself. They are a part of a person's self-concept and with that they play a role in the direction, perception, and experience of behavior (Baumeister, 1998). However, the concrete way in which a person acts in the world, plans his or her future

life or adapts to the current environmental requirements is determined by “midlevel” motivational units (Robert, O’Donnell, & Robins, 2004) which can be labeled as personal goals. These have been conceptualized in terms of personal projects (Little, 1983), life tasks (Cantor, Norem, Niedenthal, Langston, & Brower, 1987), personal strivings (Emmons, 1986), or possible selves (Markus & Nurius, 1986). All these concepts include the assumption that individuals actively construct goals which are personally meaningful and to which the individual feels committed (Brunstein, Schultheiss, & Maier, 1999; Oettingen & Gollwitzer, 2004). According to these goals, an individual plans his/her behavior and structures his/her environment. In contrast to explicit motives, which are abstract cognitive preferences, personal goals are the concrete, individualized and cognitively elaborated representations of what a person wants to achieve in his or her current life situation (Brunstein et al., 1998).

Discrepancies Between Explicit Motives and Personal Goals

Both, personal goals and explicit motives are cognitively elaborated and verbally represented; goals as desired end states that may have multifaceted specific contents and explicit motives as representations of a small number of abstract preferences. It was often assumed, that people automatically choose goals that are in line with their (explicit) motives (Emmons, 1989; Elliot & Thrash, 2002). Nevertheless, empirical studies show that the relationship between explicit motives and personal goals is at best moderate. Correlations between the thematic content of personal strivings and self-attributed needs are typically small (in the range of .20-.30, see Emmons & McAdams, 1991; King, 1995; McAdams, Hoffman, Mansfield, & Day, 1996). The rather weak association between explicit motives and the thematic content of personal goals implies that, although there are people who pursue goals which are congruent with their explicit motives, there is a substantial number of people who strive for goals that are not

congruent with their explicit motives. As an example, imagine an individual who has the goal to get acquaintances at a new workplace, perhaps because he knows that it is important for his career in that firm. Actually, however, he thinks about himself that he is not affiliation motivated, that is, he does not need or even does not really like to be together with other people. We postulate that a person who is striving for such a discrepant goal would experience a decrease in her well-being. Until now, no research has been conducted concerning the affective consequences of a discrepancy between personal goals and explicit motives. There are only clues from different theoretical and empirical contexts which militate in favor of the assumption that discrepancies between goals and explicit motives are related to lower levels of well-being. Three approaches will be described in the following paragraphs.

First indices evolve from research concerning the question whether personality variables interact with situation characteristics in predicting emotional experiences and well-being (Diener, Larsen, & Emmons, 1984; Emmons & Diener, 1986; Moskowitz & Coté, 1995). In their *situational congruence model*, Diener, et al., (1984) proposed that individuals experience more pleasant affect and less unpleasant affect in situations that are congruent with their personality. People high on extraversion, which is strongly related to the explicit affiliation motive (Ashton, Jackson, Helmes, & Paunonen, 1998; Costa & McCrae, 1988), were more joyful if they were allowed to be with others than if they had to be alone (Emmons & Diener, 1986). Moskowitz and Coté (1995) rendered the situational congruence model more precisely. They postulated that the relation between personality, situations and affect is mediated by behavior. More specifically, they suggest that it is the congruence between behavior and personality which is actually related to well-being. The results of an event-contingent recording study strongly support this assumption (Moskowitz & Coté, 1995). Dominant people reported pleasant affect after engaging in dominant behaviors while engaging in submissive

behavior was associated with unpleasant feelings. To sum up, people experience negative affect when they behave in a way which is discrepant from their self-reported personality characteristics. In contrast, people experience pleasant affect when behaving in accord with their self-attributed personality. Since personal goals have a behavior directing function, we assume that goals which are discrepant from self-attributed personality characteristics will bring a person in discrepant situations which will require discrepant behavior and will hence lead to lower levels of emotional well-being.

A second line of research supporting our hypothesis concerning the deleterious effect of discrepancies between goals and explicit motives stems from Sheldon and colleagues (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). In two studies they looked at the congruence between self-ascribed big-five-traits within different roles (student, employee, child, friend, and romantic partner) and the general self-concept ("How I see myself in general"). They could show that the discrepancy between the general self-concept and how the participants saw themselves in several roles was associated with low satisfaction and high levels of stress experienced within these roles. Since roles shape the goals a person is pursuing in a given context, this research supports our assumption that discrepancies between goals (as induced by social roles) and the self-concept may result in impaired emotional well-being.

A third hint for negative consequences of goals which are discrepant from explicit motives as self-concept contents deliver studies that were conducted in the context of independent versus interdependent self-knowledge research. After filling in Singelis (1994) self-construal scale to assess participants self-concept (independent vs. interdependent), participants in a study by Pöhlmann, Carranza, Hannover, and Iyengar (in press, reported by Hannover, Pöhlmann, Roeder, Springer, & Kühnen, 2005) received either an interdependent (choose a watch for their mother) or an independent

(choose a watch for themselves) goal to complete. Interdependent participants were more pleased after having chosen a watch for their mother than after having chosen a watch for themselves. The reverse pattern occurred for independent participants. Additionally, all participants judged their own choices as better and could better recall details of the shown watches when the goal was not discrepant to their self-concept.

In all of the studies reported thus far, explicitly measured general personality characteristics are contrasted with concrete goals, behavior, or demands that a person has to fulfill in a special distinct situation. As a common core, these studies show that discrepancies between the general self-concepts and concrete situations (including goals and behavior) have negative impact on affect, well-being and even goal relevant cognitions. We assume that discrepancies between explicit motives and goals have a negative impact on diverse well-being levels too because they represent a related phenomenon. They are discrepancies between concrete aspired situations and abstract contents of the self-concept.

Present Research

Four studies were conducted to test our assumptions. First of all, we investigated whether the overall discrepancy between a person's explicit motives and his or her personal goals is related to a lower emotional and physical well-being in two cross sectional studies (Study 1 and Study 2). Study 3, was a diary study, designed to confirm the findings of Study 1 and Study 2 with a more experience-contingent measure of affective well-being. With the longitudinal Study 4 we investigated whether it is possible to predict changes in well-being with discrepancies between explicit motives and goals over the time of one semester.

The studies contained different measures of personal goals and explicit motives. In each study, we created an index of discrepancy between personal goals and explicit

motives based on their thematic orientation. This index combined absolute differences between standardized self-attributed needs and standardized goal striving for the domains of achievement, power and affiliation to give an overall measure of discrepancy between self-attributed needs and personal goals (see Kehr, 2004, for a discussion).

Study 1

In Study 1 we sought to explore the relationship between explicit motives, goals, and emotional well-being. Participants provided data on their explicit motives and generated a list of personal goals. We expected the overall discrepancy between explicit motives and goals to predict emotional well-being over and beyond any separate associations between explicit motives and goals with well-being. More specifically, we expected overall discrepancy to be related to an impaired emotional well-being, that is, to a less positive mood or a more negative mood.

Method

Participants and Procedure

Participants were 72 students (43 women and 29 men) at Boston University with average age of 22 years (*SD* = 4.2). The data reported here were collected as part of a larger project on the relationship between motivation and emotional well-being. [1] To assess explicit motives, participants completed the Personal Values Questionnaire (McClelland, 1991). Goals were assessed using the Personal Strivings Questionnaire (Emmons, 1986). Finally, participants completed an assessment of their current chronic mood.

Materials

Explicit motives. Explicit motives were assessed by employing McClelland's (1991) *Personal Values Questionnaire* (PVQ). For each item, participants were asked to judge how important it is to them on a 6-point-scale ranging from (0) *Not important to me* to (5) *Extremely important to me*. The 10 items assessing explicit achievement motivation describe typical feelings and desires of a person high in achievement motivation (e.g., "Opportunities to take on more difficult and challenging goals and responsibilities"; "Feedback on how well I am doing or progressing toward my objectives"; "Personally doing things better than they have been done before"). The 10 items assessing the explicit need for power express the need for having impact on other people, to achieve high status positions, and to be in control (e.g., "Important positions and projects that can give me recognition"; "Opportunities to influence others"; "Doing things that have a strong effect on others"). Another 10 items assessing explicit affiliation motivation describe typical feelings and desires of a person high in affiliation motivation (e.g., "Close, friendly, cooperative relations with others"; "Having plenty of time to spent with my friends or family"; "Not being separated from the people I really care about"). Motive scores were derived by averaging responses over the respective motive thematic items. Internal consistencies were highly satisfactory for each of the PVQ-scales (achievement: α = .90; power: α = .91; affiliation α = .87). The PVQ has been successfully employed in research on human motivation (e.g., Brunstein & Hoyer, 2002). In a study by Engeser and Langens (2005, N = 592), the PVQ scales were significantly correlated with the corresponding scales of the Personality Research Form (PRF, Jackson, 1974): PVQ-achievement was related to PRF-achievement (r = .57, p < .001) and PVQ-affiliation was related to PRF-affiliation (r = .59, p < .001).

Personal goals. Participants generated lists of their personal strivings according to the standard procedure described by Emmons (1986). Personal strivings were

introduced as goals or objectives that people typically or characteristically strive for in their everyday behavior. The instructions gave concrete examples of personal goals. It was stressed that strivings are phrased in terms of what a person *tries* to do, regardless of whether the person is actually successful. Participants were then asked to list 15 of their personal strivings. These were content-coded for achievement, power and affiliation according to Winter's (1991) *Manual for Scoring Motive Imagery in Running Text* which has been used extensively in previous research on motivation (e.g., Schultheiss & Brunstein, 2001). Category agreement of two experienced raters ranged from .79 to .89 (category agreement = [2 × no. of agreements between the two raters] / [no. of scores from Rater 1 + no. of scores from Rater 2]) (Winter, 1991). Discrepancies were discussed until resolved. Scores for achievement goals (M = 1.42, SD = 1.24), power goals (M = 1.60, SD = 1.50), and affiliation goals (M = 2.72, SD = 1.59) thus reflect the amount of goal striving a participant typically devotes to goals or objectives related to each of the three motivational domains.

Overall discrepancy between explicit motives and goals. An index of the overall discrepancy between explicit motives and personal goals was derived by aggregating the absolute differences of standardized motive scores for each motivational domain (M = 2.99, SD = 1.46). Such a procedure has proved useful in research on the relationship between implicit motives and explicit motives (Baumann et al. 2005; Briñol, Petty, & Wheeler, 2006; Kehr, 2003). The higher the score, the larger is the discrepancy between explicit goals and personal strivings. For example, as judged from his scores on the PVQ, one participant described himself as high in achievement motivation (approximately 2 *SD*s above the sample's mean score), low in power motivation (1 *SD* below the mean score) and about average in affiliation motivation. However, this same participant reported not a single achievement goal (1 *SD* below the mean) and both a

larger amount of power goals (2 *SD*s above the mean) and affiliation goals (1 *SD* above the mean), which resulted in large overall discrepancy score of 6.7.

Mood. Mood was assessed using Shacham's (1983) shortened version of the Profile of Mood States (POMS, McNair, Lorr, & Droppleman, 1971). Participants were asked to read each of 35 adjectives and to indicate on a 5-point scale with endpoints labeled *not at all* (1) and *extremely* (5) "how much you have had that particular feeling during the past week". A composite measure of negative mood was derived by aggregating responses for the five scales assessing negative mood states: *tension-anxiety* (e.g., nervous, anxious), *depression-dejection* (e.g., discouraged, hopeless), *fatigue-inertia* (e.g., worn-out, fatigued), *anger-hostility* (e.g., angry, resentful), and *confusion-bewilderment* (e.g., confused, bewildered). The combined scale demonstrated good internal consistency (α = .95), and hence items were combined to give a scale of *negative mood*. Adjectives assessing a *resourceful-determined* mood (e.g., lively, energetic, vigorous) were aggregated to yield a measure of *positive mood* (α = .81).

Results

Descriptive Statistics, Inter-correlations, and Preliminary Analyses

Table 7 shows that explicit motives were only weakly related to personal goals. Explicit achievement motivation was unrelated to achievement goals (r = .11, ns.) and explicit power motivation was unrelated to power goals (r = .20, ns.). Although explicit affiliation motivation was significantly related to affiliation goals (r = .39, p < .01.), the overall relationship between explicit motives and personal goals is loose enough to allow for large discrepancies between motives and goals. Table 1 also shows that each of the explicit motives was positively related to positive mood. Personal goals, however, were

not strongly related to mood. As an exception, affiliation striving was related to a more negative mood.

Table 7 Descriptive Statistics and Two-Tailed Correlations among Variables (Study 1)

	2	3	4	5	6	7	8	9	*M*	*SD*
1. Explicit Ach	.71**	.57**	.11	.28*	.09	.12	.31**	.19	3.67	.83
2. Explicit Pow		.59**	.14	.20	.07	.08	.24*	.02	2.58	1.05
3. Explicit Aff			.02	.19	.39**	-.01	.27*	.06	3.58	.80
4. Ach Goals				.08	-.06	.02	.05	-.07	1.42	1.24
5. Pow Goals					.15	.20	.18	.02	1.60	1.50
6. Aff Goals						-.06	.02	.26*	2.72	1.59
7. Overall Discrep.							.05	.22+	2.99	1.46
8. Positive Mood								-.26*	3.23	.71
9. Negative Mood									2.39	.69

Note. N = 72; Ach = Achievement; Aff = Affiliation; Pow = Power; Discrep. = Discrepancy; + $p < .10$. * $p < .05$. ** $p < .01$.

Predicting Mood from Discrepancies Between Motives and Strivings

Participant's mood (positive mood and negative mood) was further analyzed by employing the following hierarchical regression approach: explicit motives (achievement, power and affiliation) were entered in the first step of hierarchical regression, followed by personal goals (achievement, power and affiliation) in Step 2. In Step 3, the index of overall discrepancy between explicit motives and goals was entered

in the regression equation to test whether discrepancy can predict mood over and beyond the effect of motives and personal goals. For positive mood, these analyses did not yield a significant effect for overall discrepancy (b = .01, se_b = .06, $t(64)$ = .01, ns.).

Table 8 Hierarchical Regression of Negative Mood (Study 1)

Step	Variable	ΔR^2	*df*	ΔF	b^a
1	Explicit Motives	.07	3, 68	1.60	
	Achievement				.25*
	Power				-.16
	Affiliation				-.01
2	Strivings	.08	3, 65	2.11	
	Achievement				-.07
	Power				-.08
	Affiliation				.29*
3	Overall Discrepancy	.05	1, 64	3.75+	.24+
4	Quadratic Overall Discrepancy	.09	1, 63	7.48**	.28**
	Cumulative R^2	.19	8, 63	3.08**	

Note. [a] *b* is the standardized regression coefficient in the regression equation.

+ $p <$ .10. * $p <$ .05. *** $p <$ .001.

For negative mood, these analyses yielded a statistical trend for overall discrepancy, b = .11, ΔR^2 = .05, $\Delta F(1, 64)$ = 3.75, p = .057. A closer inspection of the scatterplot of overall discrepancy against negative mood suggested a curvilinear relationship between these variables. To model this relationship, the quadratic term for overall discrepancy was entered in Step 4 of the hierarchic regression (see Table 8).

The quadratic term was significantly related to negative mood, b = .28, ΔR^2 = .09, $\Delta F(1, 63) = 7.48$, $p < .01$. These results suggest that low and medium discrepancies were not related to a higher negative mood whereas large discrepancies between explicit motives and personal goals were connected to high levels of negative mood.

Brief Discussion

Study 1 found initial evidence that a discrepancy between one's motivational self-concept and personal goals may be related to impairment in mood. The significant curvilinear relationship between discrepancy and negative mood suggests that low and medium levels of discrepancy are not associated to a higher negative mood. However, large discrepancies between explicit motives and goals were strongly related to high levels of negative mood. This result suggests that people may be able to tolerate moderate amounts of discrepancy, which can be considered functional given that we all need to strive for goals which do not fit to our self-concepts some of the time. However, striving for goals which are very discrepant from basic conceptions of one's needs may be detrimental to well-being. Importantly, this association between discrepancy and negative mood could be found after controlling for the zero-order relationships between explicit motives, goals, and well-being.

Study 1 did not find a relationship between discrepancy and positive mood. This may be due to the measure of positive mood employed in Study 1, which focused on vitality rather than positive emotions like happiness or elation. Thus, we sought to replicate and extend the basic findings of Study 1 in Study 2, which employed different measures of goals, emotional well-being and additionally physical well-being indicators.

Study 2

Method

Participants and Procedure

Ninety-three (62 female and 31 male) students from different faculties at the University of Zurich and from the Swiss Federal Institute of Technology participated in the study in return for soft drinks and sandwiches. The average age of the participants was 23 years (*SD* = 3.3). They filled in a set of questionnaires in a group session. Explicit motives, goals as well as emotional and physical well-being were assessed.

Materials

Explicit motives. To assess explicit motives, participants completed the Achievement, Dominance, and Affiliation scales of the Personality Research Form (PRF, Jackson, 1974; German version: Stumpf, Angleitner, Wieck, Jackson & Beloch-Till, 1985). Each scale consists of 16 true-false questions which are balanced for acquiescent responding. The PRF is the most commonly used questionnaire to assess explicit achievement, power, and affiliation motives (e.g., Brunstein & Maier, 2005; Schultheiss & Brunstein, 2001). Achievement is measured with items concerning hard and persistent work and a preference for difficult problems; dominance is represented by the affective preference of being in high status positions and to lead others; affiliations is represented by the wish and enjoyment of being with other people or interact with others in a friendly manner. Internal consistencies were good for the three scales (achievement: α = .62; dominance: α = .82; affiliation α = .78).

Personal goals. To assess personal goals we adopted the procedure described by Brunstein, et al. (1998). First of all the participants read a description of what was meant with personal goals, namely aims, intentions, or plans they were currently

occupied with in their lives. Then they were asked to write down four of their personal goals, one goal within each of the following four thematic striving areas: (a) “a close relationship with a near person” (intimacy), (b) “social contact and affiliation with other people” (affiliation), (c) “challenging achievement and mastery experiences” (achievement), and (d) “acting on other persons, being independent, having responsibility” (power). For illustration there was an example for a goal within each striving area. When the participants had listed the four goals, goal commitment was assessed with four items taken from Brunstein (1993) (i.e. “No matter what happens, I will not give up this goal”). The response scale ranged from 1 (strongly disagree) to 5 (strongly agree). The internal consistencies of these scales were adequately high (intimacy-goal: α = .70; affiliation-goal: α = .81; achievement-goal: α = .80; power-goal: α = .83).

After the completion of the study, two raters independently judged for each goal, how well its content matched with the respective motive content of the striving area described in the instruction. The raters judged the goals on a 3-point scale with 0 for *no match* (*n.m.*), 1 for *partial match* (*p.m.*), and 2 for *high match* (*h.m.*). The ratings of the two raters were highly correlated (r_s = .70, p < .001). The best match between content area and goals was found in the achievement striving area (*n.m.*: 16%; *p.m.*: 18%; *h.m.*: 66%) followed by the intimacy (*n.m.*: 32%; *p.m.*: 17%; *h.m.*: 50%) and affiliation striving area (*n.m.*: 31%; *p.m.*: 32%; *h.m.*: 37%). The power-goals matched worst with the power striving area (*n.m.*: 51%; *p.m.*: 18%; *h.m.*: 26%). Due to the low match for power strivings we decided to exclude power from further analysis. For the other motives we decided to weight the commitment measure with the raters’ match judgments. Therefore the initial commitment-scores were multiplied with the raters’ judgments (between 0 and 2).

Overall discrepancy between explicit motives and goals. As in Study 1 the absolute differences of standardized scores for each motivational domain were summed up in an index of overall discrepancy. Before standardizing the intimacy and affiliation goal-commitment scores were aggregated, as both represent aspects of relatedness and the striving for attachment.

Emotional well-being. The German version of Watson and Clark's (1988) Positive and Negative Affect Schedule (PANAS; Krohne, Egloff, Kohlmann, & Tausch, 1996) was used to assess positive affect (10 adjectives, i.e., *excited*, *active*) and negative affect (10 adjectives, i.e., *upset*, *distressed*). Participants were asked to indicate how they felt during the past few weeks and they rated each adjective on a 5-point response scale (1 = *very slightly or not at all* and 5 = *extremely*). Prior research attests to the reliability and validity of this measure (Crawford & Henry, 2004; Watson & Clark, 1988). In our present research Cronbach's Alpha was satisfactorily high (positive affect: α = .84; negative affect: α = .85).

Physical well-being. Participants were asked about the occurrence of physical symptoms in five different categories (cardiovascular symptoms, gastrointestinal symptoms, limb pains, sleep and appetite disorders, and headache) based on Emmons (1992). For each category they had to specify how often these symptoms occurred in the last months. They could choose between "several times a week" (4), "once a week" (3), "2-3 times per month" (2), "less frequent" (1), or "never" (0). The ratings were summed up for each participant in an index of physical symptoms.

Results

Descriptive Statistics, Correlations, and Preliminary Analyses

The explicit achievement motive was significantly correlated with the commitment to the achievement goal (r = .34, p < .01; see Table 9). Contrary to the finding in study 1 there

was no significant correlation between the explicit motive and goal-commitment in the affiliation area (r = .17, n.s.).

Table 9 Descriptive Statistics and Two-Tailed Correlations among Variables (Study 2)

	2	3	4	5	6	7	8	*M*	*SD*
1. Explicit Ach Motive	.05	.34**	.04	-.11	.24*	-.07	-.04	10.15	2.71
2. Explicit Aff Motive		.00	.17	-.15	.18	-.08	.06	11.68	2.93
3. Ach Goal			.29**	-.11	.25*	-.20	-.25*	4.68	2.72
4. Aff Goal				-.24*	.04	-.09	-.18	3.18	1.99
5. Overall Discrepancy					-.28**	.03	.26*	1.94	.97
6. PA						-.30**	-.24*	2.45	.62
7. NA							.37**	.83	.61
8. Physical Symptoms								7.00	4.26

Note. N = 93; Ach = Achievement; Aff = Affiliation; PA = Positive emotionality; NA = Negative emotionality; + $p < .10$. * $p < .05$. ** $p < .01$.

These results indicate, as in Study 1, that there is a relationship between motives and goals, but there is still variance for large discrepancies between the two concepts. Positive affect was positively related only to the explicit achievement motive (r = .24, $p < .05$) and to commitment to the achievement goal (r = .25, $p < .05$), whereas there was no relationship between any of the motive or goal variables with negative affect. For the physical well-being the relationship with the commitment to the achievement goal was significant (r = .25, $p < .05$).

The overall discrepancy was significantly related to two well-being measures: negatively to positive affect (r = -.28, p < .01) and positively to the amount of physical symptoms (r = .26, p < .05).

Predicting Well-Being from Discrepancies Between Motives and Goals

To predict well-being (positive affect, negative affect, and physical symptoms), we used the following regression approach (see Table 10 and 11): In the first step of hierarchical regression explicit motives (achievement and affiliation) were entered, followed by goal commitment (achievement and affiliation) in the second step. In Step 3 we regressed the well-being scores onto the overall discrepancy between explicit motives and goal-commitment.

There was no significant effect for negative affect for overall discrepancy and there was no evidence for a curvilinear relationship as in Study 1. For positive affect, these analysis yielded a significant effect for overall discrepancy, b = -.22, ΔR^2 = .05, $\Delta F(1, 87) = 4.72$, p < .05. Also the effects for physical symptoms turned out to be significant (b = .25, ΔR^2 = .06, $\Delta F(1, 87) = 6.08$, p < .05). Participants with a large (relative to small) overall discrepancy between explicit motives and goal commitment reported lower positive affect (pr = -.24, p < .05) and a higher amount of physical symptoms (pr = .23, p < .05).

Table 10 Hierarchical Regression of Positive Affect (Study 2)

Step	Variable	ΔR^2	*df*	ΔF	*b*[a]
1	Explicit Motives	.09	2, 90	4.26*	
	Achievement				.16
	Affiliation				.13
2	Commitment to Goals	.04	2, 88	2.12	
	Achievement				.15
	Affiliation				.071
3	Overall Discrepancy	.05	1, 87	4.72	-.22*
	Cumulative R^2	.17	5, 87	3.65**	

Note. [a] *b* is the standardized regression coefficient in the regression equation.

+ $p <$ .10. * $p <$ .05. *** $p <$ .001.

Table 11 Hierarchical Regression of Physiological Symptoms (Study 2)

Step	Variable	ΔR^2	*df*	ΔF	*b*[a]
1	Explicit Motives	.01	2, 90	.22	
	Achievement				.07
	Affiliation				.08
2	Strivings	.06	2, 88	3.01	
	Achievement				-.26*
	Affiliation				.04
3	Overall Discrepancy	.06	1, 87	6.08*	.25*
	Cumulative R2	.13	5, 87	2.59*	

Note. [a] *b* is the standardized regression coefficient in the regression equation. * $p <$ .05.

Brief Discussion

Study 2 found further evidence for the hypothesized connection between the overall motive-goal discrepancy and well-being. The results showed a negative linear relationship to positive affect indicating that participants with high discrepancies experienced less positive affect than participants with low discrepancies. Study 2 additionally revealed a linear relationship between discrepancies and impaired physical well-being. Participants with a high discrepancy between explicit motives and goals reported more physical symptoms than participants with small discrepancies.

Study 1 and Study 2 support our hypothesis about a relationship between discrepancies of explicit motives and goals and different well-being indices. A limitation of both studies is that well-being was measured retrospectively. Participants had to appraise how they felt and what symptoms they experienced during the last weeks. This procedure and the questionnaires we used are common in well-being research. Nevertheless, it has often been argued that more experience contingent measures as the Experience Sampling Method (ESM) yield better indicators of affect and well-being. Retrospective accounts of affect have shown to influence peak moments which are stronger represented in memory (Fredrickson, 2000; Kahneman, 1999; Wirtz, Kruger, Scollon, & Diener, 2003). Taking this into account we conducted an additional study where we employed a further well-being indicator which we measured in a more experience contingent way compared with the retrospective well-being assessments of Studies 1 and 2. In a longitudinal diary study we assessed positive and negative experiences in the participant's everyday lives.

Study 3

The participants of Study 3 were asked to keep a diary for four weeks in which they were to write down personally meaningful events each day. The purpose of the diary method was to obtain reports of the participant's experiences in their everyday environment to maximize the ecological validity of the well-being measure employed in Study 3. Furthermore, by assessing experiences shortly after they occurred, possible response biases should have minimized. We expected discrepancies between explicit motives and goals to be related to a larger amount of negative affective experiences and a lower amount of positive affective experiences.

Method

Participants and Overview of Procedure

Seventy-eight first-year students of psychology (51 women and 27 men, mean age = 27.8, *SD* = 6.5) enrolled at the University of Wuppertal took part in this study which was described as a study of the daily lives of college students. Participants received course credit for taking part in this study. Measures of explicit motives and personal strivings were administered to small groups ranging from 2 to 6 participants. Participants then received the instructions and test booklet for the Daily Events Questionnaire (DEQ) which they had to fill in every evening reviewing the passed day (retrospective diary). To keep track of participants' filling out the DEQ, they were supplied with four-page test booklets and asked to return the DEQ-forms every four days. The experimenter provided participants with new forms when they returned their old forms. This was done in order to monitor compliance with instructions and to encourage timely reporting.

Of the 78 participants who completed measures of explicit motives and personal strivings, 61 participants (78 percent) took part in the study of daily events and provided

at least 40 daily events. T-tests and chi-square statistics were run to compare participants who dropped out and those who completed the study on gender, age, explicit motives and strivings. No significant differences emerged.

Materials

Explicit motives. To assess explicit motives, participants completed the Achievement, Dominance, and Affiliation scales of the Personality Research Form (PRF, Jackson, 1974) as in Study 2. Internal consistencies were acceptable for the three scales (achievement: α = .58; dominance: α = .77; affiliation α = .81).

Personal goals. As in Study 1, participants were asked to list up to 15 personal goals according to the standard procedure described in Emmons (1986). In the present sample, participants listed a mean of *M* = 12.68 personal strivings (*SD* = 2.59). Strivings were scored by two trained coders for achievement, power, and affiliation according to instructions provided by Winter (1991). Category agreement ranged from .81 to .89, and discrepancies were discussed until resolved. Because the number of strivings generated by participants ranged from 5 to 15, raw scores for the number of strivings (achievement: *M* = .65, *SD* = .75; power: *M* = 2.71, *SD* = 1.96; affiliation: *M* = 2.17, *SD* = 1.35) were transformed to percentage scores (e.g., relative number of achievement strivings = 100 $\times$ number of achievement strivings / total number of strivings, for descriptive statistics see Table 6).

Overall discrepancy between explicit motives and strivings. As in the previous studies, an index of overall discrepancy between explicit motives and personal strivings was derived by aggregating the absolute differences of standardized motive scores and standardized scores of personal strivings across the three motive domains.

Positive and negative affect in daily experiences. The Daily Events Questionnaire (DEQ) was given to participants to assess positive and negative affect within their daily

experiences. Participants were instructed to sit down each night and to think about events of the day which seemed meaningful and stand out in their minds (c.f. Woike, 1995, p. 1083). Participants were asked to record at least one and up to four events each day over a period of four weeks. Participants reported a mean number of 84 events over the four week period (*SD* = 25.3). Daily events were scored for affect-laden events. A daily event was categorized as affect laden if it contained at least one word referring to a specific affect, such as „feeling happy“ or „being angry“. Furthermore the valence of each event was determined; positively and negatively toned affect-laden events were discerned. Agreement between coders on this variable was 86 %. The total number of positive affective experiences and negative affective experiences was corrected for the total number of events by transforming raw scores to percentage scores (e.g., relative number of positive experiences = 100 × number of positive experiences / total number of events, see Table 6 for descriptive statistics).

Results

Descriptive Statistics, Correlations, and Preliminary Analyses

Table 12 shows that explicit motives were largely unrelated to personal goals. Explicit achievement motivation was unrelated to achievement goals (r = .02, ns.) and explicit affiliation motivation was unrelated to affiliation goals (r = -.01, ns.). As an exception, explicit power motivation was significantly related to power goals (r = .36, p < .05). The scores for overall discrepancy resulting from these relationships were of similar magnitude as in Studies 1 and 2. Table 12 also shows that explicit motives and personal strivings were not significantly related to positive experiences or negative experiences.

Table 12 Descriptive Statistics and Two-Tailed Correlations among Variables (Study 3)

	2	3	4	5	6	7	8	9	*M*	*SD*
1. Explicit Ach	-.04	.06	.02	.13	-.06	-.13	.04	-.03	9.83	2.56
2. Explicit Pow		.02	.08	.36**	-.07	.05	-.23+	-.11	6.84	3.64
3. Explicit Aff			-.15	.07	-.01	-.08	.23+	.09	10.77	3.79
4. Ach Goals				-.24+	-.05	.26+	.12	-.07	.05	.06
5. Pow Goals					.11	-.05	-.09	-.12	.19	.14
6. Aff Goals						.02	.09	.07	.17	.09
7. Overall Discrep.							-.25+	-.09	3.09	1.43
8. Pos. Experiences								.31+	.10	.07
9. Neg. Experiences									.09	.06

Note. N = 61. Goals are expressed in pecentages. Ach = Achievement; Pow = Power; Aff = Affiliation; Discrep. = Discrepancy; Pos. = Positive; Neg. = Negative

+ $p < .10$. * $p < .05$. ** $p < .01$.

Predicting Affective Experiences from Discrepancies Between Motives and Goals

The relative amount of affective experiences (positive experiences and negative experiences) was analyzed by employing the following hierarchical regression approach: explicit motives (achievement, power and affiliation) were entered in the first step of hierarchical regression, followed by personal goals (achievement, power and affiliation) in Step 2. In Step 3, the index of overall discrepancy between explicit motives and goals was entered in the regression equation to test whether discrepancy can predict mood over and beyond the effect of motives and strivings. For negative

experiences, these analyses did not yield any significant effect of overall discrepancy (*b* = -.01, se_b = .01, *t*(53) = -.55, ns.). For positive affective experiences, the regression analyses yielded a significant effect for overall discrepancy, *b* = -.02, se_b = .01, ΔR^2 = .07, *t*(53) = 2.23, *p* < .05 (see Table 13). Participants with a large (relative to small) overall discrepancy between explicit motives and personal goals reported fewer positive affective experiences over the four week period following the assessment of motives and strivings, *pr* = -.29, *p* < .05.

Table 13 Hierarchical Regression of Positive Experiences (Study 3)

Step	Variable	ΔR^2	*df*	ΔF	*b*[a]
1	Explicit Motives	.11	3, 57	2.29+	
	Achievement				.02
	Power				-.23+
	Affiliation				.24+
2	Strivings	.04	3, 54	.79	
	Achievement				.17
	Power				.03
	Affiliation				.11
3	Overall Discrepancy	.07	1, 53	4.97	-.28*
	Cumulative R^2	.22	7, 53	2.11+	

Note. [a] *b* is the standardized regression coefficient in the regression equation.

+ *p* < .10. * *p* < .05. *** *p* < .001.

Brief Discussion

Study 3 was designed to test whether discrepancies between explicit motives and goals are connected with the experience of positive and negative affect in daily experiences. The results show that high discrepancies are associated with a lowered amount of positive affective experiences in everyday life. With this more event contingent measure (compared with the retrospective self-report well-being measures from Study 1 and Study 2) it was possible to provide further evidence for a relationship between discrepancies between explicit motives and goals and well-being.

It is important to note that in Study 3 the discrepancy between explicit motives and goals was assessed before participants reported affective experiences in their diaries. Yet, motive-goal discrepancies predicted affective experience during the following four weeks. Still, the implications concerning causality, that is, motive-goal discrepancies being the cause of reduced well-being, are restricted as our design did not allow controlling for previous affective experience. It could be that the participants who reported a lowered rate of positive experiences had only few positive experiences before the diary period and before the assessment of goals and explicit motives. Hence one still can argue that it is possible, that discrepancies between explicit motives and goals are a consequence of reduced well-being or that the relationship between them is reciprocal.

The aim of Study 4 was to enlighten the direction of causal influence between discrepancies and well-being. With a longitudinal design it was possible to test both possible directions of influence: On one hand whether well-being has an impact on the overall discrepancy between explicit motives and goals, on the other hand whether reduced well-being has an impact on discrepancies between explicit motives and personal goals.

Study 4

At the beginning of the semester, first-year university students filled in questionnaires assessing explicit motives, goals for the first months at the university, and well-being. At the end of the semester, 13 weeks later, their well-being and the importance of the goals were assessed again.

We investigated whether it is possible to predict students' well-being over a one-semester period with discrepancies between their explicit motives and goals. We also compared this model with the other possible causality direction. Thus we additionally tested, whether it is possible to predict the motive-goal discrepancy at the end of a semester by affect measured at the beginning of the semester.

Method

Participants and Procedure

Participants were students enrolled in their first semester of psychology at the University of Zurich. In the second week of the semester (T1), at the end of an introductory course to statistics, they received a questionnaire and written instructions asking them to complete the questionnaire at home and to bring it back to the course a week later. In exchange for the completed questionnaire they then received an affirmation for extra credit points. Additionally they were informed that the study would be continued with a second questionnaire some time later. For this reason, participants were asked to provide their email address. Those who mentioned their email address were contacted after 13 weeks at the end of semester (T2). They received a link via email which directed them to a web-questionnaire.

Sample. Out of the 400 questionnaires distributed, 289 were completed and returned (response rate 72%). Eighty-one percent of the respondents provided their

email-address (*N* = 234). The second questionnaire was filled out by 149 participants (response rate 64 %). The data from the two sessions were merged via a code which the participants specified following a given key. It was possible to match the two questionnaires together for 122 participants (42 % of the completed questionnaires from T1). A comparison between these participants and participants who only completed the first questionnaire showed no differences in almost all variables (demographic variables, emotional and physiological well-being, explicit motives, goal-commitment and overall discrepancy). A significant difference was only found for the explicit power motive. Participants from whom we had both questionnaires (*M* = 6.57, *SD* = 3.53) scored lower on the explicit power motive than the other participants (*M* = 7.55, *SD* = 3.75), $F(1,288) = 5.06$, $p < .05$.

The following analyses were performed with the 122 participants (107 women, 15 men) from whom we received completed data sets. Their average age was 24 years (*SD* = 7.3).

Time 1 (T1) Measures

Explicit motives. Like in the studies 2 and 3, explicit motives were assessed with the Personality Research Form (PRF, Jackson, 1974). Internal consistencies of the scales were acceptable (achievement: α = .62; dominance: α = .78; affiliation α = .71).

Personal goals. In Study 4, personal goals were assessed using a nomothetic questionnaire. It contained fifteen goals students are likely to strive for during the first period at their studies. Five goals belonged to the achievement domain (e.g. *I want to bring high performance*.), five to the affiliation domain (e.g. *I want to set up a big circle of friends*.), and five to the power domain (e.g. *in a study group I want to have a say*.). This goal-questionnaire was constructed in correspondence to the three motivational domains and widely pretested on student samples. Participants were asked to rate for

each of the fifteen goals how much they are committed to strive for this goal on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). The ratings were averaged for the five goals of each domain (achievement goals α = .72; affiliation goals α = .81; power goals α = .66).

Overall discrepancy between explicit motives and goals. As in the other studies, an index of overall discrepancy between explicit motives and goals was computed by aggregating the absolute differences of standardized motive and goal scores for each motivational domain.

Emotional well-being. Emotional well-being was measured as in Study 2 by employing the Positive and Negative Affect Schedule (PANAS, Watson & Clark, 1988; German version by Krohne et al., 1996). In this study Cronbach's alpha was sufficiently high (for positive affect .81; for negative affect .80).

Physical well-being. The same questionnaire as in Study 2 was used to assess physical well-being. The participants were asked about the occurrence of physical symptoms in different categories wherefrom the ratings were summed up for each participant. As a second indicator for physical well-being we additionally measured drug intake. Participants were asked to indicate for analgetic drugs, tranquilizing drugs, and stimulating drugs how often they took them in the last weeks. They could also write down other drugs they took. For each drug they were asked about the frequency of intake with five possible categories (*several times a week*, *once a week, 2-3 times a month, rarely, never*). As physical symptoms and drug intake were significantly correlated (r = .32, p < .01) the two scores were averaged in an index of physical well-being.

Time 2 (T2) Measures

Well-being. Within the web-questionnaire administered at the end of semester the participants first filled in the measures for emotional and physical well-being from T1.

Overall discrepancy between explicit motives and goals. We measured the participants' personal goals at T2 with the same list of fifteen study related goals used at T1. Participants were asked to rate the importance of each goal on a 7-point scale (1 = not at all, 7 = very much). The overall discrepancy between explicit motives and goals at T2 was calculated with the goal importance index from T2 and the explicit motive scores from T1. We did not assess the explicit motives again because they are conceptualized as relatively stable aspects of a person's self-concept. Absolute differences of standardized explicit motive scores (T1) and goal importance scores (T2) were summed up for each motivational domain in an index of motive-goal discrepancy at T2.

Results

Descriptive Statistics, Correlations, and Preliminary Analyses

Table 14 reports the means, standard deviations, and zero-order correlations of the explicit motives and the goal indices of T1 and T2. The explicit motives were significantly correlated with the commitment to goals for both measurement times ($p < .01$). The different goals (achievement, power, and affiliation) by themselves were significantly correlated within each measurement time and the correlations of goals between T1 and T2 were also significant. Table 15 shows the correlations of emotional and physical well-being with overall discrepancies of T1 and T2, explicit motives, and goals from both measurement times. The overall discrepancy from T1 was not significantly correlated with the well-being variables of T1. However, there was a

significant negative correlation with positive affect at T2 (r = -.26, p < .01) and a positive correlation with negative affect at T2 (r = .20, p < .05).

The Impact of Time 1 Discrepancy on Time 2 Well-Being

The impact of T1 discrepancy on T2 well-being variables was tested with hierarchical regression analyses. In the first step, T1 well-being variables were entered in the regression equation. In the second and third step, T1 explicit motives and goals were entered to control for the zero-order relationships between motives, goals, and well-being. In the fourth step, the T1 index of overall discrepancy between explicit motives and goals followed. The overall discrepancy between explicit motives and goals at T1 significantly predicts positive affect at T2, (b = -.18, ΔR^2 = .03, $\Delta F(1, 113) = 5.68$, p < .05.), negative affect at T2 (b = .19, ΔR^2 = .03, $\Delta F(1, 113) = 4.72$, p < .05) and physical well-being (b = -.18, ΔR^2 = .03, $\Delta F(1, 108) = 5.56$, p < .05). As an example Table 16 shows the results for T2 positive affect.

The Impact of Time 1 Well-Being on Time 2 Discrepancy

The other direction of influence was also tested by a hierarchical regression analysis. In the first step, the T1 overall discrepancy between explicit motives and goals was entered, followed by T1 well-being variables. Neither the emotional well-being indices nor the physical well-being index of T1 had an impact on T2 overall discrepancy (ΔR^2 = .00, ΔF < 1 for positive affect and physical well-being; ΔR^2 = .01, $\Delta F(1, 116) = 1.9$, p = .17 for negative affect).

Table 14 Descriptive Statistics and Two-Tailed Correlations among Explicit Motives and Goals (Study 4)

Variable	2	3	4	5	6	7	8	9	10	11	*M*	*SD*
1. Explicit achievement motive	.25**	-.11	.28**	.13	-.07	.29**	.18*	-.07	-.12	.01	10.02	2.66
2. Explicit power motive		.16	.17	.29**	.12	.13	.29**	.07	-.14	-.09	6.57	3.53
3. Explicit affiliation motive			.00	.23**	.53**	.13	.15	.41**	-.25**	-.141	11.73	2.89
4. T1 achievement goals				.37**	.21*	.57**	.25**	.09	-.06	-.02	4.73	.96
5. T1 power goals					.41**	.32**	.41**	.26**	-.24**	-.20*	4.16	.85
6. T1 affiliation goals						.20*	.34**	.60**	-.16	-.26**	4.36	1.20
7. T2 achievement goals							.53**	.34**	-.21*	-.08	4.79	.74
8. T2 power goals								.58**	-.27**	-.24**	4.23	.67
9. T2 affiliation goals									-.25**	-.30**	4.49	.85
10. T1 overall discrepancy										.41**	2.67	1.21
11. T2 overall discrepancy											2.81	1.29

Note. N = 122; T1 = Time 1; T2 = Time 2. * $p < .05$. *** $p < .001$.

Table 15 Correlations of Emotional and Physical Well-Being Variables with Explicit Motives, Goals, and Discrepancies (Study 4)

Variable	T1 pa	T1 na	T1 pwb	T2 pa	T2 na	T2 pwb
T1 overall discrepancy	-.12	.09	.04	-.26**	.20*	-.15
T2 overall discrepancy	-.02	-.06	.07	-.08	-.10	-.01
Explicit achievement motive	.28**	-.06	-.04	.31**	.01	.06
Explicit power motive	.20*	-.09	.01	.29**	-.06	-.07
Explicit affiliation motive	.10	-.04	-.05	.03	.04	-.13
T1 achievement goals	.13	.12	.00	.13	-.02	.06
T1 power goals	.03	.15	-.03	.08	.03	.07
T1 affiliation goals	.02	.10	-.08	-.05	.10	-.16
T2 achievement goals	.17+	.09	-.01	.26**	.03	.09
T2 power goals	.17+	.13	-.23*	.28**	.06	-.09
T2 affiliation goals	.15	.07	-.15	.09	.10	-.15

Note. N = 122; T1 = Time 1; T2 = Time 2; pa = positive affect; na = negative affect; pwb = physical well-being. + p < .10. * p < .05. ** p < .01.

Table 16 Hierarchical Regression of Positive Affect T2 (Study 4)

Step	Variable	ΔR^2	*df*	ΔF	*b*[a]
1	Positive Affect T1	.33	1, 120	58.59***	.50***
2	Explicit Motives T1	.05	3, 117	3.17*	
	Achievement				.10
	Power				.16+
	Affiliation				-.03
3	Goals T1	.01	3, 114	.28	
	Achievement				.01
	Power				.00
	Affiliation				-.08
4	Overall Discrepancy T1	.03	1, 113	5.68*	-.18*
	Cumulative R^2	.41	8, 113	9.92***	

Note. [a] *b* is the standardized regression coefficient in the regression equation.

+ $p < .10$. * $p < .05$. *** $p < .001$.

Brief Discussion

The results of Study 4 support our assumptions concerning the impact of discrepancies between explicit motives and goals on well-being in a longitudinal design. It was possible to significantly predict positive affect, negative affect and physical well-being from discrepancies between explicit motives and goals measured more than three months earlier while controlling for well-being variables at T1. As it was not possible to predict the T2 discrepancy with well-being variables measured at T1, Study 4 suggests that the relationship between discrepancies and well-being is not reciprocal. These results provide broad evidence for a negative impact of discrepancies between explicit motives and goals on well-being. The effect occurred in the hypothesized direction for all the diverse well-being variables and it remained stable after controlling for the zero order relation of goals and motives on well-being.

Within T1, discrepancies between explicit motives and goals and well-being variables were not related. This can be due to the fact that the participants rated goals for their studies just at the beginning of their first semester at the University. A discrepancy between these goals and explicit motives is at this moment just arising. The results suggest that the impact on well-being at this point does not last long enough. The impact of the discrepancy on well-being may be developed in the following weeks and months.

General Discussion

Summary and Discussion of the Results

The present studies significantly extend the theoretical and empirical basis regarding a central issue in current motivation psychology, namely, the effects of motive-goal discrepancies on psychological and physical well-being. More specifically, they provide

support for a proposition that has not previously been tested. As hypothesized, in Studies 1 and 2 discrepancies between *explicit motives* and goals were accompanied by lowered well-being. In Study 1 participants with high discrepancies experienced more negative affect than participants with low or medium discrepancies, in Study 2 high discrepancy participants experienced less positive affect and more physical symptoms. Study 3 confirmed these results with a different method of measuring affective experience. More concretely, in study 3 participants described their daily experiences in an open answering format with individual reports, which were coded with respect to affective content, instead of reporting retrospectively on their mood during the past few weeks on standardized mood scales. It was shown that high discrepancies were connected with a low amount of positive everyday affective experiences. As such, these results were obtained irrespective of the time and exact method of affect measurement: self-report affect adjective lists at one and the same time as the motive and goal measurement (Studies 1 and 2) or consecutively keeping a diary during four weeks after the motive and goal measurement (Study 3). As the first three studies only allow conclusions about an existing relationship between discrepancies and well-being, Study 4 was designed longitudinally to explore the direction of influence. It was shown that first semester students who at the beginning of the semester were committed to goals which were discrepant from their explicit motives, experienced less positive and more negative affect thirteen weeks later than students whose goals were congruent with their explicit motives. Additionally, the former reported worse physical well-being than the latter. A test of the competing causal model – well-being variables at the first measurement time predicting motive-goal discrepancies at the second measurement time – did not yield an effect. It should be emphasized that the four studies support our assumptions about a deleterious effect of discrepancies between explicit motives and goals on well-being

with different designs (cross sectional design, diary method, and longitudinal design) and with different goal, motive, and well-being assessment methods.

One might object that the discrepancy between explicit motives and goals could be mirrored in a discrepancy between implicit motives and goals. That is, the goals that are not in line with the explicit motives of the person are discrepant at the same time from their implicit motives leading to a deterioration of well-being. A precondition for this constellation, however, would be that implicit and explicit motives are highly correlated which is not the case (e.g., McClelland et al., 1989; Spangler, 1992). Nevertheless, in future studies one might look at discrepancies between implicit motives and goals simultaneously to determine the relative impact of implicit versus explicit motive goal discrepancies in predicting well-being.

How Do Discrepancies Between Explicit Motives and Goals Affect Well-Being?

In our studies we provide evidence for the postulated relationship between motive-goal discrepancy and diverse well-being variables. Our data do not tell, however, which mechanisms mediate this relationship. Regarding the discrepancy between the *implicit motive* system and goals, a mediating influence of the affective experience during goal-directed behavior is postulated. A decrease in well-being that accompanies discrepancies between goals and implicit motives is seen as a consequence of implicit motive frustration (Baumann, et al., 2005). Laying on McClelland's (1985) conception of an emotion driven implicit motive system, researchers (e.g., Brunstein et al., 1998) argue that positive emotions emerge when implicit motives are satisfied, that is, when motive-specific activity incentives are savored (e.g., "feeling proud from doing something better" in the achievement domain; McClelland et al., 1989; p. 693). On the other hand negative emotions are a direct consequence of the frustration of implicit motives, that is, the lack of enjoying motive-specific incentives. Striving for goals that

are discrepant to one's implicit motives bears the risk of frustrating one's implicit motives by depriving the individual of coming across motive-specific incentives.

The situation is different with the discrepancy between explicit motives and goals. Explicit motives are assumed to be cognition based and as this "cold" representations of a person's needs and preferences. Seemingly, affect does not play an important role with explicit motives. Nevertheless, results from a study conducted by Brunstein and Schmitt (2004) suggest a link between the explicit motive system and the experience of emotions. They found that participants with a high explicit achievement motive receiving feedback for their performance report more task enjoyment than participants with a low explicit achievement motive. This result suggests that there might be a link between the satisfaction of explicit motives and at least the reported experience of positive emotions. During the striving for goals which are discrepant from explicit motives these positive emotions are not experienced. This explanation fits in with the results of the present research concerning positive affect. In three studies the discrepancy between explicit motives and personal goals was related to either decreased positive affect (Studies 2 and 4) or a low amount of positive experiences (Study 3).

Other theories convey further converging arguments for the assumption that personal goals which are discrepant from a person's self-concept impair well-being and provide ideas about mechanisms that might mediate these deleterious effects of discrepancies on well-being. One of them can be drafted from a functional perspective on explicit motives and goals. According to the Semantic Procedural Interface Model of the Self (Hannover, Pöhlmann, Springer, & Roeder, 2005) activated self-knowledge benefits behavior that is in accord with that self knowledge. In a study by Holland, Roeder, van-Baaren, Brandt, and Hannover (2004) participants primed for an independent self-concept spatially distanced themselves from other persons whereas participants who were primed for an interdependent self-concept placed themselves

close to other persons. Explicit motives as a part of a person's self-concept accordingly activate behavior which is in accord with them. When additionally a person is pursuing a goal which is discrepant from the explicit motive a behavioral conflict must be a consequence. The negative impact of analogue behavioral conflicts on well-being was investigated and documented by numerous studies within goal-conflict and behavior-conflict research respectively (e.g. Emmons & King, 1988; Kehr, 2003; Perring, Oatley, & Smith, 1988; Riediger & Freund, 2004; Sheldon & Kasser, 1995).

Another mechanism which could be responsible for the impact of discrepancies between explicit motives and goals on well-being can be derived from dissonance research. Dissonance theory (Festinger, 1957) postulates that two self-relevant cognitions which are in opposition to each other results in cognitive dissonance. Dissonance is associated with psychological discomfort and physiological tension. This nature of cognitive dissonance as a negative intrapersonal state was affirmed in several studies (Croyle & Cooper, 1983; Elkin & Leippe, 1986; Elliot & Devine, 1994; Fazio & Cooper, 1983). As an example, participants in an experiment by Elkin and Leippe (1986) displayed elevated galvanic skin responses (GSRs) right after dissonance induction. Studies by Elliot and Devine (1994) confirmed the psychological component of cognitive dissonance. Participants in a dissonant situation reported more unpleasant feelings and discomfort than participants in a control group with no dissonance. When goals and explicit motives are discrepant, this constellation exactly represents a dissonance creating situation insofar as goals and explicit motives represent two self-relevant cognitions in opposition to each other: explicit motives rooted in the self-concept and goals as self-referenced intended end-states (Kuhl, 1994). One might speculate that persons aware of a discrepancy between a personal goal and their explicit motives will experience the kind of negative emotional state and physiological arousal that accompanies cognitive dissonance. If such a state lasts over a longer

period of time reductions in psychological and physical well-being is a likely consequence.

Why Do People Strive for Discrepant Goals?

In our studies we did not investigate the anteceding conditions of motive-goal discrepancy, which is an issue of not only theoretical but also practical relevance. There are theoretical approaches on goal striving that might give a first idea on this issue. For example, goal theories, such as the self-concordance model (Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001) address the question about the phenomenological reasons for the pursuit of particular goals. Based on self-determination theory (Deci & Ryan, 1985, 1991), the self-concordance model postulates that goals can differ concerning their degree of integration in a person's self. People can strive for a goal because of strong interest and enjoyment (intrinsic motivations) or because of underlying values and convictions (identified motivation). Such goals are self-concordant. Other less integrated reasons are internal sanctions as the feeling of guilt (introjected motivation). The least integrated form of goal striving is when a goal is pursued because of environmental pressures. Such striving reasons are labeled external. We assume, that the more a goal is pursued because of external reasons the grater is the possibility that the goal is discrepant from a persons explicit motives.

Limitations and Future Directions

The reported studies were all conducted on student samples. Further research will have to investigate whether the observed findings also apply to other age groups or groups of persons within different life conditions. Furthermore the well-being measures used in the studies depended entirely on self-reports. It would be feasible to replicate the relationship of discrepancies between explicit motives and goals with well-being by

more objective indicators of emotional and physical well-being (e.g. physiological indicators or health center visits).

Although longitudinal Study 4 allows concluding that discrepancies between explicit motives and goals affect well-being, we still only measured participant's goals, explicit motives and well-being without any influence on these variables. An experimental design where discrepancies between explicit motives and goals would be manipulated by assigning goals to participants with different explicit motive dispositions would even better allow for the conclusion about a causal relationship.

Conclusion

Previous research has demonstrated that discrepancies between implicit motives and personal goals are related to well being (Baumann et al., 2005; Brunstein et al., 1998). With the studies reported in this article we extended this line of research and provided evidence for a relationship between discrepancies between explicit motives and personal goals and well-being. Both forms of discrepancies, that is, the discrepancy between implicit motives and goals on the one hand, and discrepancies between explicit motives and goals on the other hand, have a negative impact on well-being. Hence, implicit motives, explicit motives and goals represent a trias of distinct self-regulatory instances that ideally should be in line with each other.

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Curriculum Vitae

Education

2003 – 2007	University of Zurich, Department of Psychology, Psychology of Motivation, Volition, and Emotion, doctoral candidate
1997 – 2003	University of Zurich, Department of Psychology, licentiate (lic. phil.) in General and Developmental Psychology

Employment History

Since 2003	Research assistant at the Department of Psychology, Psychology of Motivation, Volition, and Emotion, University of Zurich