



TECHNISCHE UNIVERSITÄT MÜNCHEN

Lehrstuhl für Psychologie

The relevance of mental images:

**Personal visions bridge the gap between implicit motives
and personal goals**

Alexandra Strasser

Vollständiger Abdruck der von der Fakultät für Wirtschaftswissenschaften der Technischen Universität München zur Erlangung des akademischen Grades eines Doktors der Philosophie

genehmigten Dissertation.

Vorsitzender: Univ.-Prof. Dr. Michael Suda
Prüfer der Dissertation: 1. Univ.-Prof. Dr. Hugo M. Kehr
2. Univ.-Prof. Dr. Oliver C. Schultheiss,
Friedrich-Alexander-Universität Erlangen-Nürnberg

Die Dissertation wurde am 24.08.2011 bei der Technischen Universität München eingereicht und durch die Fakultät für Wirtschaftswissenschaften am 19.10.2011 angenommen.

Der einzig wahre Realist ist der Visionär.

(Federico Fellini)

Dedication

To my mom and my dad, Rosina and Günther Mader,
who fostered my curiosity about life,
and who taught me to turn adversity into challenge.

To my beloved husband, Matthias,
who has always believed in me!

Acknowledgements

After two and a half years of hard work I managed to finish this dissertation and I could not have done this alone: The support of many has been vital for the production of the very pages you are reading now. Although I cannot thank everyone who deserves it (this would require a complete book, I fear, maybe even a whole series), I would like to mention at least some.

First, I would like to thank my supervisors: Hugo Kehr, who with a sharp eye for language and tone kept both my feet on the ground whenever my head was in the clouds for too long but on the other hand encouraged me to think outside the box; and Oliver Schultheiss, who with never-fading optimism, infinite enthusiasm for motivational psychology and vast reserves of energy inspired me to at least try to transform the mundane into the extraordinary. They were always at hand with help and advice for me! Thank you!

Second, the help of colleagues from my department in the form of new insights, a shoulder to lean on, or a wine or two soften the pain has been very important for me: Anja, Friederike, Ina, Maika, Hugo, Jörg, Kaspar, Matthias, Stefan, Susi, Elizabeth, Dorena, Matthias, Claudia, Tini, and Carmen Lieske. You managed, for shorter or longer periods of time, to keep work enjoyable for me. I thank Ernesto Vanoni who taught me programming for experiments and the student assistants who supported me with data collection. I would like to thank Anja Schiepe-Tiska, for sharing all the stressful but also the various joyful moments during the period of my graduation, for fruitful discussions, and for pushing me forward from time to time. Moreover, I would like to thank Kaspar Schattke for his very helpful comments and discussion about my life plan. I am especially grateful to my colleagues in the research project "The motivating power of visions", Maika Rawolle and Hugo Kehr. Maika has not only always been enthusiastic about new ideas, but also supported me by putting them into action right away. With her never-fading optimism and energy, she significantly contributed to the success of this research.

Third, in the spring of 2011, I had the opportunity to spend some time in the Netherlands at the Rotterdam School of Management on invitation of Daan Stam, Wendy van Ginkel, and Steffen Giessner. They shared their knowledge, their network, a lot of inspiring ideas, and some funny evenings with me and Matthias during this period! I consider them as dear friends and will always be grateful for the great time we had.

Fourth, I would like to thank my family. My parents, Rosina and Günther, who allowed me to do whatever I wanted, believed in me and supported me anyway, my brother Johannes, my sister Manuela, and my sister-in-law Alexandra, who at all times managed to spread laughter and happiness.

Most of all, I would like to thank Matthias. He managed to be the prominent reason for my happiness in the last five and a half years and also proved to be a brilliant proofreader, listener, and discussant!

Moreover, I thank the German Research Foundation for funding this research (Grant KE 725/5-1 awarded to Hugo Kehr and Maika Rawolle). Without this grant I would not have been able to conduct this research.

Last but not least I want to thank the participants who sacrificed their spare time to contribute to my research project.

Munich, August 2011

Content

List of Tables	VI
List of Figures.....	VII
List of Abbreviations	IX
1 Abstract.....	1
2 Introduction	3
3 Theoretical Concepts	6
3.1 Two-System-Approaches of Motivation.....	6
3.1.1 Implicit and explicit motives – a two-system-approach.....	7
3.1.2 Goals as a distinct class of explicit motives	10
3.1.3 Independence and interactions between implicit and explicit motivational systems.....	13
3.1.4 Alignment between implicit and explicit motivational systems.....	16
3.1.4.1 <i>Referential process and its measurements</i>	18
3.1.4.2 <i>Imagine the future: strategic use of referential processing and its motivational benefits</i>	20
3.1.4.3 <i>Referential competence as a link between the implicit and the explicit motive system</i>	22
3.2 Visions – an Overview	23
3.2.1 Vision as distinct construct	23
3.2.2 Visions and related constructs	25
3.2.3 Effects of visions in organizational contexts.....	26
3.2.4 Effects of the imagined future in individual contexts.....	30
3.3 Integration and Present Research.....	33

4	Present Research	38
4.1	Hypotheses.....	38
4.1.1	Part 1 – Delineating the construct of personal visions.....	38
4.1.2	Part 2 – Conceptual and empirical differences between personal visions and personal goals.....	38
4.1.3	Part 3 – Closing the gap between implicit motives and personal goals	43
4.1.4	Part 4 – Exploring goal progress of vision-derived goals in a longitudinal design	46
4.2	Method.....	49
4.3	Results.....	69
4.3.1	Results Part 1 – Delineating the construct of personal visions	69
4.3.2	Results Part 2 – Conceptual and empirical differences between personal visions and personal goals.....	72
4.3.3	Results Part 3 – Closing the gap between implicit motives and personal goals	82
4.3.4	Results Part 4 – Exploring goal progress of vision-derived goals in a longitudinal design	88
5	Discussion.....	97
5.1	Discussion Part 1 – Delineating the Construct of Personal Visions	97
5.2	Discussion Part 2 – Conceptual and Empirical Differences Between Personal Visions and Personal Goals	99
5.3	Discussion Part 3 – Closing the Gap Between Implicit Motives and Personal Goals	105
5.4	Discussion Part 4 – Exploring Goal Progress of Vision-Derived Goals in a Longitudinal Design.....	110
5.5	Implications for Practice.....	111

5.6	Limitations and Future Directions.....	113
5.6.1	Part 2 – Conceptual and empirical differences between personal visions and personal goals.....	113
5.6.2	Part 3 – Closing the gap between implicit motives and personal goals	114
5.6.3	Linking Part 2 and 3.....	116
5.6.4	Part 4 – Exploring goal progress of vision-derived goals in a longitudinal design	117
5.7	Conclusion.....	118
6	Zusammenfassung [Summary]	119
7	References.....	122
	Appendix A – Invitation Vision Study.....	145
	Appendix B – Examples of Personal Visions and Personal Goals	146
	Appendix C – Vision Script.....	148
	Appendix D – Vision Attribute and Effect Scale (VAES).....	150
	Erklärung.....	154

List of Tables

Table 1. *Overview of the Parts of the Study, Measurements, and Hypotheses*

Table 2. *Overview and Brief Description of the Categories Established for the Different Vision Contents and Coding Frequency*

Table 3. *Correlations for Referential Activity (RA_{low} and RA_{high}), Abstraction (AW), Imagery (labeled 'pictorial' in VAES), Motivation (labeled 'motivates' in VAES), and Positive Affect (VAES) in Part 2*

Table 4. *T-tests Comparing the Goal- to the Vision-group on Three Psychological Processes*

Table 5. *T-tests Comparing the Goal- and the Vision-Group on 10 Attributes and 11 Effects*

Table 6. *T-tests Comparing the Goal- to the Vision-Group on 4 Attributes and 6 Effects*

Table 7. *Correlations for all Variables in Part 3*

Table 8. *Correlations for Subjective (measured with the Incentive Theme Scale) and Objective Motive Content (measured with Winter's scoring system) of the Personal Vision, Implicit and Explicit Motives in Part 3*

Table 9. *Correlations for all Variables in Part 4*

Table 10. *Effect Coefficients for the Path Model in the Power Domain*

Table 11. *Effect Coefficients for the Path Model in the Achievement Domain*

Table 12. *Effect Coefficients for the Path Model in the Affiliation Domain*

List of Figures

Figure 1. Information-Processing Model of Implicit and Explicit Motivation.

Figure 2. Process Analysis of Word-Reading and Color-Naming Tasks.

Figure 3. Overview of two Different Mediation Models Concerning the Influence of Imagery on Perceived Charisma.

Figure 4. Adapted Information-Processing Model of Implicit and Explicit Motivation.

Figure 5. Mediation Hypothesis. Mediation of the influence of imagery (independent variable) on motivation (dependent variable) through positive affect (mediator).

Figure 6. Mediation Hypothesis (indirect effect). Mediation of the motive-congruence of the vision-derived goals (dependent variable) through the motive content of the personal vision (mediator).

Figure 7. Hypothesized Overall Model. Motive content of vision derived-goals is predicted by the participant's implicit motives. This influence is mediated through the motive content of personal vision. The resulting motive content of vision-derived goals predicts the goal progress at Session 2. Goal progress, in turn, predicts participants' positive mood at Session 2.

Figure 8. Scores for Low Referential Activity (z-scores) as a Function of Age and Group (Vision vs. Goal).

Figure 9. Mediation Model for the Vision-Group. Mediation of the influence of imagery (independent variable) on motivation (dependent variable) through positive affect (mediator).

Figure 10. Mediation Model for the Goal-Group. Mediation of the influence of imagery (independent variable) on motivation (dependent variable) through positive affect (mediator).

Figure 11. Score for Abstraction (z-scores) as a Function of Age and Group (vision vs. goal).

Figure 12. Two-Variable Scatter Plot Showing the Correlations Between Implicit Motives and Motive Content of Personal Visions for the Three Motive Domains.

Figure 13. Mediation Model for the Power Motive. Mediation of the power motive-congruence of the vision-derived goals (dependent variable) through the power content of the personal vision (mediator).

Figure 14. Residual Changes in Hedonic Tone (z-scores) as a Function of Implicit Power Motive and the Power Content of the Personal Vision.

Figure 15. Overall Model for Goal Progress and Positive Mood in the Power Domain.

Figure 16. Overall Model for Goal Progress and Positive Mood in the Achievement Domain.

Figure 17. Overall Model for Goal Progress and Positive Mood in the Affiliation Domain.

Figure 18. Moderated Mediation Hypothesis: The Influence of Imagery on Motivation.

List of Abbreviations

a) General abbreviations

AW	abstraction, abstract words
CEST	cognitive-experiential self theory
fMRI	functional magnetic resonance imaging
<i>gAch</i>	achievement motive content of personal goals
<i>gAff</i>	affiliation motive content of personal goals
<i>gPow</i>	power motive content of personal goals
min	minute(s)
<i>nAch</i>	need for achievement
<i>nAff</i>	need for affiliation
<i>nPow</i>	need for power
PET	Positron Emission Tomography
RA	referential activity
RC	referential competence
RP	referential processing
s	second(s)
<i>sanAch</i>	self-attributed need for achievement
<i>sanAff</i>	self-attributed need for affiliation
<i>sanPow</i>	self-attributed need for power
SQRT	square root
<i>vAch</i>	achievement motive content of personal visions
<i>vAff</i>	affiliation motive content of personal visions
<i>vPow</i>	power motive content of personal visions

b) Measurement methods

CRA	Computerized Referential Activity measure
LIWC	Linguistic Inquiry and Word Count
PRF	Personality Research Form
PSE	Picture Story Exercise
TAT	Thematic Apperception Test
UMACL	UWIST Mood Adjective Check list
VAES	Vision Attribute and Effects Scale

1 Abstract

Visions are idealized mental images of the future. Goals are specific individualized plans for the future. Although visions and goals are conceptually similar, more thorough comparisons suggest that they are different in some respects. Visions and goals are likely to interact with different motivational systems. Visions transfer information about some desired situation in the future in a pictorial format, and, by this means, make them available for the implicit motive system, which is sensitive to motive-specific picture stimuli. Goals, however, transfer information about some desired end state in a more language-based format. This is the type of information which addresses the explicit motive system.

Thus, the aim of the present research was to provide empirical support for the conceptual distinction between the two related constructs of *personal visions* and *personal goals*. In addition, I intended to examine the motivational mechanisms and effects of personal visions.

I was guided by the following hypotheses. First, personal visions are represented in a picture-like format, whereas personal goals are represented in a language-based format. Second, due to their picture-like format and the resulting access to the implicit motive system, personal visions should be more congruent with the person's implicit motives than personal goals. Third, imagination of a motive-specific vision, which fits a person's implicit motives, should arouse the corresponding implicit motive. This motive arousal is experienced as positive affective resonance. Fourth, if goals are derived from a motive-congruent personal vision, this results in motive-congruent goals. Fifth, these motive-congruent vision-derived goals exhibit high goal progress at a later time, as they are backed up by implicit motives. This goal progress, in turn, leads to enhanced emotional well-being.

My hypotheses were based on well-established multiple-system models of information processing in cognitive science (e.g., Paivio, 1986) and their extension to motivation research (Kehr, 2004b; Schultheiss, 2008; Weinberger & McClelland, 1990).

To test my hypotheses, I examined and compared two samples. The first one consisted of people with a personal vision, the second one of people with personal goals.

First, I examined the characteristics of personal visions such as content, time frame, and dominant area of life. The aim was to provide a better understanding of the construct *personal vision*.

Secondly, I explored the differences between personal visions and personal goals as well as the effect of imagery on the motivating power of personal goals or personal visions. In line with the conceptualization of visions as mental images of the future and

goals as cognitive and verbalized representations of desired future states, I found higher imagery in the personal vision descriptions as compared to the personal goal descriptions. In addition, in both personal visions and personal goals, high imagery led to higher ratings of motivation, and this relation was mediated by positive affect. Finally, personal visions scored high on attributes and effects that are associated with the implicit motive system. Personal goals, in contrast, scored high on attributes that are associated with the explicit motive system.

Thirdly, I examined the relationship between implicit motives, explicit motives, and the motive content of personal visions and vision-derived goals. The results provided support for the notion that personal visions are more strongly associated with a person's implicit motives than with his or her explicit motives. As predicted, motive content of personal visions and implicit motives were positively associated in all three motive domains (power, achievement, and affiliation). Furthermore, in both the achievement and the power domain, the implicit motives were positively associated with the motive content of the vision-derived goals. In the power domain, I found the expected mediation, i.e., that motive-congruence of the vision-derived goals stems from motive-congruence of the personal vision. Also in the power domain only, I found that motive-congruence of personal visions led to positive affect during the imagination of the personal vision.

Fourthly, I explored the future goal progress of vision-derived goals and its effect on emotional well-being. Individuals pursuing vision-derived goals that were backed up by strong implicit motives achieved high goal progress within two months due to the motivational backing. This high goal progress of motive-congruent vision-derived goals, in turn, led to enhanced positive mood.

The present research provides the first empirical findings regarding the difference between personal visions and personal goals. In addition, it provides the first empirical evidence for the association between personal visions and the implicit motive system. The findings also emphasize the importance of positive affect in the perception of the motivational power of visions as well as in the development of a motive-congruent personal vision. The findings complement earlier research on visions in individual as well as organizational settings and yield beneficial effects of personal visions on the development of motive-congruent goals. Moreover, they further support the view that the implicit motive system and the explicit goal pursuit system work not independently, but that they interact to shape individuals' feelings and behavior. By bridging the gap between the two unrelated motive systems (explicit and implicit), the present research underscores the relevance of personal visions in daily life as well as in visionary leadership. Finally, the findings contribute to the understanding of the profound effects of visionary leadership and its underlying motivational mechanisms.

2 Introduction

"... without the guidance of images, actions would not take us far. Good actions need the company of good images" (Damasio, 1999, p. 24). Imagery plays an important role in our life. It has been implicated as a catalyst for goal-directed action (Damasio, 1999). One concrete way images can manifest themselves are visions. "Visions are mental images of a desirable yet attainable future that appear regularly in the stream of thought and are developed by and for individuals, groups, or organizations" (Rawolle, 2010, p. 5). Both the development and persuasive communication of a vision are important core components of recent leadership theories. According to these theories, visions have the potential and the power to motivate and inspire people and to enhance their performance (Kirkpatrick & Locke, 1996; Shamir, House, & Arthur, 1993; Strange & Mumford, 2002). Moreover, they may also enhance organizational outcomes (e.g., Baum, Locke, & Kirkpatrick, 1998; Lowe, Kroeck, & Sivasubramaniam, 1996). Recent research has indicated that imagination of future states has positive effects on a person's motivation, performance, goal selection, and goal attainment, not only in the organizational context, but also in personal context (Kehr, Rawolle, & Strasser, 2010; Rawolle, 2010). In both contexts, however, there still remains considerable work to be done in understanding the motivational effects of visions (cf. House & Podsakoff, 1994; Ilies, Judge, & Wagner, 2006; Kantrabutra & Avery, 2002; Rawolle, 2010; Shamir et al., 1993). Therefore, the aim of the following research was to examine the motivational mechanisms and effects of personal visions to extend previous results of lab experiments to the field and to test their ecological validity.

Vision is a young and therefore relatively unexplored construct. One possible starting point for the research on visions is research on goals (Kehr & Rawolle, 2008; Rawolle, Glaser, & Kehr, 2007). Goals are defined as cognitive representations of desired future states (Austin & Vancouver, 1996; Brunstein & Maier, 1996). Insights into goals and their motivational effects are more profound (cf. Brunstein & Maier, 1996). Although visions and goals are conceptually similar, more thorough comparisons suggest that they are different in some respects (Kehr & Rawolle, 2008, 2009). For example, according to the definition given by Rawolle (2010; see also Conger, 1999), representation in some kind of pictorial format is a core feature of visions. This core feature is not a necessary component of goals, thus signaling an important difference between the two constructs. Moreover, recent findings suggest that the motivating power of visions is based on a different mechanism than the motivating power of goals. While results of studies conducted by King (1995) and Rawolle, Patalakh, and Schultheiss (submitted for publication) highlight that goals are associated with the explicit motive system, results from Kehr and

colleagues (Kehr et al., 2011; Rawolle, 2010) indicate that visions are associated with the implicit motive system. In sum, visions and goals are likely to interact with different motivational systems. Visions carry information about some desired situation in the future in a picture-like format, and by this means, make it available for the implicit motive system, which is sensitive to nonverbal, picture-like stimuli. Goals, however, transfer information about some desired end state in a more language-based format. This is the type of information which addresses the explicit motive system. I contend that personal visions, due to their link to the implicit motive system, should have different effects on actions than those of personal goals.

In sum, the aim of the research project was as follows: First, I wanted to provide a basic framework for a better understanding of the construct of *personal visions*. Therefore, I conducted qualitative analyses of personal vision descriptions. Second, I sought empirical support for the conceptual distinction between personal visions and personal goals. As mentioned above, the defining characteristic of visions is their representation as mental image. Goals, in contrast, are primarily represented as verbal codes. The aim of this part of the study was to compare personal visions and personal goals regarding their degree of imagery by using a computerized content-coding procedure (Mergenthaler & Bucci, 1999) and to confirm in this way the different representational formats. In addition, I explored the effect of imagery on the subjective evaluation of the motivating power of both personal visions and personal goals. In this context I also compared the two constructs regarding several important attributes and effects, which are either typical for personal visions or typical for personal goals (e.g., Rawolle, 2010). Third, I wanted to show that due to their pictorial representational format, personal visions are more motive-congruent than personal goals, which primarily tend to be represented in a language-based format. This idea was based on basic motivational research that has demonstrated that implicit motives are sensitive to and therefore aroused by both real and imagined motive-specific pictorial stimuli. As visions are represented in a picture-like format, the imagination of a motive-specific vision, which fits a person's implicit motives, should arouse the corresponding implicit motives. This motive arousal is experienced as positive affective resonance (Schultheiss & Brunstein, 1999) and enables the individual to choose a personal vision that corresponds to his or her own implicit motives. Moreover, motive arousal can be interpreted as a reinforcing incentive mechanism. The individual will frequently try to recreate the experience of positive affect induced by the vision. Thereby, motive arousal promotes that the person, in the long run, pursues personal visions that match his or her implicit motives. Due to their motive-congruency, personal visions should have a direct effect on motivation. Additionally, I wanted to demonstrate that motive-congruent personal visions also have indirect effects on motivation: If goals are derived

from a motive-congruent personal vision, this results in motive-congruent goals. In other words, personal visions serve as a vantage point for the selection of motive-congruent goals. In this context, I also wanted to explore the future goal progress of vision-derived goals and its effect on emotional well-being. I assumed that these vision-derived goals – as they are backed up by high implicit motives – should be a significant predictor of future goal progress (Brunstein et al., 1998; Schultheiss et al., 2008). The higher goal progress of motive-congruent vision-derived goals, in turn, should lead to enhanced emotional well-being. Finally, imagination of a motive-specific vision, which fits with a person's implicit motives, should arouse the corresponding implicit motives. This motive arousal is experienced as a positive affective reaction.

In Chapter 3, I describe basic concepts and results in the areas that are relevant for this work. Chapter 3.1, *Two-System-Approaches of Motivation*, introduces the basic motivational theories containing the two-system-approach of motivation (McClelland, Koestner, & Weinberger, 1989; Weinberger & McClelland, 1990) and the extension of this theory: the information-processing model of implicit and explicit motivation (Schultheiss, 2008). These two models serve as a motivational framework for my considerations. Another important construct for my research is that of referential activity, which is also part of the information-processing model. Referential activity is defined as the function of connecting non-verbal experience, including emotional experience, with language (Bucci, 1984). Chapter 3.2, *Visions – an Overview*, introduces the vision construct and distinguishes it from related constructs, like positive fantasies (Oettingen, 1999) or daydreaming (Klinger, 1987; Langens, 2002; Langens & Schmalt, 2002; Singer, 1966). In this chapter, I also give an overview of the psychological literature on the motivational effects of the imagined future and review the organizational literature on visionary leadership as well as the theoretical approaches that explain its motivational effects (Kehr, 2005; Kehr et al., 2010; Rawolle, 2010). The related construct of personal goals is described in a separate chapter, 3.1.2, because of its relevance to the following research. Finally, in Chapter 3.3, I integrate the different lines of research to derive my hypotheses.

3 Theoretical Concepts

3.1 Two-System-Approaches of Motivation

Dual-systems-approaches to information processing have a long tradition. In his *Nicomachean Ethics*, Aristotle referred to a difference between experiential and rational knowledge. In the field of psychology, Freud (1900) introduced a dual theory of information-processing that distinguished between primary processes, which are dominated by the unconscious and by emotions, and secondary processes, which consist of logical, realistic modes of reasoning and closely linked to language (Epstein, 1994).

During the last two decades, evidence in favor of multiple-system approaches to human information-processing has emerged from different areas of research (see also Schultheiss & Brunstein, 1999) such as learning and memory (e.g., Paivio, 1986, 1991; Schacter, 1987), attention and perception (e.g., Greenwald, Klinger, & Schuh, 1995; Schneider & Shiffrin, 1977), social cognition (e.g., Bargh, 1989; Tversky & Kahneman, 1983), and psychotherapy (e.g., Bucci, 1985, 1989).

For instance, Paivio (1986, 1991) presented a well-elaborated dual coding theory that emphasizes the distinction between verbal and nonverbal processes and assumes *referential interconnections* between the two. The theory is supported by an extensive research program that has demonstrated different effects in perception and memory for verbal and nonverbal stimuli.

Influenced by Paivio (1986, 1991), Bucci (1985, 1989; Bucci & Freedman, 1978) included a distinction between verbal and nonverbal modes of information processing in her psychoanalytic theory, also incorporating a *referential process* that is able to produce new structures by connecting the two modes. She assumed that neither of the two modes is superior to the other and that effective adjustment and effective therapy require their integration.

Nowadays the idea of a two-system approach is widely accepted, but a common terminology is missing. Various labels exist for the two modes, such as: intuitive vs. analytical, automatic vs. deliberative, non-verbal vs. verbal, and experiential vs. rational (Epstein, 1994; for a review, see Kehr, 2000, 2004c).

Epstein (1994) tried to integrate the different approaches into a single theory, the so-called cognitive-experiential self theory (CEST). CEST distinguishes between a rational system and an experiential system (for earlier versions of CEST, see Epstein, 1973, 1990, 1991). The rational system is primarily verbal – it operates in the domain of language and abstract symbols, processes information analytically, and guides thought as well as action on the basis of logical reasoning. Because of its orientation towards delayed action, it is slower in processing but flexible. In other words, it changes more rapidly, with the speed of thought. It is closely tied to conscious experience and capable of future-oriented

planning and long-term delay of action. The experiential system, in contrast, processes information in a holistic, associative fashion. In a given situation, the experiential system guides thought and action on the basis of ongoing feelings (pleasure-oriented vs. pain-oriented) and prior affective experiences in similar situations. By encoding percepts into images, metaphors, and narratives, the experiential system is close to the concrete perceptual reality of experience. Due to its orientation towards immediate action, it processes information more rapidly but changes more slowly, and only after repetitive or intense experience. This experiential system largely operates outside of consciousness. Epstein (1994) pointed out that, although both systems work in parallel and can process information independently, they are still capable of communicating with each other by translating the symbolically encoded content of the rational system into the imagistic format of the experiential system, for instance (for related arguments, see Bucci, 1985; Paivio, 1986; see also Chapter 3.1.4).

3.1.1 Implicit and explicit motives – a two-system-approach

Over the last 20 years, theories of motivation have been incorporating different motivational systems in a way very similar to Epstein's (1994) conceptualization of two different modes of human information processing. Most notably, McClelland and his colleagues (McClelland et al., 1989; Weinberger & McClelland, 1990) proposed a two-system approach of motivation by differentiating between an emotion-driven implicit system and a cognition-based explicit system. These two motivational systems have been shown to operate independently (e.g., Brunstein, 2008; Schultheiss, 2008; Spangler, 1992; for more details, see Chapter 3.1.3).

Conceptually, the implicit motivational system is determined by a relatively small number of biologically-based non-conscious motives or needs. McClelland (1987) defined implicit motives as recurrent concerns for affectively charged incentives such as doing something better or mastering a challenging task (the achievement motive; McClelland, Atkinson, Clark, & Lowell, 1953), establishing, maintaining, and restoring positive relationships with others (the affiliation and intimacy motives; Atkinson, Heyns, & Veroff, 1958; McAdams & Powers, 1981), and having impact on others or the world at large (the power motive; Winter, 1973).

The explicit motivational system, on the other hand, is constituted by a multitude of individuals' stable, language-based, and consciously accessible beliefs about their needs and motivational orientations (McClelland et al., 1989; Rheinberg, 2004). In other words, it is our motivational self-image. It contains the consciously accessible goals as well as cognitive strategies and plans, which are chosen to accomplish these goals (Brunstein,

Schultheiss, & Grässmann, 1998; Carver & Scheier, 1998; Emmons & McAdams, 1991; Rawolle et al., 2007). Goals are defined as internal representations of desired future states that guide individuals' thoughts and actions and furnish their lives with meaning and purpose (Emmons, 1996; Klinger, 1977; see Chapter 3.1.2). Moreover, explicit motives relate to external assessments, ideal selves, and inherited values.

Implicit and explicit motives differ in terms of their development. Implicit motives are based on emotional learning. They develop early in life, primarily fostered by nonverbal means, although they may change with regard to their strength and the maturity of their behavioral expression during the life course (McAdams, 1988; McClelland, 1958, 1987; McClelland & Pilon, 1983). In contrast, explicit motives develop later in life, as the acquisition of language has been described as important requirement for their mental representation (Mischel, Cantor, & Feldman, 1996; Zivin, 1979). It is only through language that it is possible to translate one's explicit motives into goals and into comprehensible statements and wishes, which one can subsequently negotiate with the social environment.

Because a person's implicit motives operate outside of conscious awareness they are not measureable by self-reports. Instead, they are most directly expressed in one's free-ranging thoughts and fantasies. Therefore, the strength of a motive can be assessed by analyzing the contents of fantasy stories individuals produced in response to picture cues akin to Murray's (1943) Thematic Apperception Test (TAT), or the more recently developed Picture Story Exercise (PSE; see Smith, 1992). On the TAT or PSE, participants write imaginative stories about pictures showing ambiguous social situations, including several motivational incentives. Stories are then coded for motive imagery to determine the strength of participants' implicit motives (Schultheiss & Pang, 2007). Such indirect motive measures predict a large array of motivational and behavioral phenomena, ranging from physiological and neural responses to incentive stimuli to economic success and political action. According to their implicit nature, they frequently fail to overlap with people's explicit declarations of motivational needs and goals.

In contrast, a person's explicit motives are consciously accessible and verbally represented and can therefore be measured via questionnaire scales (e.g., the Personality Research Form, PRF; Jackson, 1984; Stumpf, Angleitner, Wieck, Jackson, & Beloch-Till, 1985). Explicit measurements, like questionnaires, are instruments that rely on the ability to introspect and report motivational preferences.

In summary, it can be stated that, with regard to their emotional, nonconscious, and enduring nature and their expression in fantasy, implicit motives feature several of the major characteristics of the experiential system according to CEST (Epstein, 1994) described earlier. In contrast, explicit motives and especially goals bear many of the

characteristics of the CEST rational system (Epstein, 1994) described earlier. However, Epstein's distinction between the rational and the experiential system (1994) focuses more on the processes and less on the structure of the two different systems. Thereby, his distinction is not interchangeable with McClelland, Koestner, and Weinberger's (1989) distinction between implicit and explicit motives. It rather provides some additional information and characteristics to McClelland et al.'s analyses (for detailed arguments, see Kehr, 2000, 2004c).

Among the variety of human motives, the needs for achievement, affiliation, and power (often abbreviated as *n* Achievement, *n* Affiliation, and *n* Power) have been most thoroughly studied over the past 60 years.

Individuals exhibiting a strong *n* Achievement strive to do something better for its own sake, simply for the intrinsic satisfaction of doing something better (McClelland et al., 1953; Schultheiss & Brunstein, 2005). Tasks of moderate difficulty yield the greatest incentives and are therefore most motivating (Atkinson, 1957; Heckhausen, Schmalz, & Schneider, 1985). Why? Tasks of small difficulty have no real incentive, because there is little challenge in doing them better. Tasks of extreme difficulty are rather improbable to be mastered and the likelihood of failure is very high. This makes it almost impossible to perform better. In contrast, tasks of moderate difficulty provide achievement-motivated individuals with the best opportunity of improving a skill or a competency (McClelland, 1987; Rheinberg, 2004). In the workplace, individuals with a high *n* Achievement demonstrate a great propensity to improve their personal performance and meet or exceed standards of excellence. This can lead to positive results, like surpassing self-imposed standards, accomplishing something new and making long-term plans for one's career (Pang, 2010; Schultheiss, 2008). However, it can also lead to negative side-effects, especially for managers, such as micromanaging, offering less positive feedback to subordinates, expressing impatience with poor performers, and a higher focus on results and goals than on people (Andrews, 1967; Jacobs & McClelland, 1994; McClelland & Boyatzis, 1982).

Individuals with a high *n* Affiliation learn social relationships more quickly, engage more often in conversations with others, and maintain their connections with other people via letter writing, telephone calls, personal visits, and other media (Atkinson et al., 1958). Managers with a pronounced implicit affiliation motive experience a need to maintain close, friendly relationships. As a result, they avoid confrontation, look for ways to create harmony, avoid giving negative feedback, and generally exhibit a focus on people rather than on performance. Like *n* Achievement, a high *n* Affiliation can have positive effects as well as negative effects in the workplace. While an aspiration to be liked and accepted might not conform well to the demands of most managerial positions, this characteristic is

indispensable for success in positions in which a person is responsible for integrating employees (Litwin & Siebrecht, 1967; McClelland, 1987).

The implicit power motive is more diverse in its manifestation than the other two motives. The way it manifests itself varies widely across people, socio-economic classes, professions, cultures, regions, and, in some circumstances, gender. Why? With few exceptions, most societies have ambiguous attitudes about individuals' desire to dominate others (Schultheiss, Strasser, Rösch, Kordik, & Graham, in press). For this reason, individuals with a high *n* Power must find socially acceptable outlets in satisfying this need, such as participating in highly competitive or high-risk sports, choosing influential occupations, collecting symbols of power, or seeking recognition in small groups (Winter, 1973). The implicit power motive is differentiated into socialized and personalized power (McClelland & Burnham, 1976). Transferred to the leadership context, managers with a high need for personalized power seek to be strong and to influence others by being coercive or even ruthless, by wanting to control or manipulate others, and by focusing on maintenance of reputation rather than on the management of subordinates. In contrast, managers with a high need for socialized power strive to help people feel strong and more capable. In other words, the latter type of manager strives for power in order to empower others. The behavior of people with a high need for socialized power is characterized by coaching and teaching, supporting and involving others in the decision-making process, always with an overall focus on the group instead of the self. Power motivated individuals are more likely to ascend to the highest levels of management in hierarchically organized corporations (McClelland & Boyatzis, 1982; McClelland & Burnham, 1976) and, more generally, to have productive and successful careers (McClelland & Franz, 1992; Peterson & Stewart, 1993; for a detailed overview, see Schultheiss, 2008).

The explicit motivational system, just like the implicit motivational system, includes among others the three motive domains achievement, affiliation, and power. Therefore, the explicit measurements often contain the subscales of achievement, affiliation, or power (often abbreviated as *san* Achievement, *san* Affiliation, and *san* Power; abbreviations derived from *self-attributed need of*).

In the following chapter, I will describe the goal construct as part of the explicit motive system in more detail.

3.1.2 Goals as a distinct class of explicit motives

Goals are defined as cognitive representations of desired future states (Austin & Vancouver, 1996; Brunstein & Maier, 1996) and are represented in a rather language-based format, namely *verbal codes* (Schultheiss, Patalakh, Rawolle, Lienen, & MacInnes,

2011). According to the dual motive system of motivation, goals are part of the explicit motive system (Brunstein et al., 1998; Brunstein, Maier, & Schultheiss, 1999; Kehr, 2000, 2004b, 2004c; McClelland et al., 1989; Schultheiss et al., 2011). However, while explicit motives are abstract representations of needs an individual ascribes to himself or herself, the specific way in which a person acts and adapts to the current environmental requirements is determined by “midlevel” motivational units (Emmons, 1989), which are represented by goals (Kehr, 2000, 2004c). Thus, in contrast to explicit motives, which are more abstract cognitive representations of individual preferences, personal goals are specific individualized and cognitively elaborated representations of what one intends to achieve in one’s current life situation (Brunstein et al., 1998; Job, Langens, Brandstätter, 2009; Kehr, 2000, 2004c). This is why goals are a core element in many motivational theories (Gollwitzer, 1995; Heckhausen, 1977; Locke & Latham, 1990). They organize, control, and direct actions (Elliot & Dweck, 2005).

In terms of Epstein’s (1994) cognitive-experiential self theory, like explicit motives, goals presumably operate in the rational system (Schultheiss & Brunstein, 1999). As mentioned before, the rational system operates in the medium of language and abstract symbols, processes information analytically, and guides thought as well as action on the basis of logical reasoning.

According to Kruglanski et al. (1996), goals consist of a hierarchical knowledge structure. Superordinate goals are cognitively connected to their various sub-goals, which are in turn connected to their own way of attainment. These different types of goals differ regarding their complexity (Carver & Scheier, 1998). Sub-goals are usually simple and specific. For the attainment of such a simple and specific goal, one usually needs only one concrete action. Thus, the realization of such a goal requires little time and effort. Examples of such simple goals are intentions (e.g., ‘I am going to the gym this evening’; Gollwitzer, 1996). In contrast, superordinate goals are more complex and vague. For the attainment of complex or vague goals, one needs a lot of different actions and activities. That is why complex goals are often specified by concrete sub-goals (simple goals). The realization of such goals can take a long time. Examples for complex goals include ‘getting my PhD’ or ‘becoming a good mother’. ‘Becoming a good mother’ represent a typical *identity goal* (cf. Wicklund & Gollwitzer, 1982), also called self-defining goal (Brunstein & Gollwitzer, 1996). These kinds of goals contain some kind of ideal self – one’s desired identity. Often it is hard to find a clear criterion for goal attainment. Taken together, complex goals are at the top of a goal hierarchy and can only be fully realized by attaining many simple sub-goals (Carver & Scheier, 1990; Emmons, 1989).

In the following studies, I will focus on personal goals. Personal goals have been defined as personally meaningful concerns, projects, or strivings people pursue and try to

attain in their everyday lives (Brunstein, 1993). Similar to motives, goals are relevant to the regulation of behavior. However, unlike implicit motives, they are verbally represented, conscious, and measureable by self-report. Personal goals are subjectively meaningful representations of anticipated end-states delineating what a person wants to achieve, maintain, or avoid in his or her current life situation. Individuals actively derive personal goals from their self-concepts and then plan and engage in activities directed towards goal attainment (Brunstein et al., 1998; Emmons, 1989). The implementation of a given goal depends on how much a person is committed to it, particularly when the goal gets difficult to reach (Locke, Latham, & Erez, 1988). Research has shown that people who are not strongly committed to a goal may actually miss opportunities to act on it, and, when faced with challenges and setbacks, may abandon it altogether (Brunstein, 1993; Locke et al., 1988; Schultheiss et al., in press). In contrast, individuals who feel firmly committed to a goal are better at utilizing opportunities to realize it (a case of “chance meeting the prepared mind”). When they encounter difficulties, they will step up their efforts to attain the goal or seek alternative ways to realize it (Brunstein, 1993; Locke & Latham, 1990). Furthermore, research over the past years has demonstrated that not all goals are equally effective with regard to their attainment. Some goals provide better preconditions for their attainment through their content and structure (Job & Brandstätter, 2009). According to Locke and Latham (1990), goals should be specific and demanding. Oettingen and Mayer (2002) postulated that expectation-based goals (goals including judgments over future events’ likelihood by applying past facts to future events) are most effective with regard to their attainment. They showed that, in studies on four different life tasks, expectation-based goals predicted high effort and performance. Successful pursuit and implementation of personal goals, in turn, provides individuals with a sense of meaning in life, with greater life satisfaction, and emotional well-being (Brunstein, 1993). However, recent research lends support to the assumption that these effects depend on the fit between the goal content and the person’s implicit motives (Brunstein et al., 1998; Schultheiss, Jones, Davis, & Kley, 2008). As the explicit system is largely independent from the implicit system (Brunstein, 1993; Kehr, 2004b; Spangler, 1992), individuals whose self-attributed needs do not fit their unconscious needs often pursue goals that do not fit their unconscious needs. The resulting motivational incongruence can negatively affect life satisfaction and emotional well-being (Brunstein, Lautenschlager, Nawroth, Pöhlmann, & Schultheiss, 1995; Brunstein et al., 1998; Hofer & Chasiotis, 2003; Ryan & Deci, 2000) as well as the development of intrinsic motivation (Kehr, 2004b; for more details, see Chapter 3.1.3).

3.1.3 Independence and interactions between implicit and explicit motivational systems

As indicated before, three crucial differences between implicit and explicit motives are: 1) the degree of consciousness, 2) their development, and 3) their measurement. However, several additional differences need to be attended to.

Implicit motives drive, orient, and select behavior that aims at obtaining motive-specific incentives and satisfying the motivational need (McClelland, 1987). Explicit motives “sit on top” of the implicit motives (McClelland, 1987, p. 19) and try to control and direct them in line with conscious purposes and beliefs. In this way they can either channel the expression of implicit motives into specific behaviors or even override motivational impulses (McClelland, 1987; McClelland et al., 1989; Schultheiss, 2006). The channeling and overriding both increase the flexibility and the stability of behavior.

Moreover, implicit motives are aroused by environmental cues that signal the possibility of experiencing motive-specific rewarding emotions and seek access to behavior while aroused (McClelland, 1987). They respond to task-intrinsic (or activity) incentives, that is, to the pleasure derived from the task itself. In the case of *n* Achievement, working on a challenging task would be such a response. In contrast, explicit motives respond to social-extrinsic incentives, that is, to salient external demands and social norms. For instance, *san* Achievement of a worker can become activated by her or his manager’s explicit instructions to do well.

In his information-processing model of implicit and explicit motivation (see also Chapter 3.1.4) Schultheiss (2001, 2008; see Figure 1) defined the constructs of task-intrinsic and social-extrinsic incentives more precisely. Thereafter, implicit motives are more likely to respond to nonverbal incentive cues (such as facial expressions, gestures, pictorial stimuli, etc.; e.g., Klinger, 1967; McClelland & Kirshnit, 1988; Schultheiss & Hale, 2007; Schultheiss, Wirth, & Stanton, 2004) than to verbal-symbolic stimuli (such as demands, requests, suggestions etc.). Explicit motives respond in the opposite way, in that they are more likely to respond to verbal incentives.

Furthermore, implicit motives are particularly likely to show an effect on non-declarative or operant measures of motivation (i.e., measures that tap into individuals’ know-how in operating on their environment) such as hormonal changes, cardiovascular responses, response speed on performance tasks, to name a few (e.g., Brunstein & Maier, 2005; McClelland, 1979; Schultheiss & Brunstein, 2002; Schultheiss et al., 2008; Schultheiss, Wirth, Torges, et al., 2005). On the other hand, explicit motives and goals have a stronger influence on declarative measures of motivation (i.e., measures that assess individuals’ self-related *knowing that*), such as attitudes, judgments, and decisions (e.g., Brunstein & Maier, 2005; McClelland et al., 1989). In other words, the two motivational systems

influence different types of behavior. For instance, individuals' implicit need for achievement has been shown to predict their performance on a speed-based achievement task (a non-declarative measure of motivation) but not their decision to continue with the task (a declarative measure of motivation). Conversely, individuals' explicit need for achievement has been found to predict the decision to continue with the achievement task, but not their performance on the task itself (Brunstein & Maier, 2005).

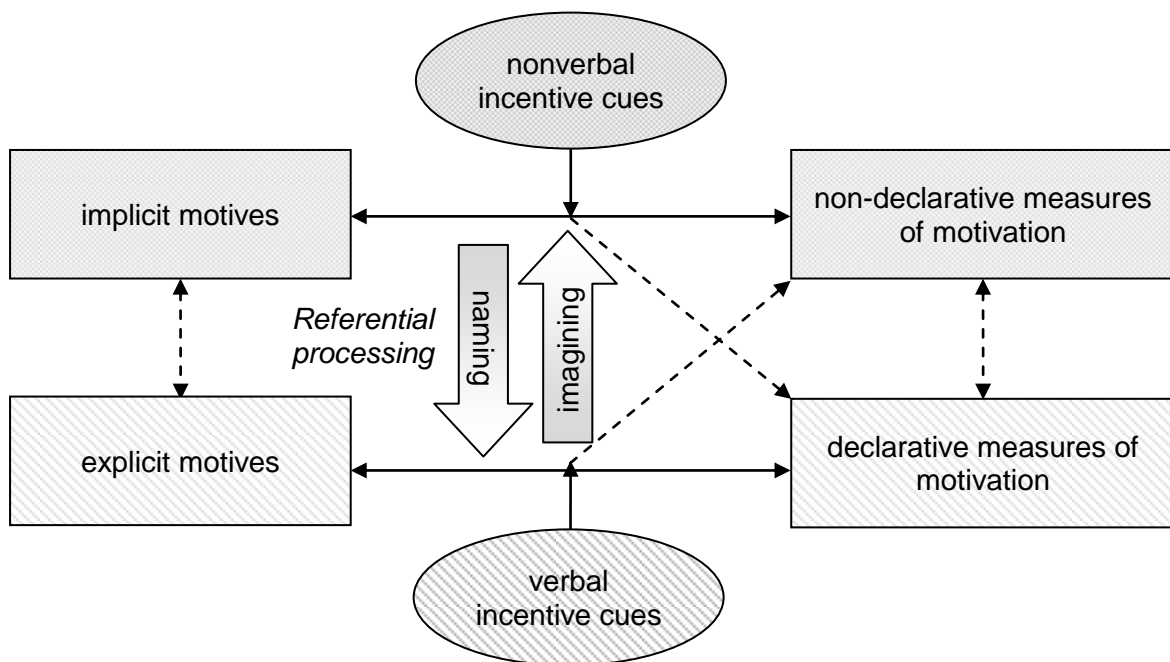


Figure 1. Information-Processing Model of Implicit and Explicit Motivation. Solid lines: significant correlation/influence; dashed lines: no significant correlation/influence; adapted and modified from Schultheiss, 2008.

In summary, over several decades research has consistently shown that implicit and explicit motive measures predict different kinds of outcomes and behavior in response to different kinds of incentives (see Figure 1). They are statistically distinct – measures of implicit and explicit motivation within a given domain have little statistical overlap with each other. The correlations between explicit measures (e.g., PRF) and implicit measures (e.g., PSE) in the same motivational domain are typically small ($r \sim .10$) or around zero (Brunstein et al., 1998; King, 1995; Köllner & Schultheiss, in preparation; but see Emmons & McAdams, 1991; Thrash, Elliot, & Schultheiss, 2007, for overlap depending on the assessment procedure). Similar results have been found for personal goals and goal commitment, which are both seen as constructs located at the explicit level of motivation (Kehr, 2004b; King, 1995; see Chapter 3.1.2). This means that people sometimes strive for goals that are congruent with their implicit motives (e.g., a person high in implicit power motive who pursues many power goals in her daily life), while at other times they are committed to goals that are incongruent with respect to their implicit motive disposition

(e.g., a person with a low implicit power motive working on a career for a leadership position and thus striving for a power goal, or a person with a high implicit power motive working in a low position in the hierarchy). In both examples, implicit and explicit levels of motivation are incongruent with each other, and such motivational incongruence can give rise to problems. It affects life satisfaction and emotional well-being (Brunstein et al., 1995; Brunstein et al., 1998; Hofer & Chasiotis, 2003; Ryan & Deci, 2000; Schultheiss et al., 2008) as well as the development of intrinsic motivation (Kehr, 2004a). Moreover, people with motivational incongruence suffer from reduced volitional strength (Kehr, 2004a). Furthermore, motivationally incongruent people are also more prone to develop symptoms of psychosomatic disorders (Baumann, Kaschel, & Kuhl, 2005; Pueschel, Schulte, & Michalak, 2011). In contrast, people who endorse values or pursue goals that are congruent with their implicit motives (e.g., a person high in implicit achievement motivation who pursues many achievement goals in her daily life) report overall better life satisfaction, more emotional well-being, and fewer psychosomatic symptoms.

Additionally, studies of Schultheiss, Brunstein and colleagues (Brunstein et al., 1998; Schultheiss et al., 2008) have shown that individuals who primarily focus on the pursuit and realization of explicit goals in a particular motivational domain (e.g., power), which are supported by a strong underlying implicit motive disposition, experience more positive mood when they achieve this goal than individuals who primarily focus on motive-incongruent goals. These results can best be understood if one considers the following point: When personal goals are backed up by strong implicit motives, individuals experience intense motivational gratification if they perceive progress in goal achievement. For example, for a power-motivated person the goal of becoming professor of a university provides many opportunities to have impact on others (one important incentive of the power motive) on the way to the goal. For instance, persuading others and supporting students, being visible through giving talks, interviews, and lectures. Being successful in such opportunities provides the person with frequent experiences of having impact on others, experiences that are pleasurable and contribute to overall emotional well-being, due to the person's strong power motive. However, if the efforts to promote the goal to become professor are often hindered, feelings of tension, frustration, and dejection will be elicited. In other words, those individuals are concurrently vulnerable for motivational frustration if they experience setbacks in their attempts to realize such motive-congruent goals. Consider the power-motivated person who finds herself outmaneuvered by competitors, unable to make an impression on other researchers, or faced with an empty auditorium during her lecture. All of these experiences are adverse to the person's need for power. In sum, the pursuit of motive-congruent personal goals provides opportunities to satisfy one's implicit motives, but can also lead to impaired

emotional well-being if taking advantage of such opportunities becomes difficult or impossible (Schultheiss et al., 2008). As indicated, Brunstein et al. (1998) and Schultheiss et al. (2008) also found that for goals pursued in the absence of strong implicit motives (e.g., a person low in power motivation successfully realizing an power goal), high or low progress in the achievement of personal goals had no detectable effect on changes in individuals' emotional well-being.

Furthermore, Schultheiss et al. (2008) found that, in both studies, high levels of implicit motivation were associated with high rates of goal progress. This was only the case for individuals who did not feel overly committed to their goals. These participants seemed to succeed in achieving their goals without trying too hard.

These findings are consistent with the theoretical models mentioned above that distinguish between two independent systems which guide human behavior: an automatic, intuitive, non-verbal, hedonically-oriented implicit motivation system and an effortful, analytical, language-based, socially oriented (non hedonic) explicit goal pursuit system (Kehr, 2004b; McClelland et al., 1989; Schultheiss, 2008). Hence, implicit motivation, as opposed to explicit motivation, is more intrinsically rewarding due to positive mood and is thus more sustainable (Brunstein et al., 1998; McClelland, 1985; Schultheiss, 2008). In addition, the pursuit and realization of explicit goals becomes effortful and demanding for self-regulation when goals are not supported by strong implicit needs (see Chapter 3.1.2 and 3.1.3; Kehr, 2004b).

As goals and explicit motives usually do not fit with the implicit motive system (King, 1995; Köllner & Schultheiss, in preparation), it would be desirable to find a motivational construct that does allow access to the implicit motive system in order to increase the fit between explicit motives, or goals in particular, and implicit motives. In the following chapters (Chapter 3.1.4 and 3.2), I will describe constructs and processes that should allow an alignment between the implicit and explicit motive systems.

3.1.4 Alignment between implicit and explicit motivational systems

Due to the substantial effects of motivational congruence and incongruence on well-being, researchers have started to analyze how these two levels interact with each other to shape thought, feelings, and behavior. They look for factors that can help people to achieve higher congruence between their implicit and explicit motivational system.

Several dispositional factors are associated with high motivational congruence: a strong sense of self-determination, being tuned to one's bodily sensations, the ability to quickly overcome negative affective states, and being able to verbalize one's perceptions

quickly (Baumann et al., 2005; Schultheiss et al., 2011; Thrash & Elliot, 2002; Thrash et al., 2007).

According to the information-processing model proposed by Schultheiss (2001, 2008), the degree to which the implicit and the explicit motivational system can operate in tandem or independently depends on the degree of *referential processing* between the systems (see Figure 1; see also Weinberger & McClelland, 1990). Referential processing (RP) is a descriptive term for the mental translation of nonverbal representations into verbal ones through verbal labeling (*naming*) and verbal representations into nonverbal ones through mental imagery (*imagining*; Paivio, 1971, 1986; Schultheiss et al., 2011). It was introduced by Paivio (1986), who argued that RP allows information exchange between verbal and nonverbal processing systems, but that it requires additional processing time and effort relative to processing within verbal and nonverbal systems in which the representational format remains constant. This extra effort becomes apparent in the longer duration of the naming process as compared to the reading process (e.g., see Potter & Faulconer, 1975). For instance, reading a word only requires its perception and its transformation into a motor speech pattern, whereas naming an object requires its perception, the retrieval of an appropriate verbal label and the transformation of the label into speech (see Figure 2 and Bucci & Freedman, 1978, for related arguments).

The retrieval of the proper label represents the extra step necessary for referential processing from the nonverbal to the verbal system (or RP_{naming}). In the reverse case – $RP_{\text{imagining}}$ –, the retrieval of a nonverbal representation in response to a word (e.g., "flower") also requires an additional processing step, namely, the formation of the appropriate mental image for the word.

According to Schultheiss and Strasser (in press), the separate processing of information in parallel systems with different representational formats, along with additional processing time and effort stemming from between-systems exchange, are the main reasons why the implicit and the explicit motivational systems are not necessarily and automatically congruent. If this view is correct, then strategic use of and stable individual differences in RP should be associated with variations in congruence between implicit (i.e., nonverbal) and explicit (i.e., verbally mediated) motivational systems.

In the following, I will first provide a brief overview of the measurement of the RP concept. I will then report recent work suggesting that strategic use of and stable individual differences in RP are associated with variations in the congruence between implicit and explicit motivational systems.

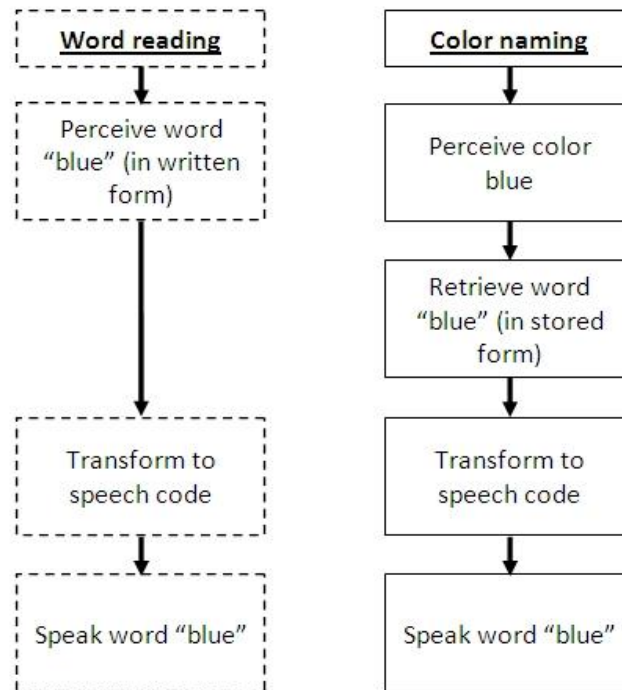


Figure 2. Process Analysis of Word-Reading and Color-Naming Tasks (adapted from Bucci & Freedman, 1978).

3.1.4.1 Referential process and its measurements

The observation that it takes longer to name things than to read their respective word referents has been made in early scientific psychology, although it has not always been clear why this difference occurs. The classical example for this effect is provided by the Stroop task, in which the subject either has to read color names or to name a series of colored areas corresponding to the color names. In the classic study (Stroop, 1935), participants took 41 seconds (s) to read 100 color names printed in black (Card A), but 63 s to name the colors of 100 rectangular patches (Card B) – a difference of 22 s. Longer reaction time for naming vs. reading is not specific to the color domain but has also been found for other stimuli including objects, drawings and geometric forms, and their corresponding names (Fraisse, 1969).

The substantial sample-level difference between naming things and reading words is fully consistent with Paivio's (1986) proposition of a referential process that needs to be engaged for translating back and forth between verbal and nonverbal codes. However, this is just one half of the story. The other half lies in the substantial speed variations of individuals *within* each task (i.e., naming or reading). People differ regarding the speed of RP (how fast they can cross-refer between the explicit and the implicit system), because of trait-level differences. This referential processing ability is called *referential competence*

(RC; Broverman, 1960a, 1960b). The first study explicitly aimed at examining the concept of RC was conducted by Bucci and Freedman (1978). They used cards A and B from Stroop's task to assess word reading and color naming times, respectively, and then created a naming-reading difference score based on regression residuals. Participants were assigned to a high-RC group (color naming faster than predicted by word reading) and a low-RC group (color naming slower than predicted by word reading). The difference between the groups was solely due to differences in color-naming latencies, as they did not significantly differ in their word-reading times. Bucci and Freedman were interested in how well these groups were able to tell stories in response to the instruction to talk about a dramatic or interesting personal experience. High-RC individuals used specific, concrete language in their narrations, even if they talked about something as mundane as a trip to another city. They also frequently used direct quotes and third-person singular pronouns, but relatively few first-person pronouns. In contrast, low-RC individuals used unspecific, abstract language, avoided quotes and frequently used first-person pronouns (*I*). In other words, the high-RC group used language in a similar way as an author of fiction would, whereas the low-RC group did not.

In a replication study, Bucci (1984) used the Stroop task again to divide a sample of participants into low- and high-RC individuals and to study how these groups differed in their language when describing different color shades and providing short narratives of everyday experiences. In comparison to the low-RC group, the high-RC group produced more specific and metaphorical color terms (e.g., maroon, mauve, sienna, "like dried mud") and used more specific, concrete, and focused language in their narratives. They also made less use of the first person pronoun. Along with the earlier study by Bucci and Freedman (1978), these findings suggest that individuals who are high in RC (i.e., who are quick at naming things), relative to those low in this ability, are habitually better at moving back and forth between verbal and nonverbal representations and at capturing nonverbal experience efficiently and accurately with words. Bucci (1984) found that individuals who were about as quick at naming color patches as they were at reading words used more specific, concrete, and immediate language when describing an interesting personal experience. In contrast, individuals who took a longer time to name color patches than to read color words used more general, abstract, and distanced language to describe such experiences. In addition, according to Pennebaker, Chung, Ireland, Gonzales, and Booth (2007), the ways that individuals talk and write provide windows into their emotional and cognitive worlds. Based on these results, Bucci and Kabasakalian-McKay (1992) developed a content coding system in order to measure RP. The resulting referential activity (RA) scales "assess the degree to which a speaker or writer is able to translate [...] experience into words in a way that will evoke corresponding

experiences for the listener or reader” (Bucci & Kabasakalian-McKay, 1992, p. 5). In other words, it assesses “the degree to which individuals have been able to capture and communicate non-verbal, including emotional experience, in language that ‘calls up pictures’ and is ‘specific, definite and concrete’ ” (Mergenthaler & Bucci, 1999, p 341).

The four RA scales are Concreteness, Specificity, Clarity, and Imagery. The Concreteness and Imagery scales capture the sensory characteristics of the language. The Specificity and Clarity scales measure its degree of articulation, focus, and communicative quality. Moreover, Concreteness and Specificity indicate how frequently these dimensions are expressed in the speech sample; Clarity and Imagery may be seen rather as indicators of the effectiveness of the expressions. All dimensions are coded on a 10-point scale, ranging from 1 (low level) to 10 (high level). Given significant intercorrelations between the four scales, an overall RA score that is represented by the mean of the four scales may be computed.

In order to model the RA scales scored by raters, Bucci and Mergenthaler (1999) developed a computer assisted procedure. The *Computerized Referential Activity measure* is based on computerized content analysis techniques (CRA; Mergenthaler & Bucci, 1999). The underlying computer program, called CM software (Mergenthaler, 1996), consists of the dictionaries *CRA* and *Abstraction*. The CRA dictionary contains two sub-dictionaries. One is a word list of 63 words identified as characteristic for high RA. The other is a word list of 118 entries representing low RA. Bucci and Mergenthaler (1999) reported a correlation between the Computerized Referential Activity measure and the Referential Activity measure scored by raters of around $r = .50$. Moreover, the high and low RA words cover about 50% of a text.

The RA scales and the CRA measure can be applied to different types of materials, including long continuous texts such as protocols of psychotherapy sessions or brief texts such as PSE-stories. They can be used to assess situation- or stimulus-specific RP by examining individuals' RA fluctuations, e.g., in response to a therapist's suggestions (e.g., Bucci & Maskit, 2007). They can also be used to assess stable individual differences in RC, as suggested by the overall consistency of a person's RA level from one situation to the next. For instance, Schultheiss & Strasser (in press) found that individuals' RA levels were highly stable from one PSE-story to the next, as indicated by an internal consistency coefficient of .86 (Cronbach's alpha).

3.1.4.2 *Imagine the future: strategic use of referential processing and its motivational benefits*

Schultheiss and Brunstein (1999, 2002) conducted three experimental studies to address the question of whether strategic use of referential processing increases

motivational congruence. They hypothesized that individuals can increase their motivational congruence by vividly imagining a potential goal before committing themselves to it. This goal imagery is conceptualized as intentional translation from verbal into nonverbal information, i.e., a strategic induction of referential processing. In a series of studies, participants were given power- or affiliation-related goals and then either had the opportunity to translate these verbally represented goals into an experiential, nonverbal format through guided goal imagery procedures (goal imagery group) or not (control group). This goal imagery, which is the perception-like mental representation of the pursuit and attainment of a goal, translates goals from its native representational format within the rational system into the representational format of the experiential system. The results showed that in the goal imagery group, but not the control group, participants' commitment to the assigned goal and their behavioral efforts aimed at attaining the goal were significantly predicted by their implicit motives (assessed with a PSE). In other words, they decided and behaved in a motivationally congruent manner. The imagination of the pursuit and attainment of the goal serves to translate the verbal content of the goal into a nonverbal format, in which information processing is carried out within the implicit motive system. This translation allows the implicit motive system to "understand" and respond to verbal stimuli. The results of Schultheiss and Brunstein (1999) suggest that individuals can increase the degree to which their goal choices match their implicit needs through careful exploration of the emotional incentives and disincentives associated with the pursuit of a given goal. In other words, individuals implicitly assess the degree of potential emotional satisfaction of goal pursuit and goal attainment by strategically using referential processes. This experience should help decide whether to commit oneself to a goal for which one does not have the necessary implicit motivational resources.

This visualization technique of Schultheiss and Brunstein (1999) is applied in Kehr and von Rosenstiel's Self-Management Training (2006) to assist individuals in setting and pursuing maximally motive-congruent goals. To increase the motive-congruence of goals, participants of the training are encouraged to choose action alternatives that trigger positive affect during the visualization of the goal realization, which in turn indicates a motive-congruence with the implicit motives.

Similarly to Schultheiss and Brunstein (1999), Job and Brandstätter (2009) found that, for participants who engaged in goal imagery and focused on motive-specific affective incentives, as opposed to participants in a self-focus goal fantasy (focusing on the self in a pure cognitive way) or in a no-imagery control group, implicit motives positively predicted goal-setting. Thereby, Job and Brandstätter (2009) highlighted that the imagination needs to focus on the affective component of motive arousal in order to be effective.

Further evidence for the power of imagery to activate the experiential system, or – in our case – the implicit motivational system, comes from several areas of research and will be discussed in Chapter 3.2.4.

3.1.4.3 Referential competence as a link between the implicit and the explicit motive system

Sometimes one needs the opportunity to engage in vividly imagining a potential goal to bring one's implicit and explicit motivation in alignment (named *situational referential processing*), as described by Schultheiss and Brunstein (1999). In addition, implicit-explicit alignment may also be the result of stable interindividual differences in people's RC (see Chapter 3.1.3.1; Broverman, 1960a, 1960b; Schultheiss, 2008).

Schultheiss and colleagues (2011) conducted three studies to test the hypothesis that RC is a predictor of the degree to which the implicit and the explicit motivational systems are congruent. Across all three studies they found that higher RC, as measured by response speed on a color-naming task (cf. Bucci, 1984), is associated with higher motive-goal congruence regardless of the motivational domain (power, affiliation, achievement). Moreover, in the absence of situationally or experimentally induced referential processing, as provided in the study of Schultheiss and Brunstein (1999), RC predicts preferences for motive-congruent goals. Interestingly, gender emerged as a moderator of the association between RC and motivational congruence. The association between RC and motive-goal congruence was stronger for women ($r_s = .48$ and $.38$, respectively, $p_s < .05$) than for men ($r_s = .10$ and $-.08$, respectively, $p_s > .05$). There were no or only marginal associations between RC and motive-value congruence. Schultheiss and colleagues (2011) explained this latter finding with the more enduring and passive nature of self-attributed motivational values (assessed with the PRF) relative to personal goals, which are more frequently formed and actively pursued and thus open more opportunities for RC to influence their selection in a motive-congruent way. Taken together, these results provide evidence that RC, as assessed with a simple color-naming task, is a stable individual trait that moderates the ability to efficiently translate verbal in non-verbal representations, and vice versa. This in turn predicts the degree to which the implicit and the explicit motivational system are aligned. However, the association between RC and motive-goal congruence was stronger for women than for men.

In sum, these findings suggest that referential processing, whether as a situational or as a dispositional factor, can help to bring implicit and explicit motivation in alignment.

Another especially promising candidate that could serve as a bridge between the two motivational systems implicit and explicit motives is the construct of *visions*. In the

following chapter, I will examine this construct in more detail and describe literature on visions in organizational as well as in individual contexts.

3.2 Visions – an Overview

3.2.1 Vision as distinct construct

“Visions are mental images of a desirable yet attainable future that regularly appear in the stream of thought and are developed by and for individuals, groups, or organizations” (Rawolle, 2010, p. 5). This definition encompasses the essence of research on vision attributes over the last decades. To date, the vision construct has been frequently combined with actual distinct constructs like missions, goals, strategies, or values (cf. Collins & Porras, 1991; Levin, 2000). Hence, it can hardly be distinguished from related constructs (see Chapter 3.2.2).

One possible starting point for the research on visions is research on goals (Kehr & Rawolle, 2008; Rawolle et al., 2007). Visions are conceptually quite similar to goals. Both constructs refer to desirable end states in the future (Kirkpatrick & Locke, 1996). Within leadership research, visions are often even defined as some special sort of goals: According to Conger (1999), a vision is an idealized goal to be achieved in the future. It involves both the definition of goals and the strategies for attaining these goals (Yukl, 1998). In consequence, using a wide definition for the conceptualization of goals leads to the view of visions as a special case of goals. Following the concept of hierarchical goal structures (Kruglanski et al., 1996), visions can be seen as special superordinate goals: They are complex and vague and one can derive specific sub-goals from visions to attain them. Thus, they have much in common with complex goals and identity goals (Carver & Scheier, 1998; Wicklund & Gollwitzer, 1982) described in Chapter 3.1.2. In the following, I will focus on goals, which are located rather on an intermediate or lower level in a goal hierarchy. Although visions and goals are similar in some respects, there are significant differences between them. The critical and most important difference is already implied in the term *vision*: Visions are represented in a picture-like format (Kehr, 2005; Kouzes & Posner, 1987; Rawolle, 2010). In contrast, goals are represented in a rather language-based format, namely *verbal codes* (Schultheiss et al., 2011). Moreover, goal setting theory and many management-training programs suggests that specific, measurable, attainable, challenging (but realistic), and timely goals are more effective in changing behavior and motivating individuals than goals that do not have these characteristics (Doran, 1981; Locke & Latham, 1990; Rawolle et al., 2007). A vision usually does not meet these criteria: a) Visions are general and vague, b) visions are more idealistic than goals, c) visions are never fully achieved in practice (e.g., "We don't sell flowers, we sell

beauty"; Kouzes & Posner, 1987, p. 91), and d) visions do not exhibit a defined time frame (Kirkpatrick & Locke, 1996). Within the organizational behavior literature, there is another difference: Visions apply to all organizational (or group) members (e.g., 'We want to pioneer the future. '), whereas performance goals typically apply to individuals or work units (e.g., "Department A will improve quality on Measure X by 50%."; Kirkpatrick & Locke, 1996). In other words, visions can be wider in scope. In fact, goal setting theory would predict that a vision alone will not greatly improve follower performance, because it is general or vague (Locke & Latham, 1990) and because it is seldom within the responsibility of any specific person or group.

Recent researchers interested in visions take a different view. According to Hallinger and Heck (2002) a vision is by nature a source of inspiration for one's life and is important because of its power to motivate, energize, and catalyze action for oneself and others. Accordingly, a clearly shaped personal vision guides one's actions, enriches the work with meaning, and reminds individuals of their own identity. These assumptions are very similar to those advocated by Strange and Mumford (2002). They summarized that a vision a) specifies direction and purpose (Conger & Kanungo, 1998), b) organizes action around an evocative set of future goals, which provides a powerful mechanism to motivate followers (Berson, Shamir, Avolio, & Popper, 2001), and c) provides a sense of identity and meaning (Shamir et al., 1993). Moreover, an effective vision arouses followers' needs and values (House, 1977) and generally directs attention toward desired outcomes and away from undesired or irrelevant aspects (Kirkpatrick & Locke, 1996; Kouzes & Posner, 1987; Locke et al., 1991). As it is highly discrepant from the status quo, it is very challenging for the followers (Conger & Kanungo, 1987; Kirkpatrick & Locke, 1996). As a vision is realistic, not utopist, it is still within the realm of acceptance.

Baum and colleagues (1998) identified the following characteristics that are said to differentiate effective (i.e., to significantly affect organizational performance) from ineffective organizational visions or vision statements: brevity, clarity, abstractness, challenge, future orientation, stability, and ability to inspire. These researchers were the first who related vision attributes to outcomes. In this case, venture growth was the indicator of organizational performance and served as outcome variable.

In summary, visions seem to have specific features, which help to dissociate the vision construct from the goal construct. Therefore, I will consider visions and goals as two different and independent constructs. However, until now, there has been no empirical evidence for this dissociation.

Apart from goals, there are several related constructs in the field of organizational psychology, which one has to consider when defining visions as a unique construct. I will

discuss the most important ones in the next chapter and try to distinguish them from the vision construct.

3.2.2 Visions and related constructs

Within the areas of psychology and organizational behavior, the construct of visions touches the borders of several other related but distinct constructs. I will focus on the most important ones: goals (for the differentiation, see Chapter 3.2.1), daydreams, positive fantasies, utopias, and missions.

Daydreaming, the second important construct besides goals, is characterized by a train of thought starting and developing without conscious premeditation and with no obvious conscious goal or purpose (Klinger 1971, 1987; Singer, 1981). In the majority of cases, they are accompanied by mental images, which represent an alternative reality. Visions, however, appear most of the time not incidentally and spontaneously, but rather regularly and intentionally in the stream of thought. People think about their vision with the aim to gain motivation and hope out of it. In other words, people intentionally and consciously develop and use their visions. As daydreams do not have to stick to reality, they often contain some unreal contents, like being another person or floating in space (Langens, 2002). Here again, they differ from visions. Although visions are highly discrepant from the status quo, they are still realistic (Conger & Kanungo, 1987; Kirkpatrick & Locke, 1996) and are grounded in reality. Moreover, daydreams consist of changing images and issues (Langens, 2002). Visions, in contrast, consist of one central image and issue (or maybe more issues bundled), which appears again and again in a mostly similar form.

Positive fantasies are defined as positive thoughts and mental images about a desired future (Oettingen & Mayer, 2002). According to Oettingen and Mayer (2002), positive fantasies should mislead a person to mentally enjoy the desired future in the “here and now”. They are thereby a motivational burden, as they decrease the motivation to implement the desired future in reality. The differences between positive fantasies and visions are quite the same as those described for daydreaming. Having a vision is not only associated with mere fantasizing about a positive future, but involves concrete ideas and plans about the future (Yukl, 1998). It also involves the comparison between present reality and desired future, which reveals aspects of the here and now that block one’s way to the vision. Therefore, thinking about the vision serves as orientation and motivator to reach the ideal mental image.

Utopias are fantasies or dreams, an escape that cannot be practically realized (Langdridge, 2006). Both utopias and visions provide a comparison between what is and what ought to be. However, even though visions are highly discrepant from the status quo, they are still realistic (Conger & Kanungo, 1987; Kirkpatrick & Locke, 1996; Rawolle,

2010). Therefore, they are still within the realm of acceptance (Conger & Kanungo, 1987; Kirkpatrick & Locke, 1996) and attainable (Rawolle, 2010).

From the organizational perspective, visions differ from missions. Missions are defined as clear and compelling goals that serve to unify an organization's efforts (Collins & Porras, 1991). An effective mission has to stretch and challenge the organization, but it has to be achievable. It has a clear ending and a specific time frame for its achievement. A mission is not represented as a mental image like visions, but involves propositions and instructions, such as verbal codes and abstract symbols. A mission is an intellectual concept that can be analyzed and discussed unemotionally (Campbell & Yeung, 1991). It is therefore not compelling or exciting, not to mention "gut-grabbing" (Collins & Porras, 1991). Therefore, the mission construct is very similar to the goal construct. On the other hand an organizational vision is seldom as concrete as a mission. It serves as a meta-goal, from which specific missions can be derived.

3.2.3 Effects of visions in organizational contexts

Visions and their positive effect on performance and employee satisfaction are becoming more and more important, especially in the organizational context. They are a core component of the new leadership theories (i.e., charismatic leadership, e.g., Conger & Kanungo, 1998; House, 1977; Shamir & Howell, 1999; visionary leadership, e.g., Sashkin, 1988; Westley & Mintzberg, 1988; and transformational leadership, e.g., Bass, 1985; Bass & Avolio, 1993; Tichy & Devanna, 1986). The main assumption of these theories is that leaders motivate and lead their followers by articulating and implementing an appealing image of the future – a vision (Baum et al., 1998; Strange & Mumford, 2002).

In the last years, more and more studies have examined and supported the assumption that motivation and performance increase due to a well-communicated vision. They have all reported positive relations between visionary leadership and individual, unit, or organizational performance as well as organizational growth (for a review, see Bass & Avolio, 1993; Baum et al., 1998; Shamir et al., 1993), rapidity of organizational change (Larwood, Falbe, Kriger, & Miesing, 1995), and changes in followers' attitudes, goal setting, and self-efficacy (Kirkpatrick & Locke, 1996). However, there exists no satisfying theoretical framework to explain the encountered positive effects of visions or visionary leadership as a whole (House & Podsakoff, 1994; Ilies et al., 2006; Rawolle, 2010; Shamir et al., 1993).

In their self-concept-based theory, Shamir, House, and Arthur (1993) proposed that charismatic leadership is motivationally effective by raising followers' self-esteem, collective identity, and intrinsic valence of work. However, their theory does not explicitly consider the articulation of a vision as leadership behavior. Therefore, it does not explain

the positive effects of visions but only the positive effects of leadership behavior. Hence, House and Shamir (1993) extended their self-concept-based theory with one important assumption. They argued that charismatic leadership is motivationally effective by selectively arousing “followers’ nonconscious achievement, affiliation, and power motives” (p. 91). This motive arousal should result in increased engagement of the self, self-monitoring, and self-evaluation. The only motives of the followers that are aroused are those especially relevant to the mission envisioned by the leader. A detailed explanation for this argumentation as well as for the specification of the underlying mechanism is missing. Moreover, empirical support for the self-concept-based theory is scarce (Bono, 2001; Ilies et al., 2006; Shamir, Zakay, Beinin, & Popper, 1998).

Two recently developed theories explicitly involve vision articulation as a core element of leadership behavior: the theory of motivational leadership (Ilies et al., 2006) and the motivational theory of charismatic leadership (Choi, 2006). At first sight the two theories look the same. Both explore the links between charismatic leadership and follower motivation. Ilies and his colleagues (2006) proposed that the motivational effects of visionary leadership rely on two mechanisms – an affective and a cognitive one. The affective influence process consists of the contagion of followers with the leader's positive emotions. The cognitive influence process begins with the formulation and articulation of the leader's vision. From this overarching vision, leaders will derive challenging and specific goals. This goal setting behavior of the leader, in turn, will lead to heightened goal commitment and self-efficacy as well as more self-set goals on the follower's side. However, Ilies and his colleagues have only briefly mentioned the emotional aspect of vision communication. They have thereby left out the most important property of visions: To motivate and inspire followers through the communication in images and metaphors, which in turn triggers emotional reactions in the followers. The motivational theory of charismatic leadership (Choi, 2006) also involves vision articulation as leadership behavior. Similar to House and Shamir (1993), it is based on the assumption that charismatic leadership affects the follower's implicit motives. Choi (2006) distinguished three core components of charismatic leadership: envisioning, empathy, and empowerment. The first component, envisioning, consists of the formulation and communication of a vision that is greatly discrepant from the status quo. This envisioning behavior activates follower's need for achievement by helping followers to set specific and challenging goals, to clarify performance expectations, to shape their positive self-perception, and to challenge their capabilities. The second component, empathy, consists of being sensitive to the followers' needs and emotions, sharing one's own emotions, and helping the follower to realize their goals. This empathic behavior stimulates followers' need for affiliation by creating and strengthening their trust as well as identification with

the leader, and, in turn, the desire to establish and maintain interpersonal relationships with their leader. The third component, empowerment, consists of delegating and sharing power with followers as well as using verbal persuasion and verbal recognition and functioning as role model. This empowerment behavior stimulates follower's need for power by enhancing the followers' perception of self-efficacy and their trust in their own abilities. Taken together, only the first component of this theory, the vision formulation and communication, plays an important role for the need of achievement and is ignored for the need of affiliation and power. Furthermore, the two motivational theories (Choi, 2006; Ilies et al., 2006) have not been empirically tested yet.

All in all, the theories that have so far been described in this chapter provide some useful theoretical ideas to explain the positive effects of visions, but all of them lack empirical support. Moreover, they do not consider the unique quality of a vision: the distinctive feature to be a mental image, which provides a vivid picture of the future. Furthermore, most of them put too much emphasis on the explicit motivational mechanisms (e.g., the enhancement of self-concept, self-efficacy, or goal setting; cf. Weinberger & McClelland, 1990). The fact that implicit motives play a role in the effects of leadership on motivation is only sometimes mentioned. The underlying motivational mechanisms by which charismatic leaders and their visions inspire and motivate others are insufficiently described or not described at all (e.g., House & Shamir, 1993).

However, especially over the last decade, some studies in leadership research have emphasized the imagery of visions. Emrich, Brower, Feldman, and Garland (2001) showed that the use of imagery during the vision communication was positively associated with presidential charisma and presidential greatness. To measure the imagery in U.S. presidents' speeches, they used Martindale's Regressive Imagery Dictionary (1973). It allows for separately tabulation of imaged-based words (e.g., dream, heart) and concept-based words (e.g. idea, commitment). Imagery-based words elicit sensory experiences such as mental images in listeners, whereas concept-based words, as they are low in imagery, evoke cognitive responses like logical interpretations from listeners. In other words, image-based words are more imagery-evoking than concept-based words (Emrich et al., 2001). They are rated as having greater "intensity of emotional meaning" (Campos, 1989, p. 496). Moreover, individuals experience stronger emotional response to messages that contain more image-based words and therefore evoke more imagery (Emrich et al., 2001; Miller & Marks, 1997). The term *image-based rhetoric* refers to the use of words that "quickly and easily arouse a sensory experience such as a mental picture or sound" (Emrich et al., 2001, p. 529). Emrich and colleagues explained the positive association between image-based rhetoric and presidential charisma as follows: Image-based rhetoric invoked a mental picture of the corresponding

articulated vision, which made the vision more real and appealing to followers. Words that evoke pictures, sounds, tastes, and other sensations provide a more direct access to one's life experiences than do words that affect only the intellect. In this way, the image-based rhetoric gets through to the followers' emotions, which in turn enhances the followers' willing to act in the required way (Emrich et al., 2001). The concept image-based rhetoric is very similar to the concept referential activity described in Chapter 3.1.4.1. High referential activity is characterized by a specific, concrete language that calls up pictures and communicates emotional experience.

In addition, Mio, Riggio, Levin, and Reese (2005) found that US presidents who made more use of metaphors in vision communication were considered to be more charismatic than presidents who made less use of metaphors. They argued that metaphors make visions more vivid, convey emotional meaning, and trigger emotional reactions in the followers. Moreover, they facilitate storage and recall of information. Metaphors can act as some kind of filter that sorts out the irrelevant information, leaving only the main idea, packaged in smaller, more manageable units (Mio, 1996). In this way, they make especially complex issues such as political opinions or decisions more easily understandable and clear to followers (Mio et al., 1996).

Naidoo and Lord (2008) designed an experiment to further investigate the effects of imagery in a leader's speech on listeners' perception of leader charisma and greatness. They rewrote the inaugural address of a former US president. One version was low in imagery, whereas the other one was high in imagery. They then randomly assigned participants to the two versions. After listening to one of the two speeches, participants rated the speeches on various leadership measures. High imagery speeches resulted in higher perceived charisma of the president. This effect was partially mediated by higher state positive affect of participants who were listening to the high imagery speech. In sum, recent research suggests that imagery-based visions (whose content elicits sensory experiences such as mental images in listeners) lead to emotional reactions such as positive affect, whereas concept-based visions (whose content is low in imagery and evokes cognitive responses from listeners) lead to cognitive reactions.

Although these three studies consider high imagery as an important basis for the development of the positive effects of visions (especially the listeners' perception of leader charisma and greatness), they do not clarify the underlying motivational mechanisms by which visions inspire and motivate others. One possible explanation would be as follows: Image-based visions lead to positive affect in the listeners. Positive affect is a core characteristic of the arousal of implicit motives (cf. Weinberger & McClelland, 1990). In combining these two facts one might assume that high as opposed to low imagery in the leader's speeches prompted mental imagery. This mental imagery in turn, aroused

participants' implicit motives and thereby elicited positive affect (for a comparison between the two resulting models, see Figure 3).

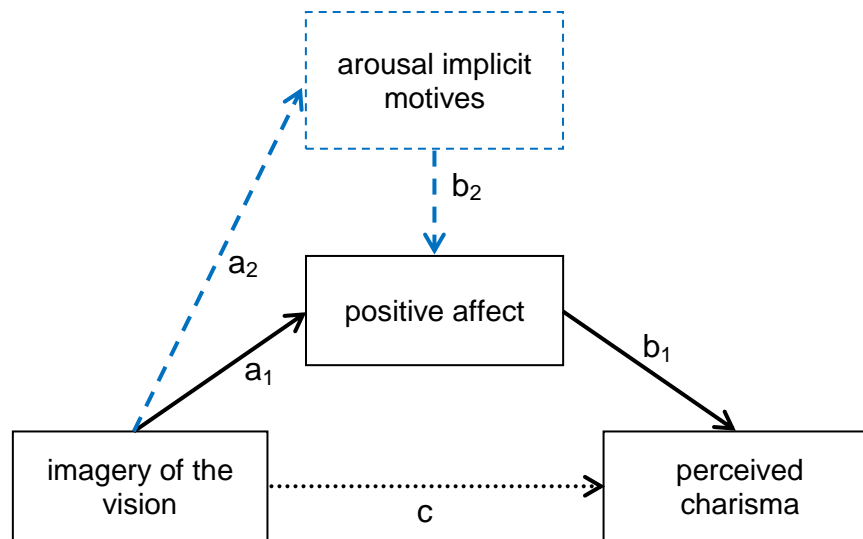


Figure 3. Overview of two Different Mediation Models Concerning the Influence of Imagery on Perceived Charisma. The solid lines (a_1 and b_1 ; black color) represent Naidoo and Lord's (2008) proposed mediation model; the dashed lines (a_2 and b_2 ; blue color) represent the described extension with the arousal of implicit motives.

In the following, I complement the effects of visions in the organizational context with the motivational effects of imagining the future in the individual context. I thereby clarify the underlying mechanisms, which are involved in this process. In this way, I depict the capacity of mental images and visions in particular to arouse a person's implicit motives.

3.2.4 Effects of the imagined future in individual contexts

The idea that imagination of a desired future promotes motivation has guided decades of psychological research. Indeed, a considerable number of psychological studies have illustrated the motivational benefits of positive images of the future.

For instance, Ruvolo's and Markus's (1992) research on possible selves demonstrates that subjects who imagined being successful in the future because of hard work compared to subjects who imagined being unsuccessful in the future despite of hard work performed better.

In a series of studies, it has been documented that subjects who were asked to imagine and explain a variety of future occurrences, e.g., the outcome of an upcoming election (Carroll, 1978), subsequently rated the hypothetical outcome as more likely to occur compared to non-imagined outcomes (for a review, see Johnson & Sherman, 1990).

Moreover, the imagination of concrete future actions or events enhances motivation and hence helps to achieve them. Sherman, Skov, Hervitz, and Stock (1981) asked participants to imagine and explain either success or failure on an anagram task and to predict their performance. Participants who imagined success not only expected to perform better, they even outperformed those who imagined failure. Similarly, Taylor and Pham (1996) found that students who imagined their successful performance on a midterm exam reported higher motivation to study and higher expectations of success than those in the no-imagery control group or those who had previously imagined the process of exam preparation. However, the latter began studying earlier, studied longer, and received higher grades. Taylor and her colleagues (e.g., Taylor, Pham, Rivkin, & Armor, 1998) assumed that envisioning the outcome increases expectations of success, motivation, and emotional involvement, whereas envisioning the process prompts concrete action plans and problem-solving activities.

For successful goal-attainment, the imagination of a hypothetical outcome is just half of the story. The other half is the mental contrasting of these fantasies about the desired future with the present reality (e.g., Oettingen & Mayer, 2002; Oettingen, Pak, & Schnetter, 2001; Oettingen & Thorpe, 2006). According to Oettingen and colleagues, mental contrasting activates a person's expectations of whether he or she is able to change reality into the desired future. These expectations determine the strength of commitment to fantasy realization. It is important to note that these authors focus predominantly on explicit motivational mechanisms (e.g., self-efficacy expectations, or setting of and commitment to goals). They also stated that imagining the desired future elicits non-conscious (i.e., implicit) motivational processes and thereby triggers implicit motivation. Mental contrasting then ensures that the resulting implicit motivation is transferred into binding goals and instrumental actions (Oettingen & Thorpe, 2006).

Recent research explains why mentally imagining the desired future elicits motivation. Motivation triggered by imagining the future develops through the arousal of implicit motives (Kehr et al., 2010; Rawolle, 2010). First evidence that mental images can arouse implicit motives comes from psychological studies on goal imagery conducted by Schultheiss and Brunstein (1999; see Chapter 3.1.4.2). They argue that mental images are very similar to real images. Findings in cognitive neuroscience have yielded support to this notion: Mental imagery involves brain areas that are usually dedicated to the processing of real perceptions (Farah, 1985, 1988; Finke, 1989; Kosslyn, 1994, 2005; Kosslyn, Alpert, Thompson, et al., 1993; Kosslyn, Ganis, & Thompson, 2001, 2006; Kosslyn & Thompson, 2003). For instance, patients with brain damage often show deficits in imagery that are equivalent with their deficits in perception (see Farah, 1988; Kosslyn, 1994, 2005). In addition, researchers have used neuroimaging techniques (primarily

positron emission tomography, PET, and functional magnetic imaging, fMRI), to assess the brain activity while participants perform “visual mental imagery tasks” (Kosslyn, 2005; for reviews, see Kosslyn et al., 2001; Kosslyn & Thompson, 2003). They found activation in brain areas that are relevant for visual perception. In other words, imagined cues activate the same brain areas like real cues (Kosslyn, 1994, 2005). Furthermore, research on emotions pointed out similar effects. Moreover, imagining an affectively charged situation can be as emotionally arousing as actually experiencing it (Kosslyn et al., 1996; Schultheiss & Brunstein, 1999; Schwartz, Weinberger, & Singer, 1981). Moreover, Kreiman, Koch, and Itzhak (2001) found evidence for neurons that respond selectively in the same pattern during both perception and imagery of different stimuli. Stimuli were faces showing emotions, household objects, spatial layouts, cars, animals, drawings, famous faces, food, and complex patterns. This response pattern was also seen in the amygdala, which plays a key role in certain emotions. Also in line with my argumentation is a quote by Schneider (1983): “Imagining a scenario does not produce a dry cognitive representation but rather evokes emotions, often strong and passionate ones.” (p.180). Thus, the only difference seems to be that mental images are generated by the mind instead of by stimulation of the retina (Pylyshyn, 2006).

As visions are mental images and do not need to be intentionally translated into a pictorial format, visions should have the capacity to arouse a person's implicit motives and elicit implicit motivation (Kehr, 2005, 2008; Kehr & Rawolle, 2008). Rawolle and colleagues (Kehr et al., 2010; Rawolle, 2010) tested this assumption in three experiments. In each study, they administered visions enriched with specific motivational content to arouse the targeted implicit motive and then measured the strength of the resulting implicit motivation using a variety of motivational indicators. In the first study, they examined all three motive domains by comparing an affiliation vision, an agency vision (agency is defined as a combination of power and achievement), and a neutral vision (control condition, no motive content) with respect to their effects on three indicators of motivation: changes in motive imagery on the PSE, changes in salivary testosterone (an indicator of implicit power motivation) and changes in salivary progesterone (an indicator of implicit affiliation motivation). Results showed an increase of affiliation imagery in the affiliation vision condition, whereas agency imagery on the PSE increased in the agentic vision condition. Moreover, in the affiliation vision condition, increases in affiliation imagery were accompanied by increases in progesterone, whereas in the agentic vision condition, increases in power imagery were accompanied by increases in testosterone.

In the second study Rawolle, Kehr, and Strasser (2010; Rawolle, 2010) focused on the achievement domain by comparing an achievement vision and a relaxation task with respect to their effects on three motivational indicators: changes in achievement imagery

(i.e., *hope for success imagery*), affective arousal (i.e., tense arousal, energetic arousal, and hedonic tone), and performance on a mental concentration task (i.e., reaction time and error rate). Results showed an increase of hope for success imagery and tense arousal as well as reductions of reaction times and error rates after participants listened to the achievement vision. Furthermore, the strength of the person's pre-vision hope for success moderated the influence of the achievement vision on energetic arousal and reaction times.

In the third study, Rawolle and colleagues (2010) focused on the affiliation and power domain, changes in salivary alpha-amylase, affective arousal, and cooperation behavior in a prisoner's dilemma. In this game, two players can choose between two moves, either *cooperate* or *exploit*. The idea is that each player gains when both cooperate. But if only one of them cooperates, the other player, who exploits, will gain more. If both exploit, both lose or gain very little. But they gain more as the cooperator whose cooperation is not returned. The results showed that hedonic tone was higher after the participants imagined the affiliation vision, especially in participants high in *n* Affiliation, whereas tense arousal was higher after participants imagined the power vision. In addition, energetic arousal was higher after the power vision, but only for people high in *n* Power. Moreover, the power vision increased the alpha-amylase level and exploitative behavior, particularly in participants high in *n* Power. In contrast, the affiliation vision increased cooperative behavior, especially in predominantly affiliation-motivated participants. Taken together, the results provide strong and reliable empirical evidence that visions are motivationally effective by arousing implicit motives.

In sum, a considerable number of psychological studies have illustrated the motivational benefits of positive images of the future. They support the notion that mentally imagining the desired future elicits motivation. Moreover, they lend first support for the assumption that motivation triggered by imagining the future develops through the arousal of implicit motives. One aim of the present research was to extend these findings regarding the motivational mechanism and the effects of visions.

3.3 Integration and Present Research

The aim of the present research was to examine the motivational mechanisms and effects of personal visions in an individual setting. I wanted to extend previous results of lab experiments to the field and to test their ecological validity. Furthermore, I intended to provide empirical support for the conceptual distinction between the two related constructs of personal visions and personal goals. In light of the aforementioned findings, it seemed promising to integrate personal visions and personal goals into the information-processing

model of implicit and explicit motivation (Schultheiss, 2001, 2008; see Figure 1). In this model, Schultheiss translated Epstein's CEST (1994) into motivational terms, integrated the most important differences between the explicit and the implicit motive system, and denoted referential processing as the mechanism that links the two systems. According to this model, implicit motives are more likely to respond to nonverbal incentive cues (such as facial expressions, gestures, pictorial stimuli, etc.; e.g., Klinger, 1967; Schultheiss & Hale, 2007; Schultheiss et al., 2004) than to verbal-symbolic cues (such as demands, requests, suggestions etc.; for more details, see Chapter 3.1.3). I will use the information-processing model of implicit and explicit motivation to differentiate between the two constructs visions and goals (see Figure 4). Visions are represented in a picture-like format (Conger, 1999; Rawolle, 2010) and can therefore be viewed as nonverbal incentive cues. Consequently, they should arouse the implicit motive system (Kehr, 2011). The arousal of the implicit motive system is particularly likely to show an effect on non-declarative measures of motivation (Kehr et al., 2010; Rawolle, 2010). On the other hand, goals are represented in a language-based format and can therefore be viewed as verbal incentive cues (Kehr, 2000, 2004c). Consequently, they should arouse the explicit motive system. The arousal of the explicit motive system is particularly likely to show an effect on declarative measures of motivation (Rawolle et al., submitted for publication).

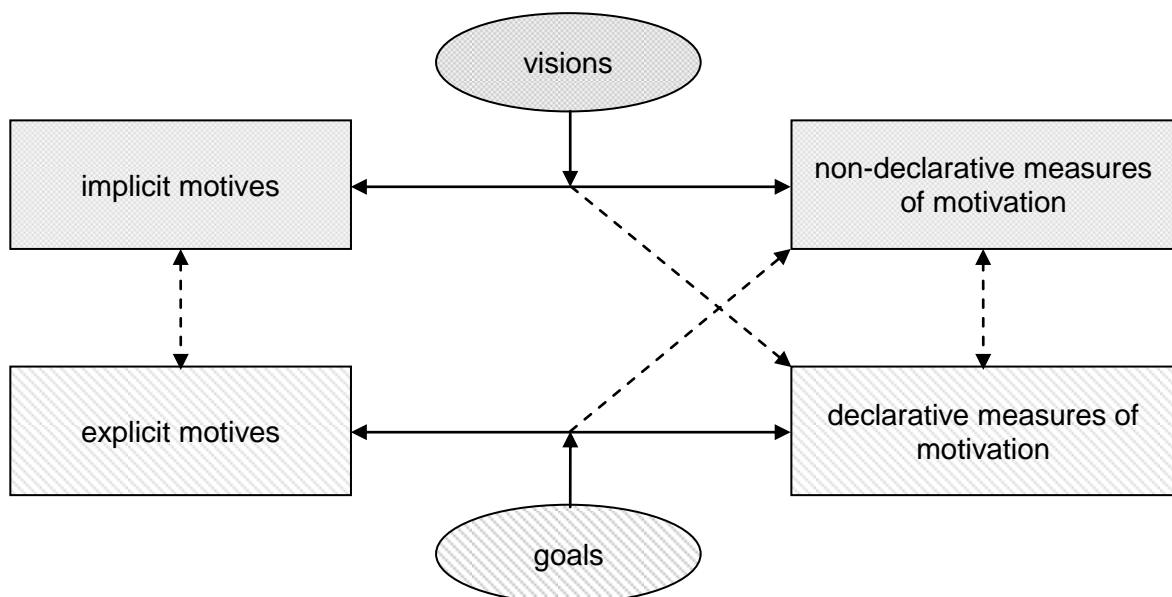


Figure 4. Adapted Information-Processing Model of Implicit and Explicit Motivation (Schultheiss, 2008). Visions serve as nonverbal incentive cue, goals as verbal incentive cue (Kehr, 2005).

In sum, visions and goals are likely to interact with different motivational systems. Visions carry information about some desired situation in the future in a picture-like format and by this means makes them available for the implicit motive system, which is sensitive

to nonverbal, picture-like stimuli. However, goals transfer information about some desired end state in a more language-based format. This type of information addresses the explicit motive system. I contend that personal visions, due to their link to the implicit motive system, should have different effects on actions than personal goals. Personal visions should influence the direction, energization, and selection of behavior (e.g., Carver & Scheier, 1998; McClelland, 1987; Pfaff, 1999; Schultheiss, 2008). Personal goals, as they are part of the explicit motive system, should predict the cognitive orientation towards a special end state, or, more precisely, the evaluation of outcomes and associated consequences, (Brunstein et al., 1998; Kehr, 2004a; McClelland et al., 1989; for a more detailed description of hypothesized effects of implicit and explicit motives in an action episode, see Rheinberg & Engeser, 2010).

The fact that implicit motives are sensitive to motive-specific picture stimuli and thus trigger motivational processes acts as one important basis for my further propositions. Due to this characteristic, the most frequently used measure of implicit motives is the PSE (cf. McClelland et al., 1989; see Winter, 1999; Schultheiss & Pang, 2007, for key differences between the PSE and Murray's (1943) Thematic Apperception Test). The fact that mental images, like visions, can have the same effects as real images (Kehr & Rawolle, 2008; Rawolle, 2010), has been shown by neurophysiological studies (for details, see Chapter 3.2.4) and acts as a second important basis. Thus, visions should act as real images and automatically and "non-intentionally" arouse implicit motives, as shown by Rawolle and colleagues (Kehr et al., 2010; Rawolle, 2010; for more details, see Chapter 3.2). Moreover, Schultheiss and Brunstein (1999) demonstrated that individuals could increase their motivational congruence by vividly imagining a potential goal before committing themselves to it. This goal imagery is the perception-like mental representation of the pursuit and attainment of a goal. Thus, here again, mental images acted like real images and allowed an access to the implicit motive system.

Based on these effects of visions and goal imagery on motivational indicators, I expected that the imagination of a motive-specific vision, which fits with a person's implicit motives and contains affectively charged incentives (Schultheiss & Brunstein, 1999), should arouse the corresponding implicit motives. This motive arousal is experienced as positive affective resonance and enables people to choose a personal vision that fit one's own implicit motives. The reason is that motive arousal signals the availability of motive-specific incentives. This triggers an anticipatory motivational state that "energizes, selects, and orients a person's behavior towards the attainment of the desired incentive" (Brunstein et al., 1998, p. 494; based on McClelland, 1987). In our case, the behavior consists of imagining and pursuing the specific personal vision. The now available incentive leads to a pleasant, positive affect, which in turn reinforces the behavior.

Therefore, the anticipation of rewarding affect will prompt the individual to recreate the experience induced by the pursuing of the personal vision. In this way, motive arousal and the resulting positive affect can be interpreted as a reinforcing or better incentive mechanism. They promote that the person, in the long run, pursues personal visions that match his or her implicit motives. I call these personal visions *motive-congruent personal visions*. In other words, I hypothesized that due to their pictorial representational format, visions should be more motive-congruent than personal goals (King, 1995), which are represented in a more language-based format.

Moreover, I assumed that personal visions can replace intentional goal imagery by triggering an automatic comparison between implicit motives and goals, which are derived from the personal visions. This assumption is based on Schultheiss and Brunstein's results on goal imagery (1999; for more details, see Chapter 3.1.4.2). Subjects who imagined their goal pursuit and realization showed higher commitment to motive-congruent goals compared to subjects in the control group. In the control group without goal imagination, there was no effect of motive-congruency on goal commitment. The authors concluded that goals need intentional translation into a picture-like format, which allows an automatic comparison with the implicit motive system. However, personal visions should replace this intentional translation, as they already offer the information in a pictorial representational format or in case of vision communication in a pictorial language. If one derives goals from a personal vision, the representational format of the goals should still remain the same as the representational format of the underlying personal vision. In this way, the information of the desired goals is transferred in a pictorial format and therefore available to the implicit motive system. In other words, a personal vision could serve as guideline and mediator for motive-congruent goal choice.

In addition, as these vision-derived goals are backed up by high implicit motives, they should be a significant predictor of future goal progress (Brunstein et al., 1998; Schultheiss et al., 2008). This assumption is based on two ideas. First, when vision-derived goals are backed up by strong implicit motives, individuals experience intense motivational gratification if they perceive progress in goal achievement. This motivational gratification is experienced as positive affect. Thus, progress on motive-congruent goals can be seen as a positive reinforcer. Individuals will frequently try to recreate the experience of positive affect induced by the goal progress (Brunstein et al., 1998; Weinberger & McClelland, 1990) and therefore invest more effort in the attainment of the vision-derived goal. Secondly, when vision-derived goals are backed up by strong implicit motives, behavior is guided by the automatic, intuitive, non-verbal, hedonically oriented system (Schultheiss et al., 2008). Thus, the pursuit and realization of those goals is facilitated via an intuitive mode of goal pursuit based on implicit motives.

Furthermore, there are several findings supporting the view that achieving personal goals that are backed up by strong implicit motives lead to heightened states of emotional well-being (Brunstein et al. 1998; Pueschel et al., 2011; Schultheiss et al., 2008). In line with these findings, goal progress was ascribed an intermediary role in the prediction of participants' emotional well-being through motive-congruence of vision-derived goals. Individuals pursuing vision-derived goals that are backed up by strong implicit motives should experience enhanced emotional well-being because they achieve more goal progress than individuals pursuing vision-derived goals that are not backed up by strong implicit motives. The higher goal progress of motive-congruent vision-derived goals, in turn, should lead to enhanced emotional well-being.

The aim of the present research was to test the integration of personal visions and personal goals into the information-processing model. I wanted to shed light on the differences and similarities between the two constructs. In this context, I also tried to provide evidence for the motive-congruence of personal visions and to evaluate the effects of a motive-congruent personal vision on both positive affect and development of motive-congruent goals.

Thus, I was guided by the following hypotheses. First, personal visions and personal goals have a different representational format. Visions are represented in a picture-like format, whereas goals are represented in a language-based format. Second, due to their picture-like format, personal visions are more congruent with the person's implicit motives than personal goals, which tend to be represented in a language-based format. Third, imagination of a motive-specific vision, which fits with a person's implicit motives, should arouse the corresponding implicit motives. This motive arousal is experienced as positive affective resonance. Fourth, if goals are derived from a motive-congruent personal vision, this results in motive-congruent goals. Fifth, these motive-congruent vision-derived goals exhibit high goal progress at a later time, as they are backed up by the corresponding implicit motive. This goal progress, in turn, leads to enhanced emotional well-being.

4 Present Research

To test my hypotheses, I examined two samples. The first one consisted of people with a personal vision, the second one of people with personal goals. I used these two samples in the following study to provide insight in my research topics. To simplify the structure, I subdivide the present research into four parts. In Part 1, I examined the characteristics of personal visions such as content, duration, dominant area of life, to name a few. The aim was to provide a better understanding of the construct *personal vision*. In Part 2, I explored the differences between personal visions and personal goals as well as the effect of imagery on the motivating power of personal goals or personal visions. In Part 3, I examined the relationship between implicit motives, explicit motives, and the motive content of personal visions and vision-derived goals. In addition, I wanted to measure the positive affect after the vision imagination. In Part 4, I explored the future goal progress of vision-derived goals and its effect on emotional wellbeing. In the following section, I present the hypotheses in more detail, the methods and results of the present research.

4.1 Hypotheses

4.1.1 Part 1 – Delineating the construct of personal visions

To explore the construct of personal visions as a special case of visions, as well as to examine whether personal visions show the critical attributes mentioned in the definition, I assessed and analyzed the personal visions of 64 individuals with a self-report measure (cf. King, 1995). After they had described their personal vision I asked them several open and closed questions concerning their personal vision. These questions encompassed the content, the area of life involved in the vision, its development, which feelings were generated while imagining the vision, and the degree of personal vision realization. The focus of the study was to gain insight into the construct of personal vision, which has remained widely unnoticed until now.

4.1.2 Part 2 – Conceptual and empirical differences between personal visions and personal goals

After the rather qualitative and descriptive approach in the first part, I compared the construct of personal visions to the construct of personal goals. In doing so, I tried to provide a conceptual distinction between personal visions and personal goals, based not only on a theoretical framework, but also on empirical results.

As mentioned above, the crucial characteristic of visions and thus the most important difference to goals is their representation as a mental image (Conger, 1999). Goals are

defined as cognitive representations of desired future states (Austin & Vancouver, 1996; Brunstein & Maier, 1996) and are represented in a more language-based format, in 'verbal codes' (Schultheiss et al., 2011). To date, there is no empirical evidence for this specific quality nor for other specific attributes and effects of visions, which differentiate them from goals (see Chapter 3.2.1 for a detailed theoretical discussion). Therefore, the aims of this part of the study were to 1) elaborate the representational format of both personal visions and personal goals and 2) to assess similarities and differences between personal visions and personal goals in order to delineate the two constructs based on empirical evidence. Moreover, I examined the role of imagery for the motivating power of personal goals and personal visions.

Therefore, out of the total 64 participants who described their personal vision, I took 53 German native speakers (vision-group) and compared them with 53 participants, who described their most important personal goal (goal-group).

Picture-like vs. verbal format. First, I explored the degree of imagery using two different operationalizations: On the one hand, I asked the participants to rate the imagery of their personal vision or their personal goal, thus employing an explicit measure. On the other hand, I used the degree of referential activity in the text as measured by a computer-based content analysis, the *Computerized Referential Activity* (CRA; Mergenthaler & Bucci, 1999), thus using an implicit measure. As visions are mental images of the future (Conger, 1999) they should be represented in a picture-like format. Moreover, as goals are specific individualized and cognitively elaborated representations of what one intends to achieve in one's current life situation (Brunstein et al., 1998; Job et al., 2009), they should be represented in a less picture-like and more verbal format (Schultheiss et al., 2011). Therefore, my first hypothesis was: Personal visions contain more imagery than personal goals. I measured referential activity with the CRA and subjectively rated imagery as indicators of imagery.

To further support my hypothesis, I assessed the *cognitive*, *affective*, and *perceptual processes* present in the participants' personal vision or goal descriptions. I measured these processes with the computerized dictionary *Linguistic Inquiry and Word Count* (LIWC2001; Pennebaker et al., 2007; Wolf, Horn, Mehl, Haug, Pennebaker, & Kordy, 2008). As described earlier, visions as mental images should be connected to positive affect as well as to perceptual processes like hearing, observing, and feeling (see Chapter 3.1.4.1). Therefore, I assumed higher scores for positive affect as well as perceptual processes in the vision-group than in the goal-group. As goals are cognitive representations lacking imagery, they should be linked to cognitive processes like thinking about the ongoing mental state, negation, assertion, and uncertainty. Therefore, I

expected higher scores for the cognitive processes in the goal-group compared to the vision-group.

Hypothesis 2.1.1: Personal visions are higher in imagery than personal goals, indicated by a higher referential activity.

Hypothesis 2.1.2: Personal visions receive higher scores on the subjective assessment of imagery than personal goals.

Hypothesis 2.1.3: Personal visions score higher on positive affect and perceptual processes, but lower on cognitive processes than personal goals.

Influence of imagery on motivation. Second, I analyzed the role of imagery on the subjective rating of emotional and motivational power of personal visions and personal goals, respectively. Recent research in the organizational context has already shown that speeches high in imagery led to higher perceived charisma and greatness of a leader (Mio et al., 2005; Naidoo & Lord, 2008). The positive effects of imagery on charisma are explained by the fact that image-based rhetoric easily invokes a mental picture of a vision, which makes the vision more real and appealing to followers. Moreover, in Naidoo and Lord's study (2008) the effect of imagery on charisma was partially mediated by positive affect (higher state positive affect of participants who were listening to the speech, that were rich in imagery). Positive affect is a core characteristic of the arousal of implicit motives (cf. Weinberger & McClelland, 1990). This might imply that high as opposed to low imagery in the speeches of the leaders prompted mental imagery in followers, which in turn aroused their implicit motives and thereby elicited positive affect during imagining the vision. From this finding I derived the following hypotheses:

Hypothesis 2.2.1: The richer the imagery of a personal vision, the more it is rated as motivating by participants. This effect is mediated by participants' experienced positive affect during imagining the vision.

Hypothesis 2.2.2: The richer the imagery of a personal goal, the more it is rated as motivating by participants. This effect is mediated by participants' experienced positive affect during imagining the vision (Mediation Hypothesis; see Figure 5).

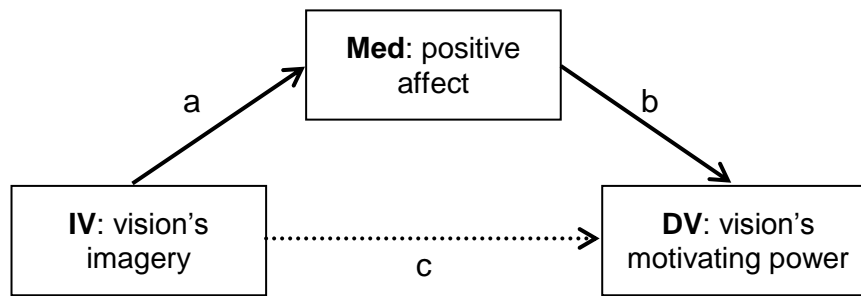


Figure 5. Mediation Hypothesis. Mediation of the influence of imagery (independent variable) on motivation (dependent variable) through positive affect (mediator). IV = Independent Variable; Med = Mediation; DV = Dependent Variable.

Vision vs. goal attributes and effects. Third, I contrasted personal visions and personal goals regarding several attributes and effects, which – according to the literature – are prototypical for a vision or a goal.

Abstraction. I examined the degree of abstraction of both personal visions and personal goals. That is, I measured via the computer-based content analysis CRA (Mergenthaler & Bucci, 1999) the generality, vagueness, and abstractness of their descriptions. Visions are described as more general and extensive as to their content than goals (Kirkpatrick, Locke, & Latham, 1996). They often capture several different areas of life and involve a longer time frame. Therefore, a higher degree of abstraction is necessary to capture a personal vision as a whole. Goals, in contrast are specific individualized plans of what one intends to achieve (Brunstein et al., 1998). Therefore, my second hypothesis was that personal visions compared to personal goals score higher on *abstraction* (assessed with the CRA). It is important to mention that *abstract* in this context is *not* the opposite of *concrete*, but from *specific*. Personal visions embed the future in a wider context than goals. Still, their description can be concrete and clear.

Hypothesis 2.3: Personal visions compared to personal goals score higher on abstraction.

Further Attributes. According to Conger and Kanungo (1987), visions denote states that are highly discrepant from the status quo, but still within the realm of reality and acceptance. In addition, they do not include a defined time frame and are long-term oriented (Kirkpatrick & Locke, 1996). Goals are more realistic and therefore more accepted and attainable than visions, as they are closer to the status quo (Locke & Latham, 1990). Moreover, they should have a definite time frame and be more specific

and detailed (according to the *SMART-criteria* Specific, Measurable, Accepted, Realistic, and Timely; Doran, 1981). Furthermore, although Baum, Locke, and Kirkpatrick (1998) identified brevity and clarity as important attributes for an effective vision, I assumed that these criteria are analogous to the SMART-criteria and therefore more characteristic for goals than for visions.

As both constructs refer to desirable end states in the future (Austin & Vancouver, 1996; Brunstein & Maier, 1996; Conger, 1999; Rawolle, 2010), I did not expect any differences between personal visions and personal goals on the two dimensions desirable end state and future orientation.

Hypothesis 2.4.1: Personal visions score higher than personal goals on the attributes of discrepancy from status quo and long-term orientation.

Hypothesis 2.4.2: Personal goals score higher than personal visions on the attributes of being realistic, clear, brief, detailed, attainable, and widely accepted.

Hypothesis 2.4.3: Personal visions and personal goals do not differ regarding their scores on the attributes of a desirable end state and future orientation.

Effects. Due to the higher discrepancy of the articulated state from the current state, visions should be more challenging than goals. Furthermore, recent research assigns several positive qualities to visions: They organize action around an evocative set of future goals (as goals can be derived from a vision; Kirkpatrick & Locke, 1996), which provides orientation and directs efforts (Berson et al., 2001). In addition, visions inspire and motivate individuals. They are also able to energize and catalyze action (Baum et al., 1998; Hallinger & Heck, 2002). Moreover, visions shape one's actions, specify directions (Conger & Kanungo, 1998), and provide a sense of identity and meaning (Hallinger & Heck, 2002; Shamir et al., 1993). I assumed that these effects should be more prominent for visions than for goals, as visions arouse the implicit motive system, which is responsible for a) *directing* behavior towards desired incentives and away from aversive disincentives, b) *energizing* behavior directed at such outcomes (e.g., Carver & Scheier, 1998; McClelland, 1987, Pfaff, 1999), and c) *selecting* behaviors that are instrumental for attaining (or avoiding) them (McClelland, 1987). Goals, in contrast, are part of the explicit motive system, which predicts the cognitive orientation towards a special end state (Brunstein et al., 1998, Kehr, 2004b; McClelland et al., 1989). That is, explicit motives influence the evaluation of outcomes and the respective associated consequences (for a detailed analysis of the influence of implicit and explicit motives in an action episode, see Rheinberg & Engeser, 2010).

Therefore, I expected higher scores for personal visions than for personal goals regarding the following qualities:

Hypothesis 2.5: Personal visions are better at giving orientation, directing efforts, energizing and catalyzing actions, specifying direction, and providing a sense of identity and meaning than personal goals. Moreover they inspire, motivate, and challenge more than personal goals. Finally, it is easier to derive goals from them as from personal goals.

4.1.3 Part 3 – Closing the gap between implicit motives and personal goals

The aim of the third part was to further examine the relationship of personal visions, personal goals, and implicit as well as explicit motives. Moreover, to further elaborate the guiding hypothesis, I supplemented the rather subjective questionnaire data used in the first part with more objective measurements of positive affect. Therefore, I used the hedonic tone scale from the University of Wales Mood Adjective Check List (UMACL; Matthews, Jones, & Chamberlain, 1990). In addition, I asked participants about their positive affect immediately after the imagination of their personal vision. In this way, I decreased the distortion brought about by self-report and consequently increased the validity of my results.

Motive content of personal visions. First of all, I was interested in the motive-congruence of personal visions. Implicit motives are sensitive to motive-specific picture stimuli. Visions are represented in a picture-like format (Conger, 1999). Moreover, mental images, like personal visions, can have the same effects as real images (Kosslyn, 1994, 2005). Hence, the imagination of a motive-specific vision should arouse the corresponding implicit motive. This motive arousal is experienced as positive affective reaction and signals the availability of something desirable, or the availability of motive-specific incentives. Thus, the resulting positive affect enables the individual to choose a personal vision that fits with his or her implicit motives. Moreover, based on behaviorist theories, I assumed that the individual will frequently try to recreate the experience of positive affect induced by the personal vision. This means that motive arousal and the resulting positive affect act as a reinforcing or better incentive mechanism. They promote that a person, in the long run, pursues personal visions that match his or her implicit motives. So I assumed that the motive content of one's personal vision is congruent with a person's implicit motives (*motive-congruent personal vision*).

Hypothesis 3.1: Due to their pictorial quality and the resulting access to the implicit motive system, personal visions should be congruent with the person's implicit motives.

Motive content of personal goals. Furthermore, I wanted to explore the effects of motive-congruent personal visions on the motive-congruency of personal goals, which were derived from a personal vision. Research has shown that personal goals do not correlate with implicit motives (see King, 1995; Rawolle et al., submitted for publication). However, if goals are derived from motive-congruent personal visions (Kirkpatrick & Locke, 1996), I proposed that these vision-derived goals are also motive-congruent. I based this hypothesis on the assumption that visions transfer information about some desired situation in the future in a picture-like format and therefore make them available to the implicit motive system, which is sensitive to picture-like stimuli. Personal goals that are derived from the personal vision should be more likely to be congruent with the implicit motive system. In other words, personal visions should (automatically) trigger a comparison between implicit motives and derived goals. Therefore, they should be able to replace the intentional goal imagery (Schultheiss & Brunstein, 1999). Thus, my proposition could bridge the gap between goals and implicit motives, in that it suggests a direct way to gain access to one's own implicit motives. In other words, this study tested whether personal visions have the capacity to promote higher congruence between the implicit and the explicit motive system. As such, a personal vision would be a device to promote motivational competence, that is, the ability to align the conscious self as well as current and future situations and goals with the own implicit motives (Rheinberg, 2006).

Hypothesis 3.2: If goals are derived from a motive-congruent personal vision, these goals should be more motive-congruent than goals that are not derived from a personal vision.

Mediation Hypothesis. I assumed that the influence of implicit motives on the motive content of vision-derived goals is mediated by the motive content of the personal vision. For example a high implicit power motive should lead to a personal vision with high power content. This personal vision, in turn, leads to high power content in the vision-derived goals (Mediation Hypothesis). Thus, implicit motives affect the motive content of the vision-derived goals only indirectly through the motive content of the personal vision.

Hypothesis 3.3: The influence of implicit motives on the motive-content of vision-derived goals is mediated by the motive content of the personal vision (Mediation Hypothesis; see Figure 6).

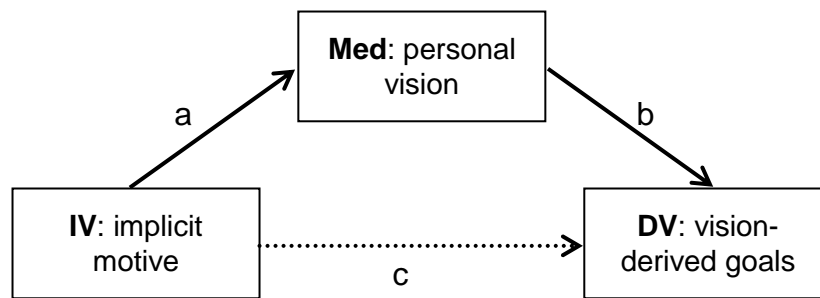


Figure 6. Mediation Hypothesis (indirect effect). Mediation of the motive-congruence of the vision-derived goals (dependent variable) through the motive content of the personal vision (mediator). IV = Independent Variable; Med = Mediation; DV = Dependent Variable.

Changes in positive affect. To assess changes in self-reported positive affect I measured hedonic tone at the beginning of the session (T1) and after the imagination of the personal vision (T2). Hedonic tone indicates the consumption of the affectively charged reward (cf., Matthews, Jones, & Chamberlain, 1990; Weinberger & McClelland, 1990), which is anticipated through the visualization of a motive-congruent personal vision (i.e., a personal vision that thematically fits one's implicit motives). Moreover, the arousal of hedonic tone is associated with implicit motivation (Weinberger & McClelland, 1990). I therefore hypothesized that the imagination of a motive-specific personal vision should arouse the corresponding implicit motives. This motive arousal should be experienced as positive affective reaction, indicated by a significant increase in hedonic tone. The resulting positive affect enables the individual to choose a personal vision that fits his or her implicit motives. I call this the *guiding hypothesis*:

Hypothesis 3.4: The imagination of a motive-congruent personal vision should lead to positive affect, indicated by a significant increase in hedonic tone.

Exploratory hypotheses. Explicit motives. As personal visions are represented in a pictorial format, they should be anchored in the implicit motive system. At the same time, explicit aspirations should be incorporated into the mental image. Or at least, the motive content of the personal vision should not be contradistinctive to the explicit motive system. The personal vision would otherwise trigger a chronic dissonance between implicit and explicit motive system. To examine the role of explicit motives and to support the proposition that visions are influenced more by the implicit motive system than by the explicit motive system, I assessed the explicit motives of my participants. I hypothesized

that the motive content of personal visions is more strongly aligned with a person's implicit motives than with her or his explicit motives.

Furthermore, prior research has shown that personal goals do not correlate with implicit motives (see King, 1995; Rawolle et al., submitted for publication). According to McClelland and colleagues (1989), personal goals are allied to the explicit motive system. Thus, there should be a correlation between goals and explicit motives. I, however, assumed that vision-derived goals are, unlike usual goals (which are not vision-derived), associated more with the implicit (as described in section *Motive content of personal goals*) than with explicit motives.

Hypothesis 3.5.1: The motive content of personal visions is more congruent with the person's implicit than with her or his explicit motives.

Hypothesis 3.5.2: The motive content of vision-derived goals is more congruent with the person's implicit than with her or his explicit motives.

4.1.4 Part 4 – Exploring goal progress of vision-derived goals in a longitudinal design

The aim of the fourth part of the study was to examine the goal progress of vision-derived goals two month after these goals have been derived from the personal vision. I wanted to show that personal visions not only allow to derive motive-congruent goals from them, but that these vision-derived goals exhibit also a higher goal progress due to the support of the implicit motives. I thereby wanted to replicate and extend recent research on goal progress and emotional well-being. First, I used the motive content of personal goals measured with Winter's (1994) content coding system instead of asking participants to generate personal goals that fit in one special motive domain (Brunstein et al., 1998; Schultheiss et al., 2008). By using the continuous motive score obtained by Winter's (1994) procedure as motive content of personal goals, I was able to take into account the fact that personal goals people set for themselves are seldom as purebred as they are represented in people's minds and idealized expectations. Moreover, Schultheiss et al. (2008) used motive and goals scores that were aggregated across the three motive domains power, achievement, and affiliation. I examined the effect of motive-congruent goals for each motive domain separately. In addition to the reported cross-sectional design (Part 1-3) and the study done by Schultheiss and colleagues (2008; see Chapter 3.1.3), a longitudinal design was also used. This procedure allows a causal interpretation of the results. Even more important, most of the time research on the influence of motive-congruent goals on emotional well-being is based on samples with students (Brunstein et al., 1998; Schultheiss et al., 2008). One cannot say with certainty whether those findings

can be generalized to populations differing from the samples recruited in these studies in age and educational background. Therefore, I examined a very heterogeneous sample in terms of age and educational background to allow for a generalization of the results to different populations. Finally, I explored a special type of personal goals: personal goals that participants derived from their personal vision. In this vein, I assumed only an indirect effect of the implicit motives on the vision-derived goals through the motive content of the personal vision (for more details, see Hypothesis 3.2 and 3.3 in Part 3). In short, I tested, in a longitudinal design, whether the perceived progress in goal achievement of vision-derived goals could be explained by their motive-congruence and whether this goal progress was associated with positive mood (see Figure 7).

Goal progress. Basically, the present study was built on the assumption that vision-derived goals that were backed up by high implicit motives would be a significant predictor of goal progress (Hypothesis 4.1: *goal progress hypothesis*). As shown in part 3, individuals who have, for example, a high power motive, pursue a personal vision that is also high in power content. Moreover, they derive goals from their personal vision that are also high in power content (*motive-congruent goals*; see results for Hypothesis 3.2 and 3.3 in Part 3). I assumed that the high power content that is congruent to participants' implicit power motive should be linked to higher levels of goal progress (Brunstein et al., 1998; Schultheiss et al., 2008). This assumption is based on two ideas. First, when vision-derived goals are backed up by strong implicit motives, individuals experience intense motivational gratification if they perceive progress in goal achievement. This motivational gratification is experienced as positive affect. Thus, progress on motive-congruent goals can be seen as a positive reinforcer. Individuals will frequently try to recreate the experience of positive affect induced by the goal progress (Brunstein et al., 1998; Weinberger & McClelland, 1990) and therefore invest more effort in the attainment of the vision-derived goal. Secondly, when vision-derived goals are backed up by strong implicit motives, behavior is guided by the automatic, intuitive, non-verbal, hedonically oriented system (Schultheiss et al., 2008). Thus, the pursuit and realization of those goals is facilitated via an intuitive mode of goal pursuit based on implicit motives. Moreover, as explained in Part 3 in more detail, I found that the motive-congruence of the vision-derived goals is mediated by the personal vision. Therefore, the effect of implicit motives on vision derived goals is indirect through the motive content of the personal vision.

Hypothesis 4.1: The higher the motive content of vision-derived goals that is backed up by the corresponding implicit motive, the higher the goal progress.

Positive mood and emotional well-being. Furthermore, there are several findings supporting the view that achieving personally meaningful goals leads to heightened states of emotional well-being (for a review, see Emmons, 1996; Brunstein, 1993; Brunstein et al. 1998; Emmons & King, 1988). In other words, high goal progress is a precursor, not a consequence, of enhanced mood (e.g., Brunstein, 1993; Brunstein, Dangelmayer, & Schultheiss, 1996; Schultheiss et al., 2008). However, recent research suggests that high progress in goal achievement does not lead to enhanced emotional well-being per se, and that low progress in goal achievement does not always lead to impaired, emotional well-being. Success or failure in the pursuit of personal goals affects emotional well-being only if the personal goals are relevant for the satisfaction of implicit motives (Pueschel et al., 2011; Schultheiss et al., 2008). In line with these findings, goal progress was ascribed an intermediary role in the prediction of participants' emotional well-being through motive-congruence of vision-derived goals. Individuals pursuing vision-derived goals that are backed up by strong implicit motives experience enhanced emotional well-being because they achieve more goal progress than individuals pursuing vision-derived goals that are not backed up by strong implicit motives. The higher goal progress of motive-congruent vision-derived goals, in turn, leads to enhanced emotional well-being. In the present study, I focused on positive mood as one central feature of emotional well-being (cf. Brunstein, 1993). Therefore, progress in goal achievement was expected to mediate the influence of motive-congruence of vision-derived goals on participants' positive mood (see Figure 7).

Hypothesis 4.2: Goal progress of vision-derived goals leads to heightened positive mood.

Hypothesis 4.3: Vision-derived goals that are backed up by strong implicit motives have indirectly a positive effect on positive mood through increased goal progress.

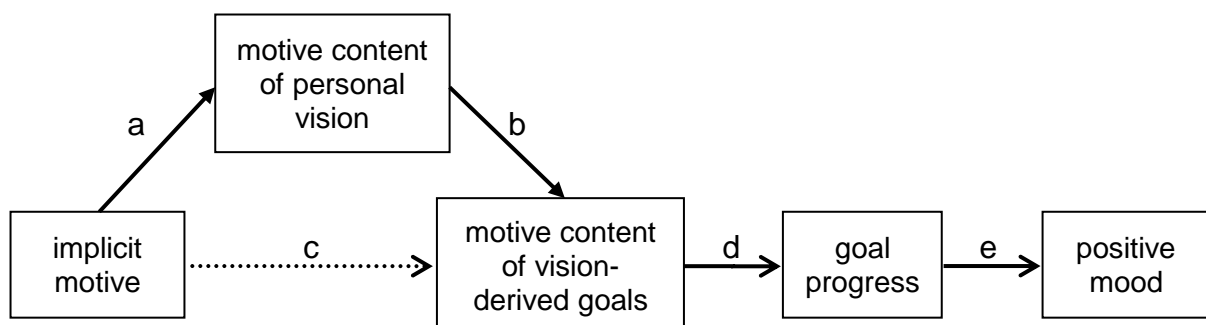


Figure 7. Hypothesized Overall Model. Motive content of vision derived-goals is predicted by the participant's implicit motives. This influence is mediated through the motive content of personal vision. The resulting motive content of vision-derived goals predicts the goal progress at Session 2. Goal progress, in turn, predicts participants' positive mood at Session 2.

Our predictions were tested in a longitudinal study. In the first session I assessed participants' implicit motives and the motive content of vision-derived goals. The second session took place two month after the first session. At this time, I measured the progress in attaining the vision-derived goals and positive mood. In accordance with the period of time covered by the present study, it was intended to predict changes in participants' positive mood.

4.2 Method

Participants

I examined two samples. The first one consisted of people with a personal vision ($N = 65$), the second one of people with personal goals ($N = 53$). Of the participants with personal goals, 46 indicated that they also have a personal vision. None of them indicated that the personal goals described in the study were derived from the personal vision. The total sample consisted of 117 subjects. They received a compensation for expenses in the amount of 10 €. Participants signed up in response to fliers posted in museums, universities and other educational institutions (see Appendix A, for a copy of the flyer for the vision-group), or were personally asked to join (recruiting sites include parks and parties; subjects included acquaintances or relatives of subjects). All participants provided informed consent.

Of the initial pool of participants with a personal vision, one participant was dropped from the analyses because she knew about the aims of the study. The final data set used for the analyses in the first (qualitative analysis of personal visions) and the third part of the study (analyzing the relationships between implicit and explicit motives, personal visions, and vision-derived goals) was based on 64 participants (32 women, 32 men). Their age varied between 19 and 55 with a mean age of 27.4 years ($SD = 7.7$). Twenty-five subjects had completed their education and had a job at the time of the study. Thirty-nine of the subjects were students. Each of the subjects spoke German fluently (55 as native language, 9 foreigners).

For the second part of the study, the sample consisted of 106 subjects (63 women, 43 men) with an average age of 25.2 years ($SD = 6.0$ years) and a range from 19 to 49 years. There were 53 people with a personal vision and represented the vision-group ($M_{age} = 27.3$, $SD = 7.2$; 25 women, 28 men) and, 53 participants who described a personal goal instead of a personal vision and represented the goal-group ($M_{age} = 23.0$, $SD = 3.5$; 38 women, 15 men). As I needed German native speakers for the computerized content analyses, I selected only 53 of the 64 participants from the initial visionary sample. From this sample, 39 of the subjects had completed their education and had a job at the time of

the study and 67 of them were students (15 workers and 38 students in the goal-group; 24 workers and 29 students in the vision-group). Of the initial pool of participants, none were dropped from the analyses.

A group of 38 participants completed the second session (26 dropped out). No participant reported substantial change in his or her personal goals within the period of the study. The resulting sample for Part 4 (longitudinal study) were 38 participants (22 women and 16 men), with an average age of 26.6 years ($SD = 7.6$) and a range between 19 and 55 years.

Design

For the first part of the study, I focused on the qualitative analysis of personal visions. Therefore, I used a computerized survey containing open and closed questions as well as rating scales.

As the main interest of the second part of the study was the (explorative) differentiation between personal visions and personal goals, I compared a vision-group ($n = 53$) with a goal-group ($n = 53$). The dependent variables were scores in referential activity and abstraction (both measured via CRA), psychological processes (cognitive, affective and perceptual; measured via LIWC2001), and subjective appraisals of the attributes and effects of personal visions or personal goals (measured via the Vision Attribute and Effects Scale).

For the third part of the study, I used a correlational design to test the relationships between implicit and explicit motives, personal visions, and vision-derived goals. Concerning the effect of motive-congruent personal visions on positive affect, implicit motives and motive content of the personal visions served as independent variables. The dependent variable was the residual change in hedonic tone.

For the fourth part of the study, I used a longitudinal design. Data were collected at two testing periods covering 2 month. The first session (Session 1) took place from mid-May till mid-August. The second testing period occurred 2 month after participants had participated in the first session (Session 2, from mid-July till mid-October).

Procedure

Participants were tested one at a time in a session that lasted approximately 90 minutes. First, participants completed the PSE in order to assess their $nAff$, $nPow$, and $nAch$. This was followed by the assessment of $sanAff$, $sanPow$, and $sanAch$ via the Personality Research Form. Then the participants described their personal vision in about 8 sentences and answered several questions to further elaborate their personal vision. They also filled out the Vision Attribute and Effects Scale (VAES; Rawolle, Strasser, &

Kehr, in preparation) and the Incentive Theme Scale. After that, they were asked to derive three personal goals from their personal vision and to describe them. Then they were administered the pre-vision positive affect measure (UMACL, hedonic tone scale). Subsequently the guided visualization of the personal vision (see Appendix C) was administered. Then, the post-vision measurement was administered: Participants filled out the post-vision positive affect measure (UMACL, hedonic tone scale). Finally, participants provided demographic information. They were then thanked and debriefed.

The goal-group attended a shortened session of the vision-experiment consisting of only the relevant questionnaires and lasting about 45 minutes. First, participants completed the PSE and the PRF. They then described their currently most important personal goal. This self-report was analogous to the vision-group. The goal description was followed by the VAES, which had been adapted for personal goals. Finally, participants provided demographic information and were debriefed.

The PSE and all questionnaires of the study were programmed in Inquisit 2.0 (Millisecond Software, Seattle, WA).

This session was the first testing period (Session 1) for the longitudinal design. The second testing period (Session 2) was two months after participants had participated in the first session. The questionnaires administered at Session 2 were mailed to participants. First, participants were asked to indicate the positive mood they had over the last two weeks. Thereafter, they filled out part of Brunstein et al.'s (1998) personal goal scales with each of their three vision-derived goals listed at the beginning. Within 3 days, all participants had returned their completed questionnaires. Participants were also asked to briefly comment as to whether they had completed or dropped personal goals listed at Session 1. At Session 2, four subjects indicated that they had completed one (two subjects) or two (two subjects) of their vision-derived goals, respectively.

Constructs and measurement instruments

Implicit motives. To assess $nPow$, $nAch$, and $nAff$, a PSE was administered. In the PSE, participants are shown a picture cue typically depicting multiple actors in ambiguous interpersonal situations, and they are instructed to write whatever story comes to mind, describing what is supposed to be happening in the picture (Pang & Schultheiss, 2005; Smith, 1992). The PSE-set used in this study consisted of the Pang and Schultheiss (2005) 6-picture set (*the boxer*, *women in laboratory*, *ship captain*, *couple by river*, *trapeze artists*, and *nightclub scene*). With the exception of the last picture, which was taken from McClelland (1975), all pictures are taken from Smith (1992). All six pictures have been used extensively in varying combination with other pictures in past research on implicit

motives (e.g., King, 1995; Lundy, 1988; Zurbriggen, 2000). They had originally been selected because of the ambiguous and everyday character of the depicted scenes.

Participants followed the standard instructions for computer administration of the PSE described by Schultheiss and Pang (2007). Picture order was randomized for each participant. Each picture was shown for 10 seconds and then replaced by a screen with writing instructions (Schultheiss, Lienen, & Schad, 2008). Participants were instructed to type their stories directly into a window on the screen with the guiding questions appearing above the writing window. After 4 minutes, a text appeared in the upper half of the screen instructing participants to finish the story and move on to the next picture, along with the instruction to hit "CTRL + Enter" when they were ready to proceed. They were not forced to go on with the next picture.

The resulting PSE protocols (extracted by a utility of the program PSE-Tools; PreRo-IT Technik, Erlangen, 2009) were blind-content-coded for *nPow*, *nAch*, and *nAff* by two trained scorers according to Winter's (1994) *Manual for Scoring Motive Imagery in Running Text*. This coding-system allows for the scoring of the three motive imageries at once, and has been used in previous research on implicit motives (e.g., Schultheiss & Brunstein, 2001). According to this manual, *nPow* is scored whenever a story character shows a concern with having impact on others through strong, forceful actions, controlling, influencing, helping, impressing, or eliciting strong emotions in others. *nAch* is scored whenever a character shows a concern with a standard of excellence, as indicated by positive evaluations of goals and performances, winning or competing with others, disappointment about failure, or unique accomplishments. Finally, *nAff* is scored whenever a story character shows a concern with establishing, maintaining, or restoring friendly relations, as expressed by positive feelings towards others, sadness about separation, affiliative activities, or friendly, nurturing acts. Winter's (1994) scoring system combines *n Affiliation* and *n Intimacy* into one conjoint imagery category due to the theoretical and empirical overlap between the two constructs. For the sake of brevity, I denote this category as *nAff* throughout the remainder of this dissertation.

Before coding the PSE protocols, the two scorers had undergone coding training using the materials contained in Winter's (1994) manual until they had achieved 85% agreement or better with calibration materials pre-scored by experts that are also contained in the manual. Percentage agreements (also called inter-rater reliability) between the two scorers across all six-picture protocols were estimated by the index of concordance ($(2 \times \text{number of agreements between scorers}) / [\text{Scorer A's scores} + \text{Scorer B's scores}]$; see Winter, 1994; Schultheiss & Brunstein, 2001). The inter-rater reliability was 88% for *nPow*, 91% for *nAch*, and 89% for *nAff*. Scoring disagreements were resolved by discussion, and scores from these joint sessions were used as final scores. To minimize errors, I used the

same two trained scorers for all scoring material (consisting of PSE stories as well as personal vision and personal goal protocols).

Mean raw scores were $M = 4.00$ for $nPow$ ($SD = 2.46$), $M = 4.27$ for $nAch$ ($SD = 2.04$), and $M = 4.52$ for $nAff$ ($SD = 2.00$).

Scores were assigned to typed PSE stories by entering them directly into the text documents and were then extracted by a second utility of the program PSE-Tools (PreRo-IT Technik, Erlangen). This program has been specially developed for the analysis of PSE stories. It automatically extracts PSE protocols into word files and after entering the motive scores into this text document it transfers each participant's motive scores into an excel-sheet. Participants' protocol length of typed stories was determined by means of the same program. Mean score for protocol length was $M = 533.69$ ($SD = 161.75$).

In order to bring the motive scores into closer alignment with normal distributions and to avoid outlier problems in the analyses, I conducted a square-root transformation with the achievement and the power motive score.

Because PSE protocol length was significantly correlated with participants' overall scores for $nPow$ ($r = .51$), for $nAch$ ($r = .26$), and for $nAff$ ($r = .26$), all $ps < .05$, I removed the influence of protocol length from the motive scores by means of a regression analysis and converted the residuals to z-scores (cf. Cohen, Cohen, Aiken, & West, 2003).

Explicit motives. To assess explicit motives I administered the dominance, achievement, and affiliation scales of the German Personality Research Form (PRF; Stumpf et al., 1985). These PRF scales have been constructed to capture the same motivational themes that also guided the development of the original TAT measures, but through questionnaire items. These motivational themes are power (dominance), achievement, and affiliation motivation. They have been integrated into Winter's (1994) scoring system (cf. Smith, 1992) and were originally described by Murray (1938). Each PRF scale includes 16 True/False (1/0) statements describing values, habits, and preferences which are consistent or inconsistent with each motive domain. Participants were asked to decide how representative each statement was for them. Sample items for each scale are: "I feel confident when directing the activities of others" (dominance scale), "I don't mind working while others are having fun" (achievement scale), and "I go out of my way to meet people" (affiliation scale). To obtain overall scores for each scale I first recoded the reverse coded items and then calculated the sum scores. The internal reliability of the three resulting scales was $\alpha = .82$ for the Dominance scale ($sanPow$; $M = 10.23$, $SD = 3.84$), $\alpha = .63$ for the Achievement scale ($sanAch$; $M = 12.08$, $SD = 2.52$), and $\alpha = .78$ for the Affiliation scale ($sanAff$; $M = 11.89$, $SD = 3.21$).

Vision and goal content. Participants were asked to describe their personal vision or their personal goal in at least eight sentences. I provided some guiding questions: "What are the most important points in your vision? What situation(s), what state is described in your vision? At what time and where does your vision take place? What or who plays a leading part in your vision? Which part?" There was no time limit. In the goal-group the sentences were the same. Only the word *vision* was replaced by the word *goal*. Examples are shown in the Appendix B.

Vision specification. I assessed more concrete details about the personal visions of my participants by asking several open and closed questions. At the beginning of the study, all participants were asked to answer the following three open questions: "When, or on which occasion, did your vision develop?", "On which occasions do you think about your vision?", and "How do you feel when you think about your vision?".

After participants had answered these questions they were asked to specify their degree of vision realization by indicating percentage points, answering the question: "All in all, how much of your vision have you already realized? Please indicate by giving a percentage between 0 and 100%."

Afterwards, participants rated their personal vision on four 5-point scales. The first assessed the *frequency of thinking* about the personal vision ("How often do you approximately think about your vision?"). The response scales ranged from 1 (*seldom [every few months]*) to 5 (*often [many times a day]*). The second scale assessed the range of their personal vision according to the amount of *people who are related* to their personal vision ("The vision is related to..."). The response scale ranged from 1 (*only me*) to 3 (*a group of people*) to 5 (*a great many people*). The third scale assessed the *areas of life* their personal vision is related to ("The vision is related to..."). The response scale ranged from 1 (*only one area of life*) to 5 (*very many areas of life*). After this response they were asked to write down the respective area(s) of life. The author scored whether the area of life was part of the category "family and friends", "job", or both. The fourth scale assessed the degree of success at realizing their personal vision ("How successful are you right now at realizing your vision?"). The response scale ranged from 1 (*not successful at all*) to 5 (*very successful*).

Assessment vision-derived goals. Vision-derived goals were assessed by self-report measures. Participants were asked to generate a list of three personal goals which they pursue in order to attain their personal vision. They were told that "personal goals refer to the objectives, plans, and projects that you have pursued lately and that you intend to work on in the near future" (Brunstein et al., 1998, p. 497). Again, I supported goal-

derivation with three guiding questions: “What do you want to do, to reach this goal? What makes this goal attractive for you? What thoughts and fantasies do you have in mind when you think about this goal?” There was no time limit.

Vision attributes and effect scale. In order to measure the attributes and effects of a vision (regardless of whether it is a personal vision, an organizational vision, or a vision statement) I used the Vision Attribute and Effect Scale (Rawolle et al., in preparation). This scale is based on a comprehensive literature research and a comprehensive review of leadership, business strategy, and entrepreneurship theories. It enables a subjective assessment of diverse and frequently used characteristics and effects of a vision. It integrates several different measures, which have been applied to visions in the last decades. For example, Larwood et al. (1995) identified seven factors which constitute a vision. They labeled the factors as follows: vision formulation (including items that indicate a strategic emphasis), implementation (indicating successful communication of a vision), innovative realism (showing tactical responsiveness to both internal and external events), general (including the items general and difficult to describe), detailed, risk-taking (including both risky and rejection of conservative), and profit-oriented (including bottom-line-orientation). Baum et al. (1998) identified seven attributes that are said to be necessary for an effective vision: brevity, clarity, abstractness, challenge, future orientation, stability, and desirability or ability to inspire. However, none of them are comprehensive measures of visions (or vision statement). The VAES, in contrast, consists of the three sections: criteria, attributes, and effects. Therefore, it allows not only for a subjective evaluation of the attributes and the content of a vision, but also of its effects, such as enhancing motivation and inspiration (for more details, see Chapter 3.2.1 and 3.2.3).

In order to compare the attributes and effects of personal visions with personal goals, I adapted the scale for the goal-group by replacing the word *vision* with the word *goal* (see Appendix D).

I asked the participants to rate their own personal vision or own personal goal on the 4 criteria dimensions, 10 attribute dimensions, and 17 effect dimensions using a 5-point Likert-type scale. The gradations were labeled *definitely not correct*, *rather not correct*, *partly correct*, *rather correct*, and *definitely correct*. Each dimension included one positively and one negatively framed item. The 4 criteria are *pictorial*, *realistic*, *future orientation*, and *frequency of thinking*. The 10 attribute dimensions are *discrepant from status quo*, *long-term oriented*, *desirable end state*, *clear*, *brief*, *detailed*, *attainable*, *well-communicated*, *adaptive*, and *widely accepted*. The 17 effect dimensions are *directs effort*, *catalyzes action*, *gives orientation*, *guides decision (specifies direction)*, *energizing*,

provides identity, inspires, provides meaning, challenges, motivates, indulges, negative and positive affect, strengthens persistence, flexible, reachable, persuasive, and one can derive goals from it (for a detailed overview of all items, see Appendix D).

After recoding the reversed items, sum scores were calculated for each scale that had a fairly sufficient internal consistency (Cronbach's $\alpha > .50$). As the internal consistency for the attribute desirable end state was not high enough, I kept the distinction desirable end state and undesirable end state. Therefore, the final scale consisted of 11 attributes.

Subjective vision content. The subjective content of the personal vision was measured by the Incentive Theme Scale (Schattke, Seeliger, Schiepe, & Kehr, submitted for publication). The scale assesses how strongly a person perceives achievement, power, and affiliation incentives in a certain activity. It consists of nine items deduced from the literature on implicit motives (Lindlacher, 2010). Three of the items capture power incentives, three items capture achievement incentives, and three items capture affiliation incentives. In my case the incentives reflect the subjective motive content of the personal vision. Participants were asked to rate how strong their personal vision refers to the motive contents on a 7-point Likert-type scale, ranging from 1 (*definitely not*) to 7 (*definitely*). The items for achievement incentives were "experience challenges", "strive for perfection", and "increase my performance". The items for power incentives were "have impact on others", "gain prestige and fame", and "control others". The items for affiliation incentives were "meet other people", "initiate relations with others", and "maintain friendships". All three motive content measures were found to have satisfactory internal consistency (Cronbach's α ranging from .70 to .85). Therefore, I calculated sum scores for each scale and each assessment. Means were $M = 16.97$ ($SD = 2.88$) for achievement content, $M = 12.97$ ($SD = 4.22$) for power content, $M = 15.75$ ($SD = 4.55$) for affiliation content. Achievement and power content as well as affiliation and power content were correlated ($r = .38$ and $r = .42$, $ps < .005$), whereas achievement and affiliation content were not significantly correlated ($r = .17$, $p > .05$).

Positive affect measure. Positive affect was measured both at the beginning of the experimental session (T1) and after the imagination of the personal vision (T2). The measure consisted of a modified version of the UWIST Mood Adjective Check list (UMACL; Matthews et al., 1990; cf. Schultheiss & Brunstein, 1999). As I was interested in positive affect, I only used the *hedonic tone* scale (consisting of eight items: *happy, satisfied, contented, cheerful, sad, depressed, dissatisfied, and sorry*). Items were presented in random order with the primer "Right now I feel...". Participants were asked to rate the applicability of each adjective on a 4-point Likert-type scale ranging from *definitely*

not, slightly not, slightly, to definitely. After recoding the negatively keyed items (sad, depressed, dissatisfied, and sorry), the hedonic tone measure was found to have satisfactory internal consistency at T1 and T2 (Cronbach's $\alpha = .89$). Therefore, I calculated the sum scores for each assessment of the scale. Means were $M = 24.36$ ($SD = 4.48$) for pre-vision hedonic tone and $M = 26.58$ ($SD = 3.91$) for post-vision hedonic tone. T1-T2 correlations were .74 (see also Table 6).

Vision administration. In order to evoke mental images in the minds of the participants in a standardized way, I used a guided visualization technique, which has been adapted from Rawolle (2010) and Schultheiss and Brunstein (1999). The visualization was similar to so-called dream vacations, used for example in psychotherapy or for relaxation.

Participants were asked to lie down on a couch and listen via headphones to a 14-minute long prerecorded script featuring a male speaker (the whole visions script can be found in Appendix C). The imagery scripts started with a short relaxation exercise (4 min) during which participants were instructed to close their eyes and keep them closed until the end of the guided imagery. This was followed by the guided visualization. Participants were asked to imagine their personal vision (8 min). The imagery script ended with a short bringing back period (2 min). In the development of the imagery script, I took great care to use simple language and long breaks to provide enough time for the participants to establish and foster the mental image of their future. Each sentence in the prerecorded imagery script was followed by a pause of 10 seconds. Furthermore, to heighten participants' awareness of their own emotional reaction to their personal vision and to involve them more actively in the construction of the imagined scenes, I included questions at several points within the imagery script focusing on their affective reaction and their surrounding in their fantasy (e.g., "How do you feel about this?", "What do you feel now?", "What do you see around you?"). After each question there was a pause of about 10 to 20 seconds. Right after the imagination, participants were asked about their ability to imagine their personal vision. They had to answer two questions (e.g., "Did an image / mental picture develop in front of your inner eye, while you were dealing with your vision?" and "How well could you imagine yourself in your personal vision?") on a 5-point-Likert-type scale (1 = not at all, 5 = very much). Means were $M = 4.66$ ($SD = .67$) for the first question and $M = 4.33$ ($SD = .84$) for the second question.

Computerized referential activity. Referential activity. To assess RA I used the Computerized Referential Activity measure based on computer assisted content analysis techniques (Mergenthaler & Bucci, 1999). In this study I used a computer program called

CM software (Mergenthaler, 1996), which consists of the dictionaries *CRA* and *abstraction*, among others. The CRA dictionary itself consists of two separate dictionaries. One is a word list of 63 entries identified as characteristic for high RA (RA_{high}). The other is a word list of 118 entries representing low RA (RA_{low}). The major linguistic categories in the RA_{high} word list are the following: third person singular pronouns (he, she, his, her, him); all articles (a, an, the); other terms with deictic reference (this, those); words carrying directional and spatial meaning (in, into, on, off, up, down, ...); words describing mental and emotional states, usually in the past tense (knew, thought, wanted); common, basic actions, either present or past (came, come, gave, give); past tense copulative verbs (was, were), which are often used with adjectives; references to speaking, in the present rather than past tense (says, talking, tell, ...). Major categories in the RA_{low} word list include: non-specific quantifiers (any, more, most); non-specific actions in the present tense (make, try, ...); non-specific objects (thing, things, someone, something, nobody, ...); words expressing negation, assertion, and uncertainty (not, yeah, yes, maybe, ...); words describing current or ongoing mental states (dreaming, think, ...). First person singular pronouns are split between both lists, with *I* in the low and *me* in the high RA vocabulary. RA is the degree to which individuals have been able to capture and communicate non-verbal, including emotional experience, in a language that calls up pictures and is specific, definite, and concrete. The two RA scores served as operationalization of the degree of imagery, used by the participants to describe their personal vision or their personal goal (for a detailed explanation of the development of the measurement, see Chapter 3.1.4.1).

Abstraction. A further linguistic measure of CM software which is important for my research question is the abstraction of a text (abbreviated: AW for abstract words). Like RA, it is based on a dictionary of words identified as significant for conceptual language (*abstraction*; Mergenthaler, 1996). Abstraction is known as a construct leading to the development of understanding and perception (Piaget, 1977). Schneider (1983) identified reflecting abstraction as the "central mechanism leading to the construction of new structures" (p. 81). I use the term abstraction as an expression of reflection. Thinking about feelings or things occurs cognitively by way of reflective abstraction. Abstraction leads to the reduction of the information content of a concept or an observable phenomenon by using simplification (Rosen, 2009). As it is directly represented linguistically in abstract word forms, abstraction can be measured within a text by quantifying the use of abstract nouns or the building of abstract terms out of concrete concepts by morphological transformation on single word forms. The natural language provides a set of suffixes (e.g., *-ness*, *-tion*, and *-ment*) that can be used to build abstract nouns. Thus taking *being tender*, one can easily build *tender-ness*; or the word *we* allows

to build the neologism *we-ness* (Buchheim & Mergenthaler, 2000; Mergenthaler 1996). The abstraction score served as operationalization of how general, vague, and abstract the personal vision and personal goal descriptions were.

Analyses. Both personal vision and personal goal descriptions were analyzed using the CM software. Mean raw scores were $M = 28.66$, for RA_{high} ($SD = 17.25$), $M = 19.20$ for RA_{low} ($SD = 13.93$), and $M = 17.21$ for AW ($SD = 11.05$). The mean raw scores for the goal-group were $M = 19.89$, for RA_{high} ($SD = 9.18$), $M = 15.11$ for RA_{low} ($SD = 7.85$), and $M = 11.58$ for AW ($SD = 5.38$). The mean raw scores for the vision-group were $M = 28.66$, for RA_{high} ($SD = 37.43$), $M = 18.96$ for RA_{low} ($SD = 23.68$), and $M = 22.83$ for AW ($SD = 12.37$). As distributions of the CM scores were skewed, I conducted square-root transformations ($\text{SQRT} [.5 + \text{scale}]$).

As individuals high in RC are habitually better at moving back and forth between verbal and nonverbal representations (as indicated by findings of Bucci, 1984, and Bucci & Freedman, 1978) it should be easier for them to put images and ideas into words. Thus, individuals high in RC should show higher verbal fluency. In one of their studies, Schultheiss and colleagues (2011) found a correlation between RC (measured via color-naming task) and verbal fluency (assessed by the total word count on the PSE). Shorter color-naming latency differences were related to higher verbal fluency¹. Therefore, I removed the influence of protocol length from participants' CM scores by means of a regression and converted the residuals to z-scores (cf. Cohen et al., 2003). Protocol lengths of both personal visions and personal goals were significantly correlated with participants' overall scores for RA_{high} , $r = .95$, RA_{low} , $r = .85$, and AW , $r = .90$, all $ps < .001$. Thus, the resulting z-scores reflect the mere pictorial quality of the vision and goal descriptions, adjusted for protocol length, differences in verbal fluency, and parts of referential competence.

Linguistic expression/ psychological processes. In order to measure the underlying psychological processes deducible from the participants' personal vision or goal descriptions, I used the German version of the *Linguistic Inquiry and Word Count* (LIWC2001; Pennebaker et al., 2007; Wolf et al., 2008). This computerized measure was developed by Pennebaker and colleagues in order to provide a method for studying the various emotional, cognitive, and structural components which are present in individuals' verbal and written speech samples by analyzing the linguistic expression. The standard data record of the English version LIWC2007 (Pennebaker et al., 2007) as well as the German version LIWC2001 contains 79 variables, including 4 general descriptor

¹ Findings regarding the relationship between RC and verbal fluency are inconsistent (cf. Schultheiss & Strasser, in press).

categories (total word count, words per sentence, percentage of words captured by the dictionary, and percent of words longer than six letters), 22 standard linguistic dimensions (e.g., percentage of words in the text that are pronouns, articles, auxiliary verbs, etc.), 32 word categories covering psychological constructs (e.g., affect, cognition, biological processes), 7 personal concern categories (e.g., work, home, leisure activities), 3 paralinguistic dimensions (assents, fillers, nonfluencies), and 12 punctuation categories (periods, commas, etc.). The default LIWC Dictionary contains almost 4,500 words and word stems. LIWC2007 calculates the percentage words in the text that match each of the 79 variables. Each of the default categories is composed of a list of dictionary words that define the respective scale. The selection of the words defining the LIWC categories involved the following four steps: word collection (Step 1), judges' rating phases (Step 2), psychometric evaluation (Step 3), and updates and expansions (Step 4; for more details, see Pennebaker et al., 2007). Results from correlational analyses provided support for LIWC's external validity. In one of their studies, Pennebaker and Francis (1996) instructed one half of the participants to write about their deepest thoughts and feelings concerning the experience of coming to college (experimental condition; $n = 35$). The other half of the participants were asked to describe any particular object or event, whatever they want, in an unemotional way (control condition; $n = 37$). Four judges rated the participants' essays on various emotional, cognitive, textual, and structural dimensions, which were in accordance with selected LIWC Dictionary scales. They found high agreements between ratings of judges and the objective word count strategy of the LIWC. Their findings suggest that LIWC successfully measures various language composition elements, a number of cognitive strategies, positive and negative emotions, and several types of thematic content.

I focused on the three main categories *cognitive* (cause, know, ought, etc.), *affective* (positive and negative emotions), and *perceptual* processes (observing, hearing, and feeling). The three measures *cognitive*, *affective*, and *perceptual processes* are part of the so-called *psychological processes* and served as validation of the measures RA_{high} and RA_{low} . As high referential activity includes the description of perceptual processes like hearing, observing, and feeling, I assumed higher scores for *perceptual processes* in the vision-group than in the goal-group. In contrast, as low referential activity contains thinking about the current or ongoing mental state, negation, assertion, and uncertainty, all of which are *cognitive* processes, I expected higher scores for the cognitive processes in the goal-group compared to the vision-group.

Mean scores were $M = 10.91$, for cognitive processes ($SD = 3.99$), $M = 6.42$ for affective processes ($SD = 2.27$), whereas the average was $M = 4.84$ for positive emotions ($SD = 2.25$), $M = 1.58$ for negative emotions ($SD = .86$), and $M = .08$ for perceptual

processes ($SD = .23$). Because the LIWC2001 *negative emotions* variable was significantly correlated with protocol length of both personal visions and personal goals ($r = -.27, p < .005$), I added protocol length as a covariate.

Motive content of personal visions. To assess the motive content of the personal visions I used the same methodology as for the implicit motives. That is, the personal vision protocols were content coded for *nPow*, *nAch*, and *nAff* (Winter, 1994; cf. King, 1995). In the following I will use the phrases *vPow* for power motive content of personal visions, *vAch* achievement motive content of personal visions, and *vAff* for affiliation motive content of personal visions.

I used this motive coding system for several reasons. First, it can be applied to any form of imaginative text (Winter, 1994). It has been used to score such diverse types of text as U.S. presidential speeches (e.g., Spangler & House, 1991), interviews with of political leaders (Hermann, 1980; Winter, 1980), textbooks written for children (DeCharms & Moeller, 1962), and historical literature (Cortes, 1960). Second, it is a standardized and systematic measurement approach that has yielded reliable scores and meaningful inferences in past research (Donley & Winter, 1970; Winter, 1980, 1994). Consequently, this approach allows for comparisons of results with other studies that administered it. Third, the *indirectness* or unobtrusiveness of the motive coding methodology makes it difficult for the subject to know what is being measured. The motive coding methodology is not subject to the same social desirability effects as more direct measurement approaches (McClelland, 1985). Fourth, only the content, i.e., the meaning of the text is scored, while the structure of the text (e.g., verb tense) is not coded. Fifth, instead of asking individuals to report about their personal vision, pros and cons, motive content, and the like, they are asked to report the actual personal vision, which is then coded. Sixth, thematic content coding allows for the examination of the implicit motive contents of the personal visions, which tend to predict spontaneous but long-term behavioral trends such as entrepreneurial achievement or success in management positions (McClelland, 1985; Spangler, 1992). Moreover, in this case, I intend to assess the unconscious motivation to pursue the personal vision, as opposed to the conscious motivation I would assess by explicitly asking (for similar reasons, see Kirkpatrick, Wofford, & Baum, 2002).

The inter-rater-reliabilities for the personal vision protocols were 87% for *vPow*, 92% for *vAch*, and 88% for *vAff*. Scoring disagreements were resolved by discussion, and scores from these joint sessions were used as final scores.

Mean raw scores of motive content of personal visions were $M = .97$ for *vPow* ($SD = 1.02$), $M = 1.78$ for *vAch* ($SD = 1.23$), and $M = 1.81$ for *vAff* ($SD = 1.22$).

Scores were assigned to typed personal vision descriptions, analogous to the procedure used when scoring PSE stories, by entering them directly into the text documents. They were then extracted by the PSE-Tool and pasted into an excel-sheet. Protocol length of the typed personal vision description was determined by the PSE-Tool, too. Mean score for the personal vision protocol length (*referred to as word-count of the personal vision*) was $M = 169.08$ ($SD = 83.83$).

In order to bring the vision scores into closer alignment with normal distributions and to avoid outlier problems in my analyses, I conducted a square-root transformation with all personal vision scores and the word-count scores of the personal visions.

Because vision protocol length was significantly correlated with overall scores for $vPow$, $r = .21$, $vAch$, $r = .31$, $vAff$, $r = .35$, all $ps < .10$, I removed the influence of protocol length from the motive scores by means of regression analysis and converted the residuals to z-scores (cf. Cohen et al., 2003). Residuals were normally distributed (see Figure 11).

Motive content of vision-derived goals. To assess the motive content of the vision-derived goals I used the same methodology as for the implicit motives. Goal protocols were content-coded for power, achievement, and affiliation according to Winter's (1994) *Manual for Scoring Motive imagery in Running Text*. The two scorers were blind with respect to the participants and therefore regarding the participants' implicit motive scores and the motive content of the personal visions. The scoring was conducted by the same two trained scorers who coded the PSE and the personal vision protocols. I will use the following phrases for the motive content of personal goals: $gPow$ for power motive content of personal goals, $gAch$ for achievement motive content of personal goals, and $gAff$ for affiliation motive content of personal goals.

The inter-rater-reliability for the goal protocols were 90% for $gPow$, 93% for $gAch$, and 87% for $gAff$. Scoring disagreements were resolved by discussion, and scores from these joint sessions were used as final scores.

Scores were assigned to typed goal descriptions, analogous to the procedure used when scoring PSE stories, by entering them directly into the text documents. They were then extracted by the PSE-Tool and pasted into an excel-sheet. Mean raw scores of motive content of personal goals were $M = .72$ for $gPow$ ($SD = 1.12$), $M = 4.26$ for $gAch$ ($SD = 2.04$), and $M = 2.09$ for $gAff$ ($SD = 2.06$). Protocol length of vision-derived goals was determined by the same program. Mean score for protocol length was $M = 203.81$ ($SD = 94.96$).

Because goal protocol length was correlated with overall scores for $gPow$, $r = -.05$, $gAch$, $r = -.14$, $gAff$, $r = .06$, all $ps > .10$, I removed the influence of protocol length from

the motive scores by regression and converted the residuals to z-scores (cf. Cohen et al., 2003). In order to bring the residualized goals' power motive scores into closer alignment with normal distributions, I conducted a square-root transformation.

Positive mood and emotional well-being. Moreover, to examine my assumption that high goal progress leads to heightened states of well-being, I measured positive mood in Session 2, two months after the first session (cf. Brunstein, 1993; Schultheiss et al., 2008). Here again, I used the *hedonic tone* scale (Matthews et al., 1990; cf. Section *positive affect measure*). Items were presented in a fixed order with the primer "During the past two weeks I have felt...". The hedonic tone measure was found to have satisfactory internal consistency at Session 2 (Cronbach's $\alpha = .93$). Therefore, I calculated the sum total score of the scale ($M = 23.93$, $SD = 5.73$).

Goal progress. I assessed participant's goal progress for the vision-derived goals at Session 2 with Brunstein et al.'s (1998) personal goal scales. All participants rated each of their three goals on four 5-item scales assessing their goal progress (e.g., "I had quite a lot of success in pursuing this goal"). Response scales ranged from 1 (*disagree strongly*) to 5 (*agree strongly*). To obtain overall goal progress scores, I averaged item scores on each scale after recoding the negatively keyed items. Cronbach α for these aggregated measures were .86 for the goal progress of goal 1, .77 for the goal progress of goal 2, and .60 for the goal progress of goal 3. Finally, I calculated a sum score for the overall goal progress by summing up the goal progress of the three personal goals ($M = 42.49$, $SD = 7.06$).

Statistical analyses

Qualitative data analyses. The author read the personal vision description and the open questions several times, making notes and seeking to gain an understanding of the participants' point of view (Maykut & Morehouse, 1994). She received only the pure personal vision descriptions without any further information on the participant in order to ensure impartiality and objectivity. Next, the author employed a constant comparison method of data analysis, the grounded theory analysis (Glaser, 1998; Glaser & Strauss, 1967). First, the data were examined line by line and open codes were defined for actions and events within them. These open codes identify anchors that allow then gathering of the key points of the data. Through this inductive procedure categories and themes emerged, which were then organized into successively broader and more abstract categories. Sections of text were extracted and classified, so that they could be gathered

into similar and disparate categories (Coffey & Atkinson, 1996; Maykut & Morehouse, 1994). After having found the core categories, selective coding was done. That is, the data was selectively coded with the established categories. Finally, once all categories were established and coded, connections were made to the theoretical construct and the assumed attributes. Based on the typical procedure of qualitative data analysis, only one person coded the material.

Quantitative data analyses. The analyses of the following study were conducted with SYSTAT 12 and SPSS 19. They include the following procedures: regression analysis, ANCOVA, ANOVA, correlation and bi-partial correlation analyses, *t*-tests, mediation analyses. Descriptive statistics are given as mean and *SD*. An alpha level of .05 was employed in all quantitative analyses.

Unless otherwise specified in the results section 4.2.3, ANCOVAs were performed on post-vision positive affect at T2, using hedonic tone at T2 as the independent variable and hedonic tone at T1 as a covariate. This approach was used to examine post-vision effects on hedonic tone while controlling for possible differences at T1 (pre-vision baseline). Significant results obtained from these analyses can thus be interpreted as significant effects accounting for residual changes from the pre-vision to the post-vision assessment.

Longitudinal design. I examined my hypotheses and the fit between the data and my model by path analyses, using AMOS 19.0 software (Arbuckle, 2010). These path analyses enable the simultaneous estimation of all the paths in my model and the degree of fit of the entire model, by comparing it to the fit of alternative plausible models. AMOS software also provides bootstrap estimates (Efron, 1982) for all the parameters in a path model and significance tests of the direct, indirect, and total effects based on bias-corrected confidence intervals.

Table 1
Overview of the Parts of the Study, Measurements, and Hypotheses

Part of the Study	Measurements	Hypotheses
Part 1 – Delineating the construct of personal visions	Vision description/ content Vision specification Development of the vision Occasions for thinking about the vision Feelings during thinking about the vision Degree of realization Frequency of thinking Number of people who are related to vision Areas of life the vision is related to	Inductive procedure to for a better understanding of the concept of personal vision
Part 2 – Conceptual and empirical differences between personal visions and personal goals	Referential activity (as one indicator for high imagery; measured via CRA) Imagery (via VAES) Cognitive, affective, and perceptual processes (via LIWC2001).	<p>Hypothesis 2.1.1: Personal visions are higher in imagery than personal goals, indicated by a higher referential activity.</p> <p>Hypothesis 2.1.2: Personal visions receive higher scores on the subjective assessment of imagery than personal goals.</p> <p>Hypothesis 2.1.3: Personal visions score higher on positive affect and perceptual processes, but lower on cognitive processes than personal goals.</p>

Table 1 (continued)

Part of the Study	Measurements	Hypotheses
<p>Part 2 – Conceptual and empirical differences between personal visions and personal goals (continued)</p>	<p>Motivating power of personal vision and personal goal (via VAES)</p> <p>Positive affect (via VAES and LIWC2001)</p> <p>Abstraction (via CRA)</p> <p>Personal vision and personal goal attributes and effects (via VAES)</p>	<p>Hypothesis 2.2.1: The richer the imagery of a personal vision, the more it is rated as motivating by participants. This effect is mediated by participants' experienced positive affect during imagining the vision.</p> <p>Hypothesis 2.2.2: The richer the imagery of a personal goal, the more it is rated as motivating by participants. This effect is mediated by participants' experienced positive affect during imagining the vision.</p> <p>Hypothesis 2.3: Personal visions compared to personal goals score higher on abstraction.</p> <p>Hypothesis 2.4.1: Personal visions score higher than personal goals on the attributes of discrepancy from status quo and long-term orientation.</p> <p>Hypothesis 2.4.2: Personal goals score higher than personal visions on the attributes of being realistic, clear, brief, detailed, attainable, and widely accepted.</p> <p>Hypothesis 2.4.3: Personal visions and personal goals do not differ regarding their scores on the attributes of a desirable end state and future orientation.</p> <p>Hypothesis 2.5: Personal visions are better at giving orientation, directing efforts, energizing and catalyzing actions, specifying direction, and providing a sense of identity and meaning than personal goals. Moreover they inspire, motivate, and challenge more than personal goals. Finally, it is easier to derive goals from them as from personal goals.</p>

Table 1 (continued)

Part of the Study	Measurements	Hypotheses
Part 3 – Closing the gap between implicit motives and personal goals	Implicit motives (via PSE) Explicit motives (via PRF) Motive content of personal vision (Winter’s content coding system, 1994) Motive content of vision-derived goals (Winter’s content coding system, 1994) Positive affect (via UMACL)	<p>Hypothesis 3.1: Due to their pictorial quality and the resulting access to the implicit motive system, personal visions should be congruent with the person’s implicit motives.</p> <p>Hypothesis 3.2: If goals are derived from a motive-congruent personal vision, these goals should be more motive-congruent than goals that are not derived from a personal vision.</p> <p>Hypothesis 3.3: The influence of implicit motives on the motive-content of vision-derived goals is mediated by the motive content of the personal vision.</p> <p>Hypothesis 3.4: The imagination of a motive-congruent personal vision should lead to positive affect, indicated by a significant increase in hedonic tone.</p> <p>Hypothesis 3.5.1: The motive content of personal visions is more congruent with the person’s implicit than with her or his explicit motives.</p> <p>Hypothesis 3.5.2: The motive content of vision-derived goals is more congruent with the person’s implicit than with her or his explicit motives.</p>

Table 1 (continued)

Part of the Study	Measurements	Hypotheses
Part 4 – Exploring goal progress of vision-derived goals in a longitudinal design	Implicit motives (via PSE) Motive content of personal vision (Winter’s content coding system, 1994) Motive content of vision-derived goals (Winter’s content coding system, 1994) Positive mood (via UMACL) Goal progress (via Brunstein et al.’s personal goal scales, 1998)	Hypothesis 4.1: The higher the motive content of vision-derived goals that is backed up by the corresponding implicit motive, the higher the goal progress. Hypothesis 4.2: Goal progress of vision-derived goals leads to heightened positive mood. Hypothesis 4.3: Vision-derived goals that are backed up by strong implicit motives have indirectly a positive effect on positive mood through increased goal progress.

4.3 Results

4.3.1 Results Part 1 – Delineating the construct of personal visions

Qualitative analyses. Vision content. Most of the sixty-four personal visions contained private and professional success. Private success consisted of having a life partner whom you love and trust; to have a happy life and a happy family; to be a good father or mother; to spend time with friends and to care for them. Professional success manifested itself in very different ways. For some, professional success comprised financial security, no risk, and free time management. For others, it meant to reach a position with responsibility and managerial functions (e.g., becoming a professor, researcher, coach, therapist, or engineer) and to make a difference (e.g., to improve the level of teaching, to help patients, to discover new therapies or new environment-friendly energy resources; “My vision is to change and improve something in the world I live in.”). Some participants mentioned that having a job that allows personality development or that gives one pleasure is important for them. For few, professional success contained something more uncommon, like becoming a Hollywood actor or a charity spokesperson, or being part of the Olympics 2018 in Munich as a volunteer. Sometimes the vision contained a special project like building a house on a mountain site or creating a full-length feature film and winning an Oscar for it. For most of the participants, work-life balance was very important. Table 2 displays a more detailed overview of the different categories, a brief description, and the frequency they were coded. Interestingly, participants reported problems with articulating their personal vision. Most of them indicated that they had never tried to put their personal vision into words before.

Vision specification. The question of when, or on which occasion, [their] personal vision developed, was answered “without any special reason” and “in the course of time”, “for a longer period of time”, “bit by bit, little by little” by 43.15 % of the subjects. In contrast, 56.85 % of the subjects answered that their personal vision developed at a critical point in their life, e.g., one day when the end of their education was near, when they became homesick in a foreign country, when they fell in love for the first time, or when they had other relevant, subjectively unique experiences (e.g., “after a special interview on TV”). Some mentioned that their personal vision developed when they realized at a certain point that they had no meaning in life, or when they tried to realize their dreams in a way that all their needs would be fulfilled at the same time.

Concerning the question asking about the occasions when they think about their personal vision, 57.81 % of the subjects answered they think about their personal vision on occasions that are relevant for it or when they plan their future. A proportion of 35.94 % answered that they think about their personal vision when they need motivation – that is,

when they have a bad time, feel lonely, make only slow or no progress, after setbacks, or before a difficult situation. Altogether, 78.13 % of the subjects said that they think about their personal vision intentionally and 40.63 % answered that they thought either permanently, always, or at least daily about their personal vision (e.g., “Often, I would say nearly every day, or even several times a day.”; “During everything I do.”). One third of this group (12.49 % of the whole sample) did not further elaborate their answer. Only 9.38 % of the participants indicated that they do not think about their personal vision on some special occasion, but rather unsystematically or “from time to time”.

A proportion of 51.56 % of the subjects answered the question “How do you feel when you think about your vision?” as follows: “good”, “motivated to do something”, “secure”, “strong and powerful”, “energized”, “thirst for action”, or “pleased”, whereas 6.25 % said that they would experience negative emotions like “to be under pressure”, “to be anxious about reaching the vision”, “stressed”, or “wistful”, and 42.19 % mentioned both positive and negative emotions.

Quantitative analyses. Vision specification. The percentage of personal vision realization varied from 1.00% to 80.00% with a mean score of $M = 30.83$ ($SD = 22.56$). Mean score of frequency of thinking about the personal vision was $M = 3.72$ ($SD = 1.01$), with a range from 1 to 5. The mean score for the amount of people who are involved was $M = 2.52$ ($SD = 1.18$), with a range from 1 to 5. Mean score of areas of life was $M = 3.82$ ($SD = 1.24$), with a range from 1 to 5. Of the mentioned areas, 4.67 % were assigned to “family and friends” only, 28.13 % were assigned to “job” only, and 67.19 % of the personal visions combined both areas of life. The mean score for success was $M = 3.39$ ($SD = .92$), with a range from 1 to 5.

Table 2

Overview and Brief Description of the Categories Established for the Different Vision Contents and Coding Frequency

Categories of vision content	Brief description	Frequency in %
private success		68.75
family	having a life partner whom you love and trust; to have a happy life and a happy family; to be a good father or mother	64.06
friends	to spend time with friends and to care for them	39.06
professional success		92.19
financial security	to have a job that allows financial security, no risk, and free time management	32.81
(personality) development	to have a job that allows continuous training and personality development	9.38
pleasure at work	to have a job that gives one pleasure	15.63
high position, career	to hold a position with responsibility and managerial functions	37.50
to make a difference	to have a job that allows to change the world, both on the large and small scale, or to help others	43.75
unusual profession	to strive for a more uncommon and extraordinary profession, like becoming a Hollywood actor or a charity spokesperson	7.81
special project	to pursue a special project like building a house at a mountain or creating a full-length feature film and winning an Oscar for it	7.81

4.3.2 Results Part 2 – Conceptual and empirical differences between personal visions and personal goals

Preliminary analyses. Table 3 displays the intercorrelations of all variables except for most of the attributes and effects. There was no significant influence of gender.

Table 3

Correlations for Referential Activity (RA_{low} and RA_{high}), Abstraction (AW), Imagery (labeled 'pictorial' in VAES), Motivation (labeled 'motivates' in VAES), and Positive Affect (VAES) in Part 2

	1.	2.	3.	4.	5.	6.
1. RA_{low}	--					
2. RA_{high}	-.40***	--				
3. AW	-.28***	.02	--			
4. imagery	-.07	.06	-.10	--		
5. motivation	-.20*	.13	.28***	.40***	--	
6. positive affect	-.16†	.09	.20*	.38***	.66***	--

Note. $N = 106$. RA_{low} = low referential activity; RA_{high} = high referential activity; AW = abstraction.

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .005$.

Picture-like vs. verbal format. Referential Activity. To test whether personal visions show richer imagery as compared to personal goals (Hypothesis 2.1.1) I conducted two ANOVAs on RA_{high} and RA_{low} with group (vision vs. goal) as the factor. The results confirmed my first hypothesis. The analysis revealed a significant effect of group on RA_{high} , $F(1, 104) = 4.97$, $MSE = .96$, $p = .025$ and a marginal significant effect of group on RA_{low} $F(1, 104) = 3.74$, $MSE = .97$, $p = .053$. In other words, the descriptions of the vision-group showed richer imagery (manifested in lower RA_{low} scores [$M_{RA_{low}} = -.19$, $SD_{RA_{low}} = .14$] and higher RA_{high} scores [$M_{RA_{high}} = .22$, $SD_{RA_{high}} = .13$]) compared to the descriptions of the goal-group ($M_{RA_{low}} = .19$, $SD_{RA_{low}} = .14$, $M_{RA_{high}} = -.22$, $SD_{RA_{high}} = .13$).

Further analyses ($R^2 = .16$) revealed a significant main effect of age on RA_{low} , $F(1, 102) = 11.78$, $p < .001$, $r = -.25$. The two main effects were qualified by the two-way interaction involving group and age, $F(1, 102) = 8.53$, $p = .002$. To explore this interaction in more detail, simple slopes tests at values of one standard deviation above and below the means of age were used (Aiken & West, 1991). I found a main effect of age, $\beta = -.51$, $t(101) = -4.29$, $p < .001$, but only in the goal-group, i.e., the older the individuals in the

goal-group were, the lower their RA_{low} was. In the vision-group, age did not make any difference in RA_{low} ($p > .05$; see Figure 8). There was no significant effect of age on RA_{high} .

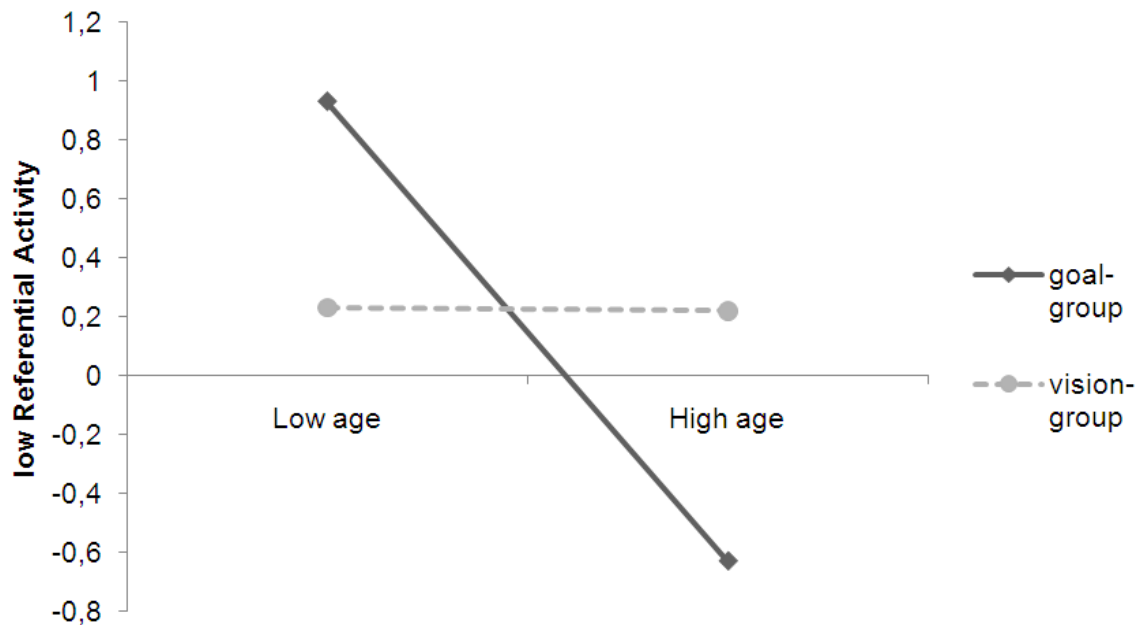


Figure 8. Scores for Low Referential Activity (z-scores) as a Function of Age and Group (Vision vs. Goal).

Subjective Assessment. To test whether participants rated personal visions as richer in imagery than personal goals (Hypothesis 2.1.2) I conducted a t -tests with group (vision vs. goal) as the independent variable and imagery (labeled *pictorial* in the VAES) as the dependent variable. Results showed that the mean score of imagery differed marginally significant over conditions ($M_{goal} (SD) = 4.08 (.89)$, $M_{vision} (SD) = 4.35 (.67)$, $t(104) = -1.80$, $p = .076^2$), with higher imagery scores in the vision- than in the goal-group.

Psychological processes. In order to find further evidence for the different representational formats of personal visions and personal goals, I assessed the psychological processes in the written samples of the participants (Hypothesis 2.1.3). I conducted four t -tests with group (vision vs. goal) as the independent variable and the three variables *cognitive*, *affective*, and *perceptual processes* as dependent variables. Results are reported in Table 4. As many participants had no scores for the variable

² Two outliers were excluded from the analysis as their scores were 3.26 points ($>4 SD$ over average) and 2.26 points ($>2.5 SD$ over average) under the mean of 4.26. Without dropping the outliers, statistics were as followed: $M_{goal} (SD) = 4.08 (.89)$, $M_{vision} (SD) = 4.26 (.79)$, $t(104) = -1.15$, $p = .25$.

perceptual processes, I additionally performed a chi-square test with 0 = no word for perceptual processes and 1 = at least one word for perceptual processes as first dichotomous variable and group (goals = 0 vs. vision = 1) as second dichotomous variable. The chi-square test was marginally significant, $\chi^2(1, N = 106) = 3.38, p = .066$. Thus, the two variables perceptual processes and group were not independent of each other. More participants in the vision-group ($n = 9$) used words for perceptual processes in their description than did participants in the goal-group ($n = 4$).

Table 4
T-tests Comparing the Goal- to the Vision-Group on Three Psychological Processes

Psychological process	M_{goal} (SD)	M_{vision} (SD)	$t(104)$	p
Cognitive	12.21 (3.81)	8.85 (3.09)	4.98	.00000***
Affective				
positive emotions	4.53 (2.39)	4.83 (1.93)	-.72	.47
negative emotions¹	1.81 (.86)	1.23 (.69)	3.84	.00022***
Perceptual	.037 (.15)	.11 (.28)	-1.73	.087†

Note. ¹Result stayed significant after controlling for protocol length.

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .005$.

Influence of imagery on motivation. First, to determine whether the imagery of the personal visions and the personal goals had an effect on the motivating power of personal visions or personal goals (first part of the Hypothesis 2.2.1), and whether this effect differs between the two groups, I conducted three simple moderated regression analyses with group (vision vs. goal) as well as subjective imagery (measured via VAES)³, RA_{low} , and RA_{high} , as independent variables and motivation as dependent variable. The first regression analysis ($R^2 = .18$) yielded a significant main effect of subjective imagery, $\beta = .38$, $t(103) = 4.23$, $p < .001$, and a significant main effect of group, $\beta = .20$, $t(103) = 2.30$, $p = .024$. The higher the subjective imagery was rated by the participants the higher the motivating power of personal visions and personal goals. Moreover, personal visions were

³ A regression analysis with subjective imagery, the overall score of RA ($RA_{high} - RA_{low}$), and group as main effects as well as the two two-way interaction effects of subjective imagery, RA, and group yielded a significant main effect of subjective imagery ($\beta = .30$, $t(100) = 2.61$, $p < .011$) and RA ($\beta = .51$, $t(100) = 3.32$, $p = .001$), as well as a significant two-way interaction involving RA and group ($\beta = -.46$, $t(100) = -3.32$, $p = .003$). High RA leads only in the goal-group to higher ratings on the motivation scale.

rated as more motivating than personal goals. Thus, both subjective imagery and group predicted unique parts of the variance in the rated motivation. There was no significant interaction between the two variables ($p > .05$). The second regression analysis ($R^2 = .10$) yielded a significant main effect of RA_{low} , $\beta = -.38$, $t(102) = -2.75$, $p = .0070$, and a significant main effect of group, $\beta = .21$, $t(102) = 2.26$, $p = .026$. Thus, both RA_{low} and group predicted unique parts of the variance in the rated motivation. Moreover, the two-way interaction involving RA_{low} and group was also significant, $\beta = .30$, $t(102) = 2.16$, $p = .033$. That is, the higher RA_{low} in the goal-group the lower the motivation evoked by the personal goal ($\beta = -.32$, $t(102) = -2.39$, $p = .021$), whereas the level of RA_{low} made no difference in the motivation in the vision-group ($p > .05$). In other words, the lower the imagery in personal goals, the less motivating it was rated by the participants. The results for the third regression analysis ($R^2 = .10$) also yielded a significant main effect of RA_{high} , $\beta = .42$, $t(102) = -2.67$, $p = .0088$, and a significant main effect of group, $\beta = .21$, $t(102) = 2.26$, $p = .026$. Thus, both RA_{high} and group predicted unique parts of the variance in the rated motivation. Moreover, the two-way interaction involving RA_{high} and group was also significant, $\beta = -.42$, $t(102) = -2.74$, $p = .0072$. Again, the effect of RA_{high} on motivation was significant only in the goal-group ($\beta = .31$, $t(102) = 2.30$, $p = .0072$). The higher RA_{high} in the goal-group the higher the motivation aroused by the personal goal, whereas level of RA_{high} made no difference regarding motivation in the vision-group. In other words, the higher the imagery in personal goals, the more motivating it was rated by the participants.

Mediation analysis. Second, to examine whether these effects of imagery on motivation were mediated by positive affect during imagining the personal vision or the personal goal (second part of the Hypothesis 2.2.1) I conducted a series of regression analyses according to the method described by Baron and Kenny (1986). In the vision-group the regression analysis established a significant effect of imagery on the mediator *positive affect*, $\beta = .19$, $t(51) = 2.46$, $SE = .079$, $p < .05$, and on the dependent variable motivation, $\beta = .37$, $t(51) = 3.53$, $SE = .11$, $p < .01$. The effect of the mediator on the dependent variable, controlling for the imagery, was also significant, $\beta = .48$, $t(51) = 2.74$, $SE = .18$, $p < .01$. Next, I tested whether the independent variable (imagery) would still have a significant effect on motivation after controlling for the mediator. The effect of the imagery on motivation was reduced to $\beta = .28$, $t(51) = 2.66$, $SE = .11$, $p < .05$, $R^2 = .27$ (see Figure 9). A Sobel test (Sobel, 1982) indicating a partial mediation, $z = 1.76$, $p < .05$. This means that there was an indirect effect of the predictor via the mediator but also a direct effect of the predictor on the dependent variable. To test this result, I conducted a bootstrap procedure recommended by Preacher and Hayes (2004). The idea of this approach is to bootstrap the sampling distribution of the path ab and derive a confidence

interval with this empirically derived bootstrapped sampling distribution. This approach has two advantages. First, hypothesis testing that makes no assumptions about the shape of the distributions of the variables. In other words, the variables do not have to be normally distributed. Second, it produces a test that can be applied to small samples with more confidence (see Preacher and Hayes, 2004, for more details). The bootstrap approach of analyzing simple mediations yielded the following results: The indirect effect of imagery on the motivation aroused by the personal visions was not zero by a 95% bias-corrected bootstrap confidence interval based on 5,000 bootstrap samples (.015 to .20, with a point estimate of .093; see Preacher & Hayes, 2004 for details about the bootstrap procedure). Because zero is not in the 95% confidence interval, one can conclude that the indirect effect is indeed significantly different from zero at $p < .05$. Thus, the imagery of personal vision affected the motivating power of the personal vision partially indirect through positive affect during imagining the personal vision. However, there was still a significant direct effect of imagery on motivating power. The higher the imagery of the personal vision, the more motivating the personal vision was rated by participants.

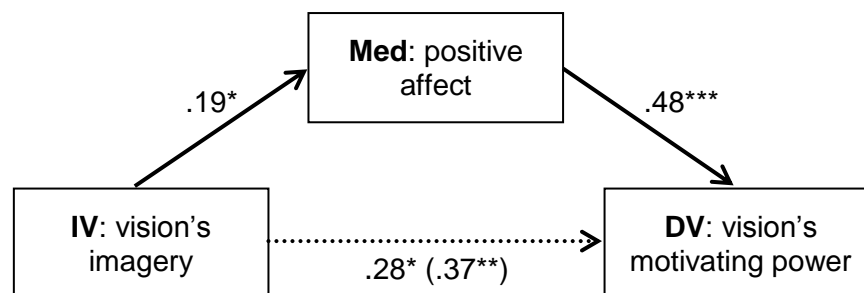


Figure 9. Mediation Model for the Vision-Group. Mediation of the influence of imagery (independent variable) on motivation (dependent variable) through positive affect (mediator). IV = Independent Variable; Med = Mediation; DV = Dependent Variable. The standardized regression coefficient between vision imagery and motivating power of visions without controlling for positive affect is in parentheses.

* $p < .05$; ** $p < .01$; *** $p < .005$.

In the goal-group, I found analogous results. The regression analyses established a significant effect of imagery on the mediator positive affect, $\beta = .52$, $t(51) = 3.23$, $SE = .16$, $p < .005$, and on the dependent variable motivation, $\beta = .39$, $t(51) = 2.71$, $SE = .15$, $p < .01$. When controlled for the imagery, the effect of the mediator on the dependent variable, was still significant, $\beta = .60$, $t(51) = 6.18$, $SE = .097$, $p < .001$. Next, I tested whether the independent variable (imagery) would still have a significant effect on motivation after controlling for the mediator. The effect of imagery on motivation was

reduced to $\beta = .086$, $t(51) = .70$, $SE = .12$, $p = .49$, $R^2 = .48$ (see Figure 10). The Sobel test (Sobel, 1982) indicated a mediation, $z = 2.83$, $p < .005$, meaning that there was an indirect effect of the predictor via the mediator. Furthermore, the indirect effect of imagery on the motivation aroused by personal goals was not zero by a 99% bias-corrected bootstrap confidence interval based on 5,000 bootstrap samples (.045 to .76, with a point estimate of .32). Thus, the imagery of personal goals affected the motivating power of the personal goal indirect through positive affect during imagining the personal vision. For example, high goal imagery led to high positive affect which in turn led to high ratings of motivating power of the personal goal.

There was no significant mediation for the two independent variables RA_{low} and RA_{high} .

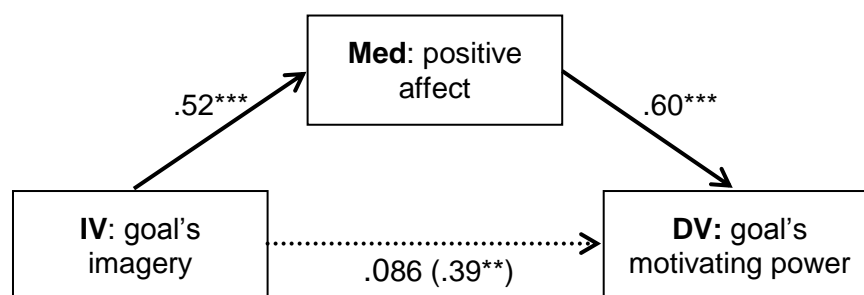


Figure 10. Mediation Model for the Goal-Group. Mediation of the influence of imagery (independent variable) on motivation (dependent variable) through positive affect (mediator). IV = Independent Variable; Med = Mediation; DV = Dependent Variable. The standardized regression coefficient between goal imagery and motivating power of goals without controlling for positive affect is in parentheses.

* $p < .05$; ** $p < .01$; *** $p < .005$.

Vision vs. goal attributes and effects. Abstraction. To test whether personal visions have higher abstraction than personal goals (Hypothesis 2.3) I conducted an ANOVA on AW with group (vision vs. goal) as the factor. As predicted, I found a significant effect of group on AW, $F(1, 104) = 4.98$, $MSE = .96$, $p = .025$, $R^2 = .047$. Participants in the vision-group ($M = .22$, $SD = .13$) made significantly more use of abstract words than those in the goal-group ($M = -.22$, $SD = .13$). Further analyses ($R^2 = .11$) revealed a significant main effect of age on AW, $F(1, 102) = 6.01$, $p = .012$. The two main effects were qualified by the two-way interaction involving group and age, $F(1, 102) = 4.99$, $p = .021$; $\Delta R^2 = .048$. Simple slopes tests revealed a significant effect of age only in the goal-group, $\beta = .45$, $t(102) = 3.57$, $p < .001$, that is, the older the individuals in the goal-group the higher the use of abstract words, whereas age made no difference in the amount of abstract words in the vision-group ($p > .05$; see Figure 11).

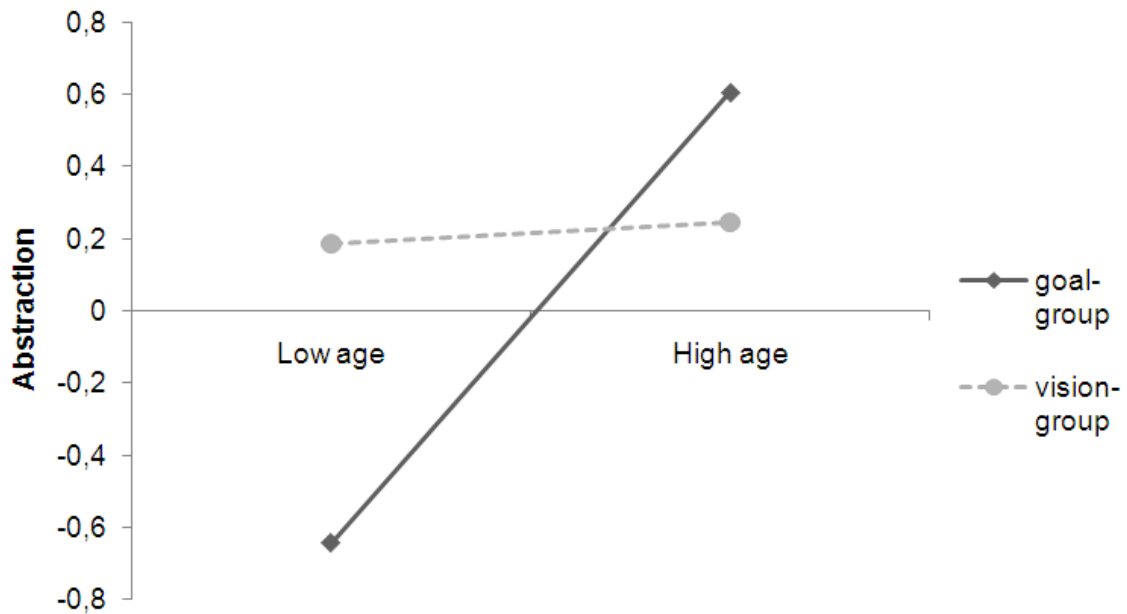


Figure 11. Score for Abstraction (z-scores) as a Function of Age and Group (vision vs. goal).

Further attributes and effects. To contrast personal visions and personal goals regarding several attributes (Hypotheses 2.4.1, 2.4.2, and 2.4.3) and effects (Hypothesis 2.5), I conducted several *t*-tests with group (vision vs. goal) as the independent variable and each of the 10 attributes (the first 2 are criteria in the VAES) and 11 effects as dependent variables. Results are presented in Table 5.

In sum, the mean scores for the following variables differed across conditions in the predicted way: Personal visions showed a higher discrepancy from the status quo than personal goals, were more long-term-oriented, and had higher scores than personal goals on the effects of direct effort, catalyze action, guide decisions (specify directions), motivates, and allows to derive goals ($ps < .05$). Furthermore, personal visions were rated as more energizing, inspiring, and challenging than personal goals ($ps < .10$). Personal goals obtained higher scores than personal visions on the attributes realistic, clear, brief, detailed, and widely accepted ($ps < .05$). The mean score for the scale attainable was higher for the goal-group than for the vision-group. However, the difference was only marginally significant ($p = .10$). As predicted, the mean scores for future orientation and desirable end state did not differ across conditions ($ps > .05$). Finally, contrary to my hypotheses that personal visions score higher on the effects provides identity, provides meaning, and gives orientation than personal goals the mean scores did not differ across conditions ($ps > .05$). However, the difference on the identity scale was nearly significant ($M_{vision} > M_{goal}$).

Table 5

T-tests Comparing the Goal- and the Vision-Group on 10 Attributes and 11 Effects

Attributes & Criteria	M_{goal} (SD)	M_{vision} (SD)	$t(104)$	p
Realistic	4.42 (.92)	4.06 (.77)	2.24	.027*
Future Orientation	4.06 (1.29)	4.26 (1.14)	-.87	.38
Discrepant From Status Quo	3.20 (1.08)	3.58 (.80)	-2.05	.043*
Long-Term Oriented	4.00 (1.01)	4.60 (.62)	-3.71	.00037***
Desirable End State	4.64 (.81)	4.58 (.80)	.36	.72
Clear	4.33 (.71)	3.90 (.83)	2.89	.0047***
Brief	4.26 (1.05)	3.37 (1.10)	4.30	.000039***
Detailed	4.18 (.80)	3.77 (.90)	2.44	.016*
Attainable	2.82 (1.10)	2.48 (1.01)	1.66	.10†
Widely Accepted	4.09 (.89)	3.40 (.73)	4.42	.000025***
Effects	M_{goal} (SD)	M_{vision} (SD)	$t(104)$	p
Directs Effort	3.79 (.88)	4.11 (.76)	-2.00	.048*
Catalyzes Action	3.64 (.77)	4.09 (0.62)	-3.32	.0012***
Gives Orientation	4.16 (.81)	4.32 (.58)	-1.17	.24
Guides Decision (Specifies Direction)	3.55 .88)	4.08 (.73)	-3.37	.0011***
Energizes	3.96 (1.02)	4.27 (.69)	-1.84	.069†
Provides Identity	4.16 (.94)	4.42 (.67)	-1.61	.11
Inspires	3.75 (1.10)	4.22 (.80)	-2.47	.015*
Provides Meaning	3.93 (.97)	4.14 (.070)	-1.27	.21
Challenges	4.03 (.83)	4.31 (.64)	-1.97	.051†
Motivates	3.93 (.99)	4.36 (.67)	-2.59	.011*
Allows to Derive Goals	3.75 (1.06)	4.12 (7.66)	-2.10	.039*

Note. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .005$.

Explorative analysis/ additional analyses. Vision vs. goal attributes and effects.

To complement the comparison between personal visions and personal goals I explored the remaining characteristics and effects of the VAES for which I had not made specific hypotheses. I conducted several *t*-tests with group (vision vs. goal) as independent

variable and subsequently the missing 4 attributes and 6 effects as dependent variables. The results are reported in Table 6.

Table 6
T-tests Comparing the Goal- to the Vision-Group on 4 Attributes and 6 Effects

Attributes	M_{goal} (SD)	M_{vision} (SD)	$t(104)$	p
Adaptive	3.02 (.95)	3.56 (.69)	-3.33	.0012***
Undesirable End State	1.74 (1.02)	1.17 (.38)	3.78	.00034***
Well-Communicated	3.71 (1.12)	2.66 (1.16)	4.72	.00000***
Frequency of Thinking	4.08 (.83)	3.95 (.88)	.73	.46
Effects	M_{goal} (SD)	M_{vision} (SD)	$t(104)$	p
Flexible Reachable	2.85 (1.18)	3.68 (.97)	-3.96	.00014***
Strengthens Persistence	3.63 (1.12)	4.06 (.72)	-2.53	.013*
Indulge	2.74 (.87)	2.47 (.65)	1.77	.080†
Persuasive	4.42 (.76)	4.49 (.56)	-.58	.56
Positive Affect	3.73 (1.12)	4.49 (.48)	-4.57	.000020***
Negative Affect	2.05 (1.06)	1.65 (.70)	2.26	.026*

Note. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .005$.

In sum, when compared to personal goals, personal visions were rated as more adaptive, more flexible reachable, and more persuasive. They yielded higher scores on the scale strengthens persistence than personal goals ($ps < .05$). However, there was no difference in the frequency with which participants thought about personal visions compared to personal goals ($p > .05$). Moreover, participants in the vision-group indicated more positive affect and less negative affect while imagining their personal vision than participants in the goal-group ($ps < .05$). Finally, personal goals obtained higher scores on the scale undesirable end state, well-communicated ($ps < .05$), and indulge ($p < .10$) than personal visions.

Further analyses concerning the relationship between desirable and undesirable end state as well as for positive and negative affect still revealed a significant main effect of group (vision vs. goal) on positive affect after controlling for desirable and undesirable end state ($F(1, 102) = 10.02$, $MSE = .55$, $p = .002$, $R^2 = .39$). Participants in the vision-group

reported higher positive affect during the imagination of the personal vision ($M_{vision} (SD) = 4.35 (.11)$) than participants in the goal-group ($M_{goal} (SD) = 3.86 (.11)$). However, I found no significant main effect of group (vision vs. goal) on negative affect after controlling for desirable and undesirable end state ($p > .05$). Instead, I found two significant main effects of desirable and undesirable end state on negative affect ($F(1, 102) = 4.62, p = .034, MSE = .61, r = .18$ and $F(1, 102) = 17.43, p < .001, r = -.48, R^2 = .30$). That is the more the end state was rated as desirable, the lower the negative affect was and the more the end state was rated as undesirable the higher was negative affect.

4.3.3 Results Part 3 – Closing the gap between implicit motives and personal goals

Preliminary analyses. Table 7 displays the intercorrelations of all variables in Part 3. Neither age and gender nor education had a significant impact on the results reported below.

Motive content of personal visions. I hypothesized that, due to their pictorial quality and the resulting access to the implicit motive system, personal visions should be congruent with implicit motives (Hypothesis 3.1). As predicted, I found significant positive correlations between implicit motives and the motive content of the personal visions within the same motive domain (see Table 7 and Figure 12).

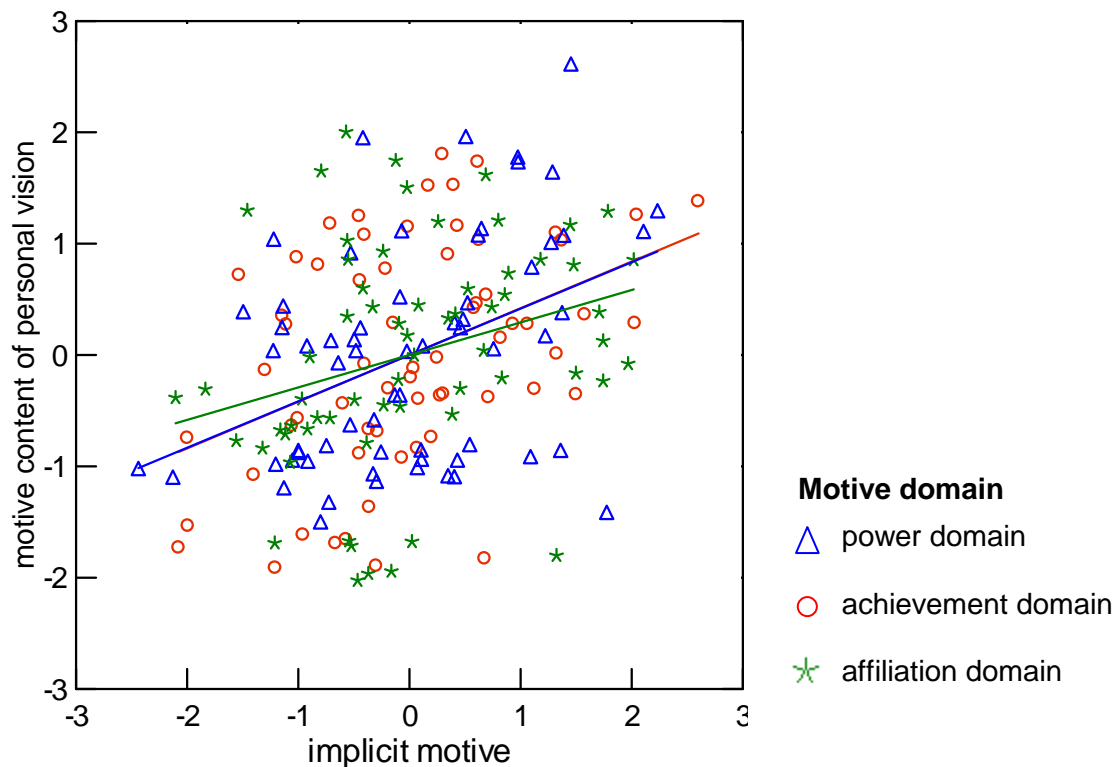


Figure 12. Two-Variable Scatter Plot Showing the Correlations Between Implicit Motives and Motive Content of Personal Visions for the Three Motive Domains.

Motive content of personal goals. My second hypothesis was that if goals are derived from a motive-congruent personal vision, this results in motive-congruent goals (Hypothesis 3.2). As predicted, I found significant positive correlations between the implicit motives and the motive content of the vision-derived goals in the achievement domain ($r = .28, p = .026$) and in the power domain ($r = .33, p = .0074$; see Table 7). There was no significant correlation between implicit motives and the motive content of the vision-derived goals in the affiliation domain ($r = .07, p > .05$).

Table 7
Correlations for all Variables in Part 3

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
Implicit motive score														
1. nPow	--													
2. nAch	-.08	--												
3. nAff	-.14	-.15	--											
Explicit motive score														
4. sanPow	.05	-.00	-.18	--										
5. sanAch	.06	.00	-.06	.20	--									
6. sanAff	-.03	-.01	.06	.30*	-.02	--								
Motive score of personal visions														
7. vPow	.42***	-.05	-.12	.07	-.01	.10	--							
8. vAch	.01	.42***	.00	.04	.09	.00	.23	--						
9. vAff	-.11	-.20	.29*	.09	.05	.28*	-.12	-.04	--					
Motive score of vision-derived goals														
10. gPow	.32**	.19	-.14	.15	.12	-.06	.40***	.25*	-.14	--				
11. gAch	.24	.28*	-.14	-.15	-.08	-.13	.20	.14	-.09	.32**	--			
12. gAff	-.02	-.24	.07	-.00	.10	.19	-.12	-.13	.45***	-.13	-.23	--		
Pre-and post-vision positive affect scores														
13. hedT1	.09	.00	-.22	.07	.13	.25*	.03	-.04	.02	-.10	.15	.05	--	
14. hedT2	.20	.03	-.14	.10	.14	.19	.14	.07	-.04	.03	.22	-.14	.74***	--

Note. $N = 64$. vAch, vAff, vPow = achievement, affiliation, and power motive content of personal vision; gAch, gAff, gPow = achievement, affiliation, and power motive content of personal goals; hed = hedonic tone; T1 = pre-vision; T2 = post-vision. * $p < .05$; ** $p < .01$; *** $p < .005$.

Mediation Hypothesis. Before conducting the following analyses, I excluded one outlier⁴. I assumed that personal vision would mediate the relation of implicit motives to the motive-congruence of the vision-derived goals (Hypothesis 3.3; see Figure 6).

To test this hypothesis, I calculated a series of regression models according to the method described by Baron and Kenny (1986). Previous correlation analyses had already indicated an effect of implicit motives on the dependent variable (motive content of vision-derived goals) as well as on the mediator (motive content of personal vision; see analyses above) in the power and achievement domain. Mediation was established by showing that regressing the dependent variable on the predictor and mediator simultaneously would result in a significant path from the mediator to the dependent variable but a reduced or non-significant path from the predictor to the dependent variable. In the power domain, the regression analysis established a significant effect of implicit motives on the mediator motive content of personal vision, $\beta = .42$, $t(61) = 3.63$, $SE = .12$, $p < .001$, and on the dependent variable motive content of vision-derived goals, $\beta = .33$, $t(61) = 2.77$, $SE = .031$, $p < .01$. The effect of the mediator on the dependent variable was also significant, $\beta = .47$, $t(61) = 4.18$, $SE = .029$, $p < .001$. Next, I tested whether the independent variable (implicit motives) would still have a significant effect on the motive content of vision-derived goals after controlling for the mediator. The effect of the implicit motives on the motive content of vision-derived goals was reduced to $\beta = .17$, $t(61) = 1.34$, $SE = .032$, $p = .19$, $R^2 = .22$ (see Figure 13). A Sobel test (Sobel, 1982) indicated a significant mediation, $z = 2.36$, $p < .05$, meaning that there was an indirect effect of the predictor on the dependent variable via the mediator.

The bootstrap approach of analyzing simple mediations yielded the following results: The indirect effect of the implicit power motive on the motive content of vision-derived goals through the personal vision was not zero by a 99% bias-corrected bootstrap confidence interval based on 5,000 bootstrap samples (.0051 to .4126, with a point estimate of .16; for details about the bootstrap procedure, see Preacher & Hayes, 2004). Because zero is not in the 99% confidence interval, one can conclude that the indirect effect is indeed significantly different from zero at $p < .05$. Thus, the implicit power motive affected the power content of the vision-derived goals only indirectly through the power content of the personal vision.

In the achievement domain, the effect of the mediator motive content of personal vision on the dependent variable motive content of vision-derived goals was not significant

⁴ The studentized residual (that is the quotient resulting from division of a residual by an estimate of its standard deviation) of the outlier was 4.12. The participant was characterized by an average implicit power motive, low power content of personal vision, and very high power content of personal goals.

($p > .05$). Thus, I did not find the same mediation effect in the achievement as in the power domain.

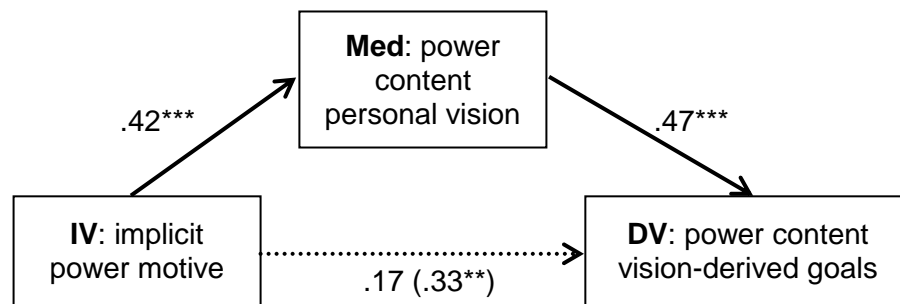


Figure 13. Mediation Model for the Power Motive. Mediation of the power motive-congruence of the vision-derived goals (dependent variable) through the power content of the personal vision (mediator). IV = Independent Variable; Med = Mediation; DV = Dependent Variable. The standardized regression coefficient between implicit power motive and power content of vision-derived goals without controlling for power content of personal vision is in parentheses. * $p < .05$; ** $p < .01$; *** $p < .005$.

Changes in positive affect. Regarding changes in positive affect, I hypothesized that the imagination of a motive-congruent personal vision should significantly increase hedonic tone (part of the *guiding hypothesis*; Hypothesis 3.4).

To determine whether changes in hedonic tone were related to the personal vision's motive congruence I conducted a simple moderated regression analysis. Hedonic tone was regressed on the motive-congruence of the personal vision (consisting of the main effects of the implicit motive and the motive content of the personal vision and its interaction effect) for each domain. It was only in the power domain that the regression analysis ($R^2 = .58$; $\Delta R^2 = .08$ for the two main effects and the interaction effect) yielded the predicted significant two-way interaction involving implicit motive and motive content of the personal vision, $\beta = .17$, $t(59) = 1.93$, $SE = .34$, $p = .058$ (see Figure 14). Participants with high motive-congruence of their personal vision indicated higher positive affect after the imagination than participants with low motive-congruence. After excluding one outlier from the analysis⁵, the interaction effect became stronger ($\beta = .22$, $t(58) = 2.59$, $SE = .33$, $p = .010$, $R^2 = .64$; $\Delta R^2 = .11$). Concerning the affiliation and the achievement domain, the predicted two-way interactions were not significant ($ps > .05$).

⁵ The studentized residual of the outlier was -4.17. The participant was characterized by a low implicit power motive, low power content of personal vision (indicating a motive-congruent personal vision), and very high decrease in positive affect.

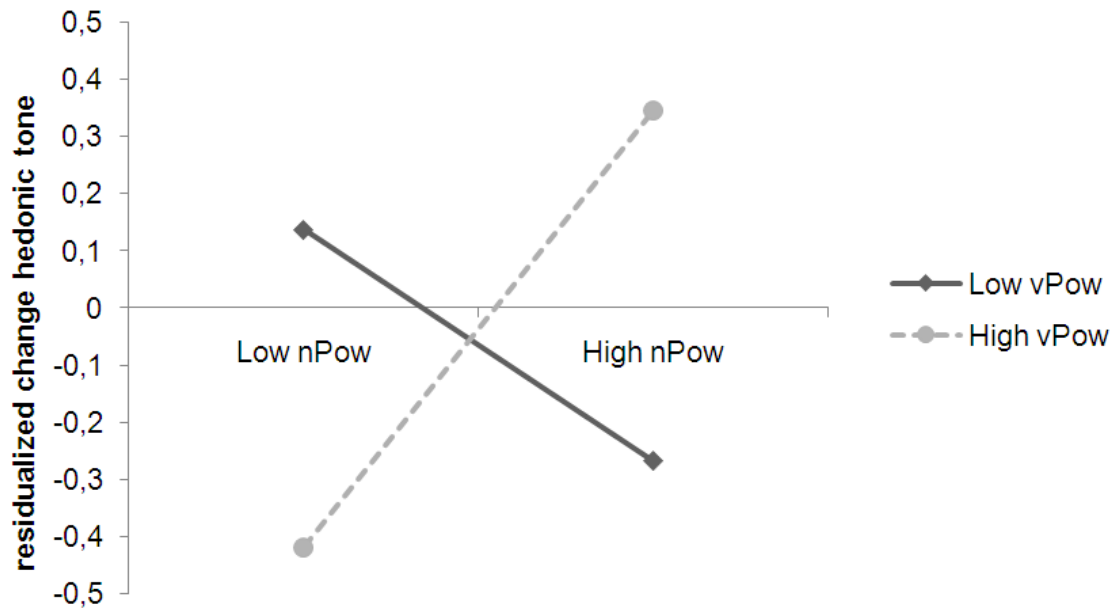


Figure 14. Residual Changes in Hedonic Tone (z-scores) as a Function of Implicit Power Motive and the Power Content of the Personal Vision. *v*pow = power content of the personal vision; *n*pow = implicit power motive.

Exploratory hypotheses. *Explicit motives.* To examine the assumption that personal visions are more associated with the implicit than with the explicit motive system (Hypothesis 3.5.1) I conducted for each motive domain a multiple regression analysis. Therefore, the motive content of the personal vision was regressed on the two independent variables implicit and explicit motives. In the power domain, the regression analysis ($R^2 = .16$) established a significant main effect of implicit motives ($\beta = .42$, $t(61) = 3.63$, $SE = .12$, $p < .001$), but no significant main effect of explicit motives on motive content of personal visions ($p > .05$). In the achievement domain, the regression analysis ($R^2 = .16$) yielded a significant main effect of implicit motives ($\beta = .42$, $t(61) = 3.66$, $SE = .12$, $p < .001$), but no significant main effect of explicit motives on motive content of personal visions ($p > .05$). In the affiliation domain, the regression analysis ($R^2 = .13$) indicated a significant main effect of implicit motives ($\beta = .27$, $t(61) = 2.33$, $SE = .12$, $p = .023$) and a significant main effect of explicit motives on motive content of personal visions ($\beta = .26$, $t(61) = 2.26$, $SE = .04$, $p = .028$).

To determine whether the motive content of the personal vision is influenced by the combined effect of implicit and explicit motives (i.e., the person's motive congruence, reflected by a two-way interaction involving implicit and explicit motive) I added the interaction between implicit and explicit motives as a predictor in a second step. In all

three motive domains, the two-way interaction between implicit and explicit motive was not significant ($ps > .05$).

Furthermore, I tested the assumption that vision-derived goals, in contrast to goals which are not vision-derived, are more congruent with the person's implicit than with her or his explicit motives (Hypothesis 3.5.2). As predicted, I found no significant correlations between the explicit motives and the motive content of the vision-derived goals within the same motive domain ($ps > .05$; see Table 7).

Additional analyses. Subjective vision content. To test whether subjective assessments of the motive content of personal visions (measured with the Incentive Theme Scale; Schattke et al., submitted for publication) was related to the objective motive content of a personal vision (measured with Winter's content coding system, 1994) as well as to the person's implicit and explicit motives, I conducted correlation analyses (see Table 8). For the power and the achievement domain the correlation between subjective and objective motive content of the personal vision was significant ($ps < .05$). I also found significant correlations between the subjective power content and the objective achievement content as well as between the subjective affiliation content and the objective power content ($ps < .05$). Moreover, in the power and the affiliation domain there were significant positive correlations between the subjective motive content of the personal vision and the person's explicit motives ($ps < .005$). Here again, I found a significant positive correlation between the subjective affiliation content and the person's explicit power motive.

Table 8

Correlations for Subjective (measured with the Incentive Theme Scale) and Objective Motive Content (measured with Winter's scoring system) of the Personal Vision, Implicit and Explicit Motives in Part 3

	vPow	vAch	vAff	nPow	nAch	nAff	sanPow	sanAch	sanAff
Subjective Pow content	.32*	.30*	-.037	.023	.024	.063	.45***	.17	.16
Subjective Ach content	.0072	.31*	.057	-.012	-.070	.032	-.054	.18	-.11
Subjective Aff content	.34**	.071	.19	.20	-.069	.11	.34**	.095	.59***

Note. vAch, vAff, vPow = achievement, affiliation, and power motive content of personal vision; nAch, nAff, nPow = implicit achievement, affiliation, and power motive; sanAch, sanAff, sanPow = explicit achievement, affiliation, and power motive.

* $p < .05$; ** $p < .01$; *** $p < .005$.

4.3.4 Results Part 4 – Exploring goal progress of vision-derived goals in a longitudinal design

Preliminary analyses. Table 9 displays the intercorrelations of all variables. There was no significant influence of gender and age. The models for the three motive domains and the resulting path coefficients are shown in Figure 15, Figure 16, and Figure 17. The effect coefficients for the models are shown in Table 10, Table 11, and Table 12.

I proposed that the influence of implicit motives on the motive-content of vision-derived goals is mediated by the motive content of the personal vision (Hypothesis 3.3; see Figure 6). For example, individuals who have a high power motive would pursue a personal vision that is also high in power content. Moreover, they derive goals from this personal vision that are also high in power content and therefore motive-congruent. As described in results section Part 3, I found the predicted mediation through the motive content of the personal vision, but only in the power domain. However, in the achievement domain, the correlation between implicit motive and motive content of vision-derived goals was significant. As the sample of Part 4 was not equivalent to the sample in Part 3 (only 38 of the initial 64 participants were left), I tested the mediation models for all three motive domains once again. Results are described in the respective *mediation* section.

Overall model. The chi-square statistic, the Comparative Fit Index (CFI), and Steigers Root Square Error of Approximation (RMSEA) were used to estimate model fit (cf. Beauducel & Wittmann, 2005). The larger the probability associated with the chi-square, the better the fit of the model to the data (Bollen, 1989; Loehlin, 1998). The CFI tests the hypothesized model against a reasonable baseline model and ideally should be 1.0. A CFI over .95 is considered good. The RMSEA is related to covariance residuals in the model (differences between corresponding elements of the observed and predicted covariance matrix). A RMSEA of <.10 is considered good, and <.05 is very good (Loehlin, 1998).

Table 9
Correlations for all Variables in Part 4

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Implicit motive											
1. <i>nPow</i>	--										
2. <i>nAch</i>	-.012	--									
3. <i>nAff</i>	-.14	-.27†	--								
Motive content of vision-derived goals											
4. <i>gPow</i>	.35*	.17	-.26	--							
5. <i>gAch</i>	.30†	.25	-.23	.42**	--						
6. <i>gAff</i>	-.34*	-.17	.12	-.19	-.15	--					
Motive content of personal vision											
7. <i>vPow</i>	.42**	-.14	-.37*	.34*	.26	-.16	--				
8. <i>vAch</i>	.09	.33*	-.14	.23	.17	-.06	.13	--			
9. <i>vAff</i>	-.22	-.27†	.31†	-.08	-.11	.61***	-.38*	-.24	--		
10. Positive mood	.16	.19	-.25	.14	-.10	-.44**	.19	.12	-.36*	--	
11. Goal progress	.36*	.02	-.19	.28†	.29†	-.22	.32	.06	-.07	.48***	--

Note. $N = 38$. *nAch*, *nAff*, *nPow* = implicit achievement, affiliation, and power motive; *gAch*, *gAff*, *gPow* = achievement, affiliation, and power motive content of vision-derived goals; *vAch*, *vAff*, *vPow* = achievement, affiliation, and power motive content of personal visions.

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .005$.

Power Domain. Overall model. The hypothesized model fit the data very well. The chi-square was 4.48 (df = 5, $p = .48$), the CFI was 1.0, and the RMSEA was .00.

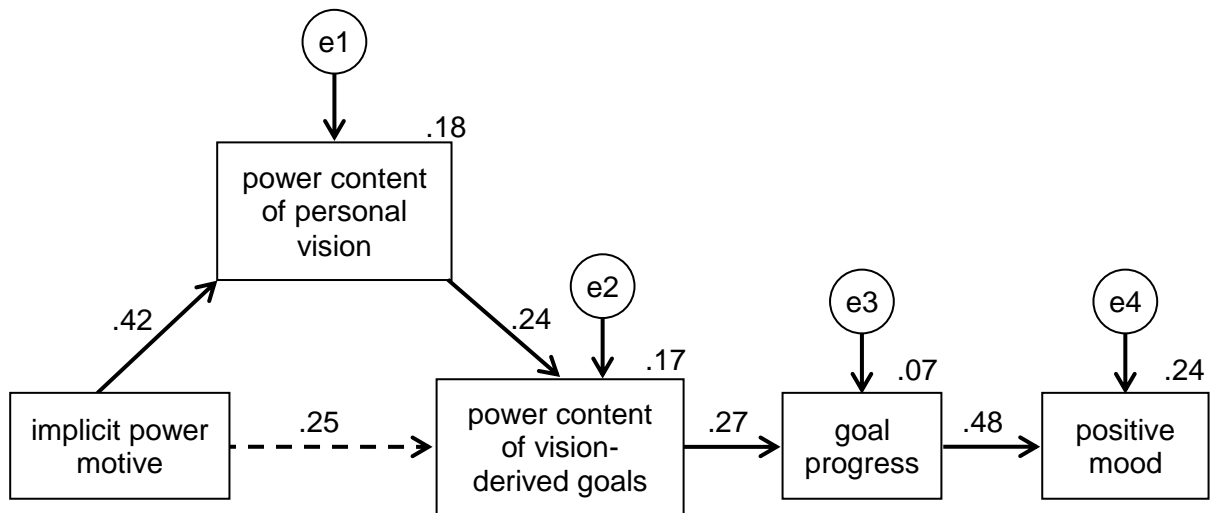


Figure 15. Overall Model for Goal Progress and Positive Mood in the Power Domain. e1, e2, e3, and e4 = residual (error) variables.

Table 10

Effect Coefficients for the Path Model in the Power Domain

Path	direct	indirect	total
$nPow \rightarrow gPow$	.25†	.10†	.35*
$nPow \rightarrow vPow$	.42*	--	.42*
$vPow \rightarrow gPow$	.24	--	.24
$gPow \rightarrow$ goal progress	.27†	--	.27†
goal progress \rightarrow positive mood	.48*	--	.48*
$gPow \rightarrow$ positive mood	--	.13*	.13†
$nPow \rightarrow$ goal progress	--	.10*	.10*
$nPow \rightarrow$ positive mood	--	.05*	.05*

Note. $N = 38$. $nPow$ = implicit power motive; $gPow$ = power motive content of vision-derived goals; $vPow$ = power motive content of personal visions.

† $p < .10$; * $p < .05$; ** $p < .01$.

Mediation. I assumed a mediation of the motive-congruence of the vision-derived goals through the personal vision (Hypothesis 3.3). Previous correlation analyses had already indicated an effect of implicit power motive on power content of vision-derived goals as well as on the mediator (motive content of personal vision), and a significant

effect of the mediator on the dependent variable (see Table 9). Next, I tested whether the independent variable (implicit motives) would still have a significant effect on the motive content of vision-derived goals after controlling for the mediator. After controlling for the motive content of the personal vision, the effect of the implicit motives on the motive content of vision-derived goals was reduced to $\beta = .25$ ($p = .094$; see Figure 15). Bootstrap estimates (means estimates across 1000 independent samples drawn from the original data) revealed that the indirect effect of implicit power motive on power content of vision-derived goals was marginal significant ($p = .10$; see Table 10). Thus, the implicit power motive affected the power content of the vision-derived goals indirectly through the power content of the personal vision. As indicated, there was still a marginally significant direct effect of the implicit power motive on the power content of vision-derived goals. Thus, the mediation of the motive-congruence of the vision-derived goals through the motive content of the personal vision was only partial.

Goal progress. Next, I tested Hypothesis 4.1: The higher the power content of vision-derived goals that are backed up by a strong implicit power motive, the higher the goal progress should be. I found a marginally significant effect of power content of vision-derived goals on goal progress ($p = .073$; see Table 10). Thus, the higher the power content of vision-derived goals, the higher was the goal progress. Power content of vision-derived goals was significantly influenced by participants' implicit power motive ($\beta = .35$, $p = .015$). Moreover, there was a significant indirect effect of participants' implicit power motive on goal progress through power content of personal visions and vision-derived goals ($p = .044$). The higher the implicit power motive is, the higher the goal progress will be. More precisely, power content of vision derived-goals was predicted by the participant's implicit power motive. This influence was partially mediated through the power content of the personal vision. The resulting power content of vision-derived goals predicted the goal progress at Session 2.

Positive mood. Secondly, I tested the hypothesis that goal progress of vision-derived goals that are backed up by a strong implicit power motive leads to heightened positive mood. There was a significant effect of goal progress on positive mood ($p = .013$; see Table 10). Thus, the higher the goal progress is in vision-derived goals, the higher the positive mood will be. Finally, I tested Hypothesis 4.3: Vision-derived goals that are backed up by a strong implicit power motive have an indirect effect on positive mood through goal progress. Bootstrap estimates revealed that the indirect effect of power content of vision-derived goals on positive mood was significant ($p = .039$). Thus, the motive-congruent vision-derived goals affected the positive mood only indirectly through

the enhanced goal progress. Moreover, there was a significant indirect effect of participants' implicit power motive on positive mood through the long path over the power content of personal visions and the shorter path over vision-derived goals ($p = .039$). Thus, the higher the implicit power motive is, the more positive mood becomes. Taken together, power content of vision derived-goals was predicted by the participant's implicit power motive. This influence was partially mediated through the power content of the personal vision. The resulting power content of vision-derived goals predicted the goal progress at Session 2. Goal progress, in turn, predicted participants' positive mood at Session 2.

Achievement Domain. Overall model. The hypothesized model fit the data okay. The chi-square was 7.34 ($df = 5, p = .19$), the CFI was .86, and the RMSEA was .11.

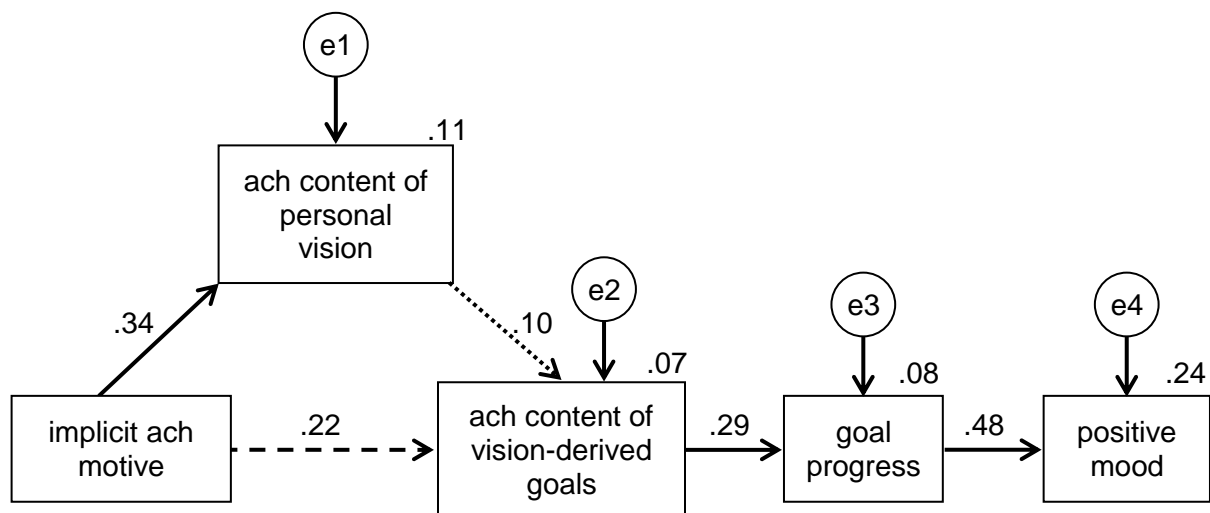


Figure 16. Overall Model for Goal Progress and Positive Mood in the Achievement Domain. e1, e2, e3, and e4 = residual (error) variables, ach = achievement.

Table 11
Effect Coefficients for the Path Model in the Achievement Domain

Path	direct	indirect	total
$nAch \rightarrow gAch$	.22	.04	.26
$nAch \rightarrow vAch$	.34*	--	.34*
$vAch \rightarrow gAch$	.10	--	.10
$gAch \rightarrow$ goal progress	.29†	--	.29†
goal progress \rightarrow positive mood	.48***	--	.48*
$gAch \rightarrow$ positive mood	--	.14*	.14†
$nAch \rightarrow$ goal progress	--	.07†	.07†
$nAch \rightarrow$ positive mood	--	.04†	.04†

Note. $N = 38$. $nAch$ = implicit achievement motive; $gAch$ = achievement motive content of vision-derived goals; $vAch$ = achievement motive content of personal visions.

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .005$.

Mediation. In the achievement domain, the only correlation that was significant was between the implicit achievement motive and the achievement content of the personal vision ($p = .039$, see Table 9). The correlation between the implicit achievement motive and the achievement content of vision-derived goals as well as the correlation between achievement content of personal vision and achievement content of vision-derived goals were not significant ($ps > .10$). Bootstrap estimates revealed no direct ($p = .22$), no indirect ($p = .37$), and no total effect of implicit achievement motive on achievement content of vision-derived goals ($p = .12$; see Table 11). Moreover, the effects were in the right direction, but there was not enough power. Thus, analog to the previous findings in Part 3, I did not find a significant mediation in the achievement domain. Therefore, the preconditions that the motive content of the vision-derived goal was congruent to the implicit motives and that this motive-congruence was mediated through the motive content of the personal vision did not exist.

Goal progress. In line with the small influence of the implicit achievement motives on motive content of vision-derived goals, there was a marginally significant effect of achievement content of vision-derived goals on goal progress ($p = .075$; see Table 11). Thus, the higher the achievement content in vision-derived goals was, the higher the goal progress became. Moreover, there was a marginal significant indirect effect of participants' implicit achievement motive on goal progress through achievement content of personal visions and vision-derived goals ($p = .10$). The higher the implicit achievement motive the higher the goal progress. More precisely, achievement content of vision

derived-goals was predicted by the participant's implicit achievement motive. The resulting achievement content of vision-derived goals predicted the goal progress at Session 2.

Positive mood. The effect of goal progress on positive mood was significant ($p = .002$; see Table 11) showing that the higher the goal progress in vision-derived goals was, the higher the positive mood became. Moreover, bootstrap estimates revealed that the indirect effect of achievement content of vision-derived goals on positive mood was significant ($p = .037$). Thus, the achievement content of vision-derived goals affected the positive mood only indirectly through enhanced goal progress. Furthermore, there was a marginally significant indirect effect of participants' implicit achievement motive on positive mood through the long path over the achievement content of personal visions and the shorter path over vision-derived goals ($p = .067$). The higher the implicit achievement motive the higher the positive mood. Taken together, these results show that the achievement content of vision derived-goals was predicted by the participant's implicit achievement motive. The resulting achievement content of vision-derived goals predicted the goal progress at Session 2. Goal progress, in turn, predicted participants' positive mood at Session 2.

Affiliation Domain. Overall model. The hypothesized model fit the data at an acceptable level. The chi-square was 9.54 ($df = 5$, $p = .09$), the CFI was .96, and the RMSEA was .16.

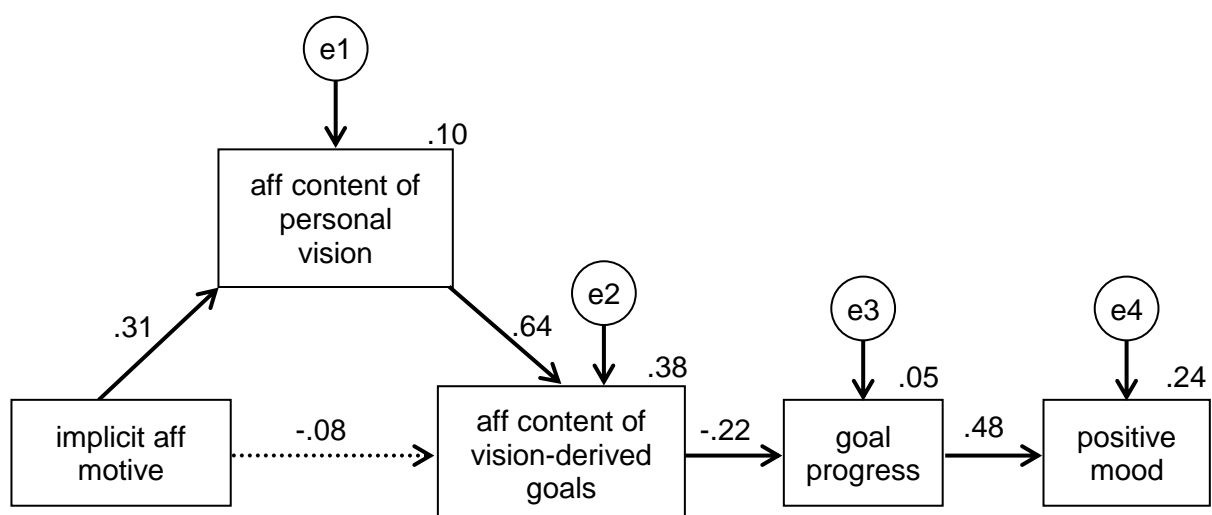


Figure 17. Overall Model for Goal Progress and Positive Mood in the Affiliation Domain. e1, e2, e3, and e4 = residual (error) variables, aff = affiliation.

Table 12
Effect Coefficients for the Path Model in the Affiliation Domain

Path	direct	indirect	total
<i>nAff</i> → <i>gAff</i>	-.08	.20*	.12
<i>nAff</i> → <i>vAff</i>	.32*	--	.32*
<i>vAff</i> → <i>gAff</i>	.64*	--	.64*
<i>gAff</i> → goal progress	-.22	--	-.22
goal progress → positive mood	.48*	--	.48*
<i>gAff</i> → positive mood	--	-.11	-.11
<i>nAff</i> → goal progress	--	-.03	-.03
<i>nAff</i> → positive mood	--	-.01	-.01

Note. $N = 38$. *nAff* = implicit affiliation motive; *gAff* = affiliation motive content of vision-derived goals; *vAff* = affiliation motive content of personal visions.

† $p < .10$; * $p < .05$; ** $p < .01$.

Mediation. In the affiliation domain, the correlation between the implicit affiliation motive and the affiliation content of the personal vision was significant ($p = .054$) as well as the correlation between the affiliation content of the personal vision and the affiliation content of the vision-derived goal ($p < .001$; see Table 9). However, there was no significant interaction between the implicit affiliation motive and the affiliation content of the vision-derived goals ($p > .10$). Bootstrap estimates revealed an indirect ($p = .025$) effect of implicit affiliation motive on affiliation content of vision-derived goals through the affiliation content of the personal vision. There was no direct effect of implicit affiliation motive on affiliation content of vision-derived goals ($p = .66$; see Table 12). Thus, analogously to the previous findings in Part 3, I did not find a significant mediation in the affiliation domain. Therefore, the precondition, that the motive-congruence of the vision-derived goals was mediated through the motive content of the personal vision did not exist. Moreover, the affiliation content of the vision-derived goals was only indirectly backed up by the implicit affiliation motive through the affiliation content of the personal vision.

Goal progress. In line with the missing motive-congruence of vision-derived goals, there was no effect of affiliation content of vision-derived goals on goal progress ($p = .28$). There was even a slightly negative correlation between the affiliation content of the vision-derived goals and goal progress. The higher the affiliation content of the vision-derived goals that were not backed up by the implicit affiliation motive, the lower the goal progress. Moreover, there was no significant indirect effect of participants' implicit

affiliation motive on goal progress through affiliation content of personal visions and vision-derived goals ($p = .39$; see Table 12).

Positive mood. The effect of goal progress on positive mood was significant ($p = .009$; see Table 12). The higher the goal progress in vision-derived goals was, the higher the positive mood became. Moreover, bootstrap estimates revealed no indirect effect of affiliation content of vision-derived goals on positive mood ($p = .17$). Furthermore, there was no significant indirect effect of participants' implicit affiliation motive on positive mood through the long path over the affiliation content of personal visions and the shorter path over vision-derived goals ($p = .24$).

5 Discussion

The aims of the present research were 1) to provide a better understanding of the construct of personal visions, 2) to shed light on the differences and similarities between personal visions and personal goals, 3) to provide evidence for the motive-congruence of personal visions, 4) to evaluate the effects of a motive-congruent personal vision on positive affect and the development of motive-congruent goals, and 5) to examine the future goal progress of these vision-derived goals and its effect on emotional well-being.

In these studies, I tested the following propositions: First, personal visions and personal goals have unique as well as common attributes and effects. I pointed out that the crucial difference between the two constructs is their representational format. Personal visions are represented in a picture-like format, whereas personal goals are represented in a language-based format. Second, due to their picture-like format, personal visions are more congruent with a person's implicit motives than personal goals are. Third, imagination of a motive-specific vision, which fits a person's implicit motives, should arouse the corresponding implicit motives. This motive arousal is experienced as a positive affective reaction. Fourth, if goals are derived from a motive-congruent personal vision, this results in motive-congruent goals. Finally, these motive-congruent vision-derived goals exhibit high goal progress at a later time, as they are backed up by the corresponding implicit motive. This goal progress, in turn, leads to enhanced emotional well-being.

The findings support the validity of my hypotheses in most cases.

5.1 Discussion Part 1 – Delineating the Construct of Personal Visions

The results of the first part of the study provide a framework for a better insight into the construct *personal vision* and therefore a better understanding of what a personal vision is like. The contents of personal visions are very diverse. They include ordinary common topics like private or/and professional success as well as more uncommon topics like being part of sports history or becoming a charity spokesperson.

Concerning the development of personal visions the results indicate that they develop in two different ways. The majority (more than half) of the participants generated their personal vision as a consequence of some critical life event; the minority of the participants indicated that they generated (or are still in the process of generating) their personal vision little by little, without any special reason, over the course of time.

Moreover, most of the time personal visions do not appear incidentally and spontaneously in the stream of thought. Instead, they appear rather regularly, sometimes

even daily, and intentionally. People think about their personal vision on occasions that are relevant for it and its realization or when they plan their future. Moreover, they think about their personal vision with the aim to gain motivation and hope out of it. This result is important for the differentiation between personal visions and daydreams, as mentioned in Chapter 3.2.2. According to Klinger (1987), a central feature of daydreaming is that a line of thought first starts then develops without conscious intention and in the end does not adhere to some obvious conscious goal or purpose.

Regarding the emotional connotation of a personal vision, my analyses reveal that around half of the subjects associate only positive feelings with their personal vision and just four subjects associate only negative feelings with their personal vision. That also implies that slightly less than half of the personal visions are connected to both positive and negative feelings. Although all the personal visions in this study were only positive images of what the participants want to approach in the future, such positive images can also bring about negative feelings. Most of the participants indicated that they are concerned about not reaching their personal vision or that they feel pressure and stress when thinking about their personal vision. Aside from these negative aspects, a vision has apparently the earlier described positive effects (see Chapter 3.2.3 and 3.2.4). It has the power to motivate and energize and makes people feel good, strong, or pleased.

The results also show that on average a proportion of 30.83 % of the personal vision was already realized. There is a great range from 1.00 % to 80.00 % in the degree of vision realization. This is probably due to different waypoints or starting points. However, participants were quite successful (one-third has already been realized) at realizing their personal vision overall. This finding points to an important difference between a personal visions and utopias. Utopias are defined as fantasies or dreams, which have no or only very small chances to be realized (Langdrige, 2006). In contrast, personal visions are obviously realistic and attainable.

One attribute of a vision is that it appears regularly in the stream of thought. My results support this point to be a defining attribute, as participants have a very high mean score on the scale "How often do you approximately think about your vision?". This score ($M = 3.72$ on a 5-point-scale) indicates that participants think rather often about their personal visions.

Furthermore, the results suggest that the impact of a personal vision is not limited to the visionary person, but it is very often related to other persons in the environment of the visionary person. In addition, it often comprises several different areas of life.

Interestingly, participants reported problems with articulating their personal vision. The problems referred to the process of making the image in their mind explicit and communicable. Most of them indicated that they have never tried to put their personal

vision into words before. Obviously, personal visions are for many individuals as purely nonverbal and pictorial represented as previously assumed. Therefore, an intentional translation from nonverbal into verbal information, i.e., a strategic induction of referential processing, is necessary.

In summary, personal visions depict desirable and attainable future end states that appear regularly in the stream of thought and are developed spontaneously, but often intentionally over time. They often take into account the individual's environment and most of the time they are connected to positive feelings (although sometimes negative feelings are involved).

5.2 Discussion Part 2 – Conceptual and Empirical Differences Between Personal Visions and Personal Goals

The second part of my study reveals several differences, but also similarities between personal visions and personal goals.

In line with the conceptualization of visions as mental images of the future (Conger, 1999; Rawolle, 2010) and goals as cognitive representations of desired future states (Austin & Vancouver, 1996; Brunstein & Maier, 1996), I found higher *imagery* in the personal vision descriptions (measured via referential activity as well as subjective assessment) as compared to the personal goal descriptions (Hypotheses 2.1.1 and 2.1.2). First of all, I found higher *referential activity* (manifested in lower RA_{low} scores and higher RA_{high} scores) in the vision-group compared to the goal-group. That is, for the description of their personal vision participants used a narrative style which was richly pictorial and more elaborated, clear, and specific than the style used for the goal description. This language produces a lively, vivid picture and evokes corresponding experiences in the reader or hearer. Thus, the corresponding experience in the reader or hearer develops through the usage of words which are concrete (degree of perceptual or sensory quality, including references to all sensory modalities, action and bodily experience), abundant in imageries, detailed, and specific. The lower referential activity in the goal-group (manifested in higher RA_{low} scores and lower RA_{high} scores) indicates the usage of more vague, diffuse statements, without lively pictures or the communication of emotional experiences. The results regarding the referential activity are in line with the *subjective assessment* of goal vs. vision imagery measured via VAES. Here, too, personal visions receive on average higher imagery scores than personal goals. Using a computer assisted content analysis technique (CRA; Mergenthaler & Bucci, 1999), I received an objective measure of the degree of imagery in the descriptions. This measure complements the subjective assessment of the participants. It is important to mention that

the findings cannot be the mere result of the use of words that are obviously connected to personal visions (like “I see myself...”) or personal goals (like “my goal is...”), as the two dictionaries contain a huge amount of various words, e.g., pronouns, articles, words carrying directional and spatial meaning, words describing mental and emotional states (indicators for high referential activity) vs. non-specific objects, words expressing negation, assertion, and uncertainty, and words describing current or ongoing mental states (indicators for low referential activity). However, for the low referential activity score (RA_{low}) interpretation of the main effect is restricted due to an interaction effect of age and group (vision vs. goal). The older the participants in the goal-group were, the lower was the RA_{low} , whereas age made no difference as to RA_{low} in the vision-group. Apparently, the older people get, the less they use words for goals that involve a low referential activity. Altogether, the results support the assumption that personal visions compared to personal goals are represented in a pictorial-like format.

Regarding the involved *psychological processes* (Hypothesis 2.1.3), which were operationalized and measured by the words used for personal goal and personal vision descriptions, my results show a significantly higher use of words indicating cognitive processes and negative emotions in the goal-group than in the vision-group. In contrast, participants in the vision-group used more words connected to perceptual processes. There was no difference as to the amount of words indicating positive affect. Altogether, these results are corroborated by the findings concerning the subjective assessment of negative affect and the measure of referential activity. As described earlier, high referential activity is connected to the description of perceptual processes like hearing, observing, and feeling, which explains the higher score of perceptual processes in the vision-group. Low referential activity, in contrast, is connected to thinking about the current or ongoing mental state, negation, assertion, and uncertainty. In short, it is connected to cognitive processes. This explains the higher score of cognitive processes in the goal-group, measured with the LIWC.

Furthermore, my results support the hypothesized *importance of imagery regarding the motivation* aroused by personal visions and personal goals (Hypotheses 2.2.1 and 2.2.2): The higher the subjective imagery of the personal vision or the personal goal the higher the motivation. These effects were mediated by positive affect. High imagery led to higher ratings of motivation, mediated by the subjective rating of positive affect during imagining the personal vision or personal goal. This finding is consistent with the notion that imagery-based content, relative to concept-based content, is more emotional in nature (Martindale, Covello, & West, 1986). Moreover, the results verify and generalize findings in organizational contexts concerning the importance of high imagery of visions (Mio et al., 2005; Naidoo & Lord, 2008). Naidoo and Lord (2008) found that high imagery in speeches

led to higher ratings of speaker charisma, partly mediated by making listeners feel more state positive affect. Furthermore, I also found in the goal-group that high imagery led to higher ratings of motivation, mediated by the subjective rating of positive affect. This indicates that imagery per se is very important for positive evaluation of (personal) visions and (personal) goals, like higher motivation. Nevertheless, the main effect of personal visions compared to personal goals on imagery and the parallel pattern of results regarding the positive effect of imagery on motivation suggest that the advantage concerning the motivational power of visions is driven by their pictorial format. One could argue that visions are only very vivid goals and therefore form a special subgroup of goals (see Chapter 3.2.1). However, even then it would be important to distinguish between personal goals and personal visions, as personal goals are not full of imagery per se, but personal visions always are. Therefore, I believe that a distinction between personal visions and personal goals is justified by the results and useful. Regarding the association between ratings of positive affect, imagery, and motivation, one alternative explanation would be that the findings reflect a common method bias, as all three scores were assessed with questionnaires. This explanation has to be ruled out by using different methods and experimental manipulations in further studies. As I did not experimentally manipulate the independent variables in the mediation model, I theoretically derived the directions of the mediation effect. Therefore, I cannot ensure causality. One alternative explanation would be that positive affect leads to personal visions or personal goals that are higher in imagery. However, as participants indicated the positive affect they usually experience during imagining their personal vision or their personal goals, the other way around (high imagery leads to positive affect) is more plausible. Still, I found evidence for a mediating mechanism involving positive affect connected to personal visions and personal goals. High imagery leads to higher ratings of motivation through positive affect.

For the two measures of referential activity, high and low referential activity, I also found main effects on motivation. These main effects, however, were qualified by the two-way interactions involving low referential activity and group as well as high referential activity and group. The higher RA_{low} was in the goal-group, the lower the motivation was evoked by the personal goal. In the vision-group, the level of RA_{low} did not have an effect on motivation. The effect of high referential activity was analogous. Once again, in the vision-group, the level of high referential activity did not have an effect on motivation. One could speculate that personal visions could have a buffer effect in that personal visions with low pictorial quality are still perceived as more motivating than personal goals, whereas for personal goals, a low pictorial quality leads to low motivation. These results can best be understood if one considers that personal visions are per se a mental image. They are analogous to implicit motives represented in a nonverbal way and do not need

more referential activity to motivate. For personal goals, however, high referential activity is essential to elicit implicit motivation. Furthermore, personal visions scored already very high on the scale motivation ($M = 4.36$) and the variance was more homogeneous ($SD = .67$) than in the goal-group ($SD = .10$). This may have caused a ceiling effect in that it kept personal visions from further increases in the motivation score through increased referential activity.

The result that personal visions exhibit a higher level of *abstraction* than personal goals is also in line with Hypothesis 2.3. The concept of *abstraction* refers to the degree of reducing the information of a concept or an observable phenomenon, typically used to retain only information which is relevant for a particular purpose. In other words, abstraction is a strategy of simplification, wherein formerly concrete details are left more general, ambiguous, vague, or undefined. The higher score in the vision-group indicates that personal visions depict representations of general ideas, as opposed to specific achievements, or narrowly circumscribed goals that can be met and then discarded (Kantabutra, 2006). According to Emmons (1989), the concept of goals denotes the specific way in which a person acts. This means that (personal) goals are specific individualized and cognitively elaborated representations of what one intends to achieve in one's current life situation (Brunstein et al., 1998; Job et al., 2009). In contrast, personal visions are more general and extensive as to their content. They often capture several different areas of life and involve a longer time frame. Therefore, a higher degree of abstraction is necessary to capture a personal vision as a whole. Moreover, use of abstract words is an indicator for cognitive reflection about feelings or things and therefore leads to better understanding and perception as well as to the construction of new structures (Buchheim & Mergenthaler, 2000). I therefore suppose that participants reflect more about feelings and the situation when their personal vision is involved as compared to a situation where their personal goal is involved. Unexpectedly, I found that age predicted the use of abstract words in the goal-group. This effect was not observed in the vision-group. The increase in abstraction with age could be explained by increase in life experience and therefore higher crystallized intelligence (Cavanaugh & Blanchard-Fields, 2006). This might be the reason for a more elaborated language. This effect is similar to the effect found for low referential activity. Here again, age predicted the use of abstract words in the goal-group. In other words, the older participants in the goal-group had a lower use of words for goals that are low in imagery. Abstraction and high referential activity seem to be associated with a good quality of images. Furthermore, to bring less pictorial stimuli into a pictorial shape might require time and experience.

Concerning the *attributes and effects* of personal visions compared to personal goals, the analyses reveal several differences, but also some similarities (Hypotheses 2.4.1,

2.4.2, 2.4.3, and 2.5). As predicted, personal visions show a higher discrepancy from the status quo than personal goals. Furthermore, they are more long-term-oriented, they direct effort, catalyze action, guide decisions (specify directions), and are better suited to motivate than personal goals are. Moreover, it is easier to derive goals from personal visions than from personal goals. The latter is very plausible, if one considers two important aspects: First, one can see a vision as a superordinate goal at the top of a goal hierarchy. They are long-term oriented and most of the time complex. To reach this superordinate vision, one has to derive specific subgoals (Kirkpatrick & Locke, 1996; Kruglanski et al., 1996). Second, most of the personal goals described by the participants were less complex and therefore not on a high level, but rather on an intermediate level in the goal hierarchy (for an illustration, see Personal Goals – Example 1 in Appendix B). To elaborate the hierarchy assumption further, it would be promising to compare personal visions with self-defined goals (Brunstein & Gollwitzer, 1996). Self-defined goals like ‘becoming a good mother’ are typical examples for complex goals. As they are at the top of a goal hierarchy, they can only be fully realized by attaining many simple sub-goals (Carver & Scheier, 1998). Thus, the difference between personal visions and self-defined goals should be smaller. Both should allow an easy derivation of sub-goals. Both are general, long-term oriented, and often not fully achieved in practice. The crucial difference between these two constructs should be that personal visions are represented in a pictorial format whereas self-defined goals are represented in a language-based format.

Furthermore, personal visions energize, inspire, and challenge the individual more than personal goals do. Although only partly marginally significant, the results point in the right direction regarding the assumed positive attributes of personal visions described in Chapter 3.2 (Berson et al., 2001; Conger & Kanungo, 1998; Hallinger & Heck, 2002; Strange & Mumford, 2002). On the other hand, personal goals are more realistic, accepted, detailed, clearer, and briefer than personal visions. The results also indicate that goals are easier to attain (or seen as more attainable; marginally significant). This is in line with the assumption that goals are concrete, realizable, time-limited intentions derived from more abstract cognitive representations of personal preferences, e.g., self-ascribed explicit motives (Brunstein et al., 1998; Job et al., 2009; Kehr, 2000, 2004c; Schultheiss et al., 2011). They also fulfill the demands of the goal setting theory, which suggests that goals have to be specific, measureable, attainable, challenging (but realistic), and timely to be effective in changing behavior and motivating individuals (Locke & Latham, 1990; Wankel, 2007).

In addition, there was no difference in the future orientation of the two constructs and in the desirability of the end state of the personal vision or the personal goal. This is in line

with both the definition and the conceptualization of these two constructs. Both of them refer to a desirable end state in the future (Kirkpatrick & Locke, 1996).

Contrary to my expectations, personal visions and personal goals did not differ regarding the degree to which they provide identity, meaning, and orientation. Still, participants in both groups scored high on all of the three scales (around 4 on a 5-point scale) and the difference on the identity scale was nearly significant (vision-group > goal-group). This fact indicates that both personal visions and personal goals are important means to provide direction and meaning in one's life and to foster one's identity. One reason for the latter result can be the fact that not only personal visions, but also many personal goals contain a desired identity such as becoming a skilled psychologist or musician. Goals exhibiting this feature are called self-defining goals as they contain some kind of ideal self, one's desired identity (Brunstein & Gollwitzer, 1996). Due to the representation of one's desired identity the identification with such goals should be rather high.

In sum, these results allow a conceptual distinction between personal visions and personal goals based on empirical findings. Personal visions score high on attributes and effects that are associated with the implicit motive system, namely to (unconsciously) select attractive activities, to mobilize and energize behavior, to facilitate a positive quality of experience, and to keep this behavior on course almost effortlessly. On the other hand, personal goals score high on attributes that are associated with the explicit motive system, such as lacking pictorial quality, being detailed, and specific. These results support my idea that personal visions – as they are represented as mental images – are nonverbal incentive cues and therefore are effective by arousing the implicit motive system. In contrast, personal goals – as they are represented as verbal codes – are verbal incentive cues and therefore are effective by arousing the explicit motive system.

The question concerning which of the attributes are especially important to make a (personal) vision effective has to be the aim of further studies.

The *additional analyses* reveal several other significant differences between personal goals and personal visions. Personal visions, were rated as more adaptive (i.e., it is easier to adapt personal visions to changing conditions than to adapt personal goals), more flexibly reachable (i.e., there is more than one way to attain the personal vision), and more persuasive than personal goals. Moreover, participants in the vision-group indicated more positive affect and less negative affect while imagining their personal vision than participants in the goal-group. These results can be partly explained by the fact that personal visions are less often associated with an undesirable end state than personal goals. This explanation is supported by the finding that there was no effect of group (vision vs. goal) on the negative affect after controlling for the valence of the end state. In

contrast, the higher positive affect in the vision-group as compared to the goal-group remained significant after adding the valence of the end state as covariate. These results raise the question of why both personal goals and personal visions are seen as desirable when only personal goals are clearly positively toned. Which aspects make a personal goal attractive? One possible starting point for the clarification of this question might be the high scores on the effects provide meaning and identity for one's life. Both personal visions and personal goals are important and desirable in that they clarify who we are, what we do, and why we do it.

Finally, personal visions obviously enhance persistence more than personal goals do, whereas goals are better communicated and lead to higher indulgence. The latter is an important result regarding the distinction of the construct personal visions and the two related constructs positive fantasies (Oettingen & Mayer, 2002) and daydreaming (Klinger 1971). As personal visions lead to less indulgence than personal goals, they should also lead to less indulgence than positive fantasies and daydreaming. This assumption has to be confirmed in future research. However, the result is also unexpected. One would expect that personal goals, which are less pictorial and less positively toned compared to personal visions, should score lower on indulgence. Therefore, it is important to clarify the reasons for this finding in future studies.

Taken together, the results of the second part of my study offer empirical support for a conceptual distinction between personal visions and personal goals. First, they support the ideas of (personal) visions as mental images and (personal) goals as verbal codes. Second, they provide evidence for differences between personal visions and personal goals regarding several important attributes and effects as well as some relevant psychological processes. Moreover, the finding that visions are associated with positive affect hints to my idea of a positive affective reaction due to the implicit motive arousal during thinking about the personal vision (*guiding hypothesis*). The positive affect should serve as a guideline for the selection of personal vision content, independent of the emotional connotation of the end state.

5.3 Discussion Part 3 – Closing the Gap Between Implicit Motives and Personal Goals

To my knowledge, the present research reports the first attempt to explore the relationship between implicit motives and the motive content of personal visions. The results are fully consistent with my theoretical reasoning. They provide support for the notion that personal visions are associated with a person's implicit motives (Hypothesis 3.1). As predicted, *motive contents of personal visions and implicit motives* were positively

associated in all three motive domains. That is, the higher the person's implicit motive in a specific domain, the higher the motive content of this domain in the personal vision. These results are in line with findings of Rawolle and colleagues (Kehr et al., 2010; Rawolle, 2010), which document that experimentally manipulated visions (enriched with specific motivational content) are motivationally effective by arousing implicit motives. More precisely, they showed that a motive-thematic vision arouses the targeted implicit motive and thereby facilitates the recruitment and energization of adaptive behavior as well as the physiological states that support its execution. The results add an important point to these findings which is that personal visions do not only arouse the implicit motives – they are even congruent to them.

Furthermore, I found significant positive correlations between the *implicit motives and the motive content of the vision-derived goals* in the achievement domain and in the power domain (Hypothesis 3.2). That is, the higher the person's implicit motive is in these two domains, the higher the motive content of this domain is in the vision-derived goals. There was no significant correlation between the implicit motive and the motive content of the vision-derived goal in the affiliation domain. As the goals were derived from the personal vision, this effect can be explained by the relationship between explicit motives and motive content of the personal vision. In the affiliation domain, personal visions are formed by the implicit as well as by the explicit motive system. Moreover, the influence of the explicit motive on the motive content of vision-derived goals is higher in the affiliation domain compared to the other two motive domains. Thus, it might be that the explicit affiliation motive had a stronger influence on the development of the vision-derived goals than the implicit affiliation motive. Moreover, the results also reveal significant correlations between subjective affiliation content and objective power content of the personal vision. Obviously, participants misinterpret the actual power motive content of their personal vision. It is possible that this misinterpretation led to a development of vision-derived goals that were high in affiliation content, independently of the actual affiliation content of the personal vision. A further explanation for the missing motive-congruence of the vision-derived goals is based on the PSI-Theory (Kuhl, 2000). According to PSI-theory, the affiliation motive is supported by intuitive motor programs called *intuitive behavior control*. Intuitive behavior control is specialized in the enactment of automatic behavioral programs (Kuhl, Kazén, & Koole, 2006). However, both achievement motive and power motive are supported by *intention memory*. The intention memory “maintains the activation of difficult goals on a conscious and analytical level and at the same time inhibits premature enactment of these goals” (Kuhl, Kazén, & Koole, 2006, p. 5).

The development of goals is a strategic process. In our case, this process was triggered by the task to derive goals from the personal vision. In contrast, the affiliation

motive is characterized by intuitive, emotionally guided behavior. Therefore, the explicit task to derive goals from a personal vision should be more of a hindrance than a help within the affiliation domain, as it inhibits the natural intuitive behavior control. This argumentation is in line with McClelland's (1986) notion that affiliation motivation reflects the *being*, whereas power and achievement motivation reflect the *doing*, and with Rawolle's (2010) finding concerning the affective reaction associated with motive-specific visions: She found that agentic visions (i.e., visions that furnish achievement or power-related cues) promoted a state of activation (i.e., tense and energetic arousal), whereas affiliation visions promoted hedonic feelings. In other words, the visualization of an affiliative vision involved consuming an affectively charged reward (cf., Matthews et al., 1990; Weinberger & McClelland, 1990). Power or achievement visions, in contrast, led to tense and energetic arousal. Both are indicators of approach motivation and should facilitate instrumental behavior (cf., Matthews et al., 1990; Schultheiss & Brunstein, 1999). Thus, different strategies should be used depending on the relevant motive domain to effectively derive motive-congruent goals from a personal vision. For the achievement and the power domain, a strategic process makes sense, as both are *doing* motives. For the affiliation domain, being a *being* motive, this strategy could lead to a deviation from the strategy usually associated with the affiliation motive, which hinders *effective* goal derivation and choice.

In the power domain, I found the expected mediation (Hypothesis 3.3), i.e., the motive-congruence of the vision-derived goals stemmed from the motive-congruence of the personal vision. A high implicit power motive, for example, leads to a personal vision with high power content. This personal vision, in turn, leads to high power content in the vision-derived goals. Thus, the implicit power motive affects the power content of the vision-derived goals only indirectly through the power content of the personal vision.

Taken together, the findings support the idea that personal visions can bridge the gap between goals and implicit motives. As personal goals are part of the explicit motive system (McClelland et al., 1989), they are usually not correlated with the implicit motives (King, 1995). However, if one derives goals from his or her motive-congruent personal visions, then these goals are also motive-congruent. In this way, personal visions motivate people not only on a direct path (due to their motive-congruency) but also via an indirect path, by serving as a link between motive-incongruent goals and implicit motives.

One alternative explanation for the association between implicit motives, motive content of personal visions, and motive content of vision-derived goals would be that the findings reflect a common method bias, as all scores were assessed with Winter's (1994) content coding system. However, King (1995) analyzed PSE stories, autobiographical memories, and wishes using Winter's (1989) scoring system and did not find any

substantial correlations. Moreover, I did not find any correlations between the implicit affiliation motive and the affiliation content of the vision-derived goals. Thus, this explanation is rather unlikely.

In line with the assumption of a *guiding function of emotions* (Hypothesis 3.4), I found in the power domain the highest hedonic tone for participants who pursue a motive-congruent personal vision. A motive-congruent personal vision exists, when an individual with a high power motive strives for a personal vision with strong power content or if an individual with a low power motive strives for a personal vision with low power content. Participants who pursue a motive-incongruent personal vision report a hedonic tone that was below the average of the sample. The positive affective reaction helps the participants to recognize that their personal vision is a positive stimulus they should try to approach. In contrast, a negative affective reaction serves as a hint that their personal vision is a negative stimulus they should try to avoid or change into a more suitable vision (Kehr, 2005). In the long run, this mechanism ensures that the individual pursues personal visions that match his or her implicit motives. Moreover, positive affect is considered as part of the basic approach motivational system (Carver, 2001; Carver & Scheier, 1998; Davidson, 1995), which is concerned with approaching positive stimuli or outcomes. Hence, I provide further evidence for my assumption that personal visions are associated with the implicit motive system. The results regarding positive affect are in line with the findings concerning the mediation. In both models, the predicted relationship was found only in the power domain.

Thus, at least in the power domain, the results of the third part of the study fully support my theoretical assumptions. First, individuals pursue personal visions which fit with their implicit motives. Second, they support the idea that motive-congruent personal visions can bridge the gap between goals and implicit motives. Third, they demonstrate that motive-congruence of personal visions leads to positive affect during the imagination of the personal vision. However, the present data do not allow to generalize my mediation model to the other motive domains.

Moreover, I found no significant association between *motive content of personal vision and explicit motives* in the achievement and the power domain (Hypothesis 3.5). However, the results show a significant correlation between the explicit motive and the motive content of personal visions in the affiliation domain. Thus, in the affiliation domain, the motive content of the personal vision is influenced by the person's implicit *and* explicit motives. In other words, explicit aspirations are also incorporated into the mental image. Therefore, in the affiliation domain the implicit and explicit motive systems are in consonance. The incorporation of the participants' explicit motives into the personal vision can best be understood if one considers the fact that individuals sometimes describe

people in their environment their personal vision. Therefore, a translation of the nonverbal mental image into verbal phrases (through referential processes; Schultheiss, 2001, 2008) is necessary. As result, personal visions could also contain a verbal part. These verbal parts allow a comparison with the explicit motive system (Schultheiss, 2008). In our case, most of the participants indicated that they have never tried to put their personal vision into words before. This may explain why I only found one positive association between the motive content of the personal vision and the participants' explicit motives. Clearly, to examine the role of explicit motives in the development of personal visions represents an interesting research topic for future research.

In addition to the main effects of implicit and explicit motives, there were no combined effects of implicit motives and explicit motives on the motive content of personal visions in the three motive domains. Furthermore, as predicted by Hypothesis 3.5.2, there was no significant correlation between *explicit motives and motive content of the vision-derived goals*.

The *additional analyses* provide an insight into the *subjective perception of the motive content of personal visions*. Both in the power domain and in the achievement domain, most of the participants provided an accurate estimate of the motive content of the personal vision. However, there were also significant positive correlations between the subjective motive content of the personal vision and the person's explicit motives, both in the power and in the affiliation domain. These correlations might be explained by the fact that I used declarative measures for both variables. However, it may also mean that people consciously ascribe their personal vision to a content that fits their motivational self-description. This leads to a distorted perception of the motive content of the personal vision. Moreover, the results also reveal significant correlations between subjective power content and objective achievement content, as well as significant correlations between subjective affiliation content and objective power content, and subjective affiliation content and the person's explicit power motive. Obviously, participants misinterpret the actual motive content of their personal vision or they even change it into something that seems more positive to them. For many people, the power motive has some negative connotations (McClelland, 1987). Therefore, a lot of people might deny having a high implicit power motive and frame their needs in light of a high implicit affiliation motive.

In sum, the findings lend support to the assumption that personal visions have both a direct and an indirect effect on motivation. First, personal visions fit with the person's implicit motives and thereby lead to motivation. Second, they serve as a vantage point for the generation of motive-congruent goals. In this way, they are a link between otherwise motive-incongruent goals and implicit motives.

Taken together, my results support and supplement recent findings (Kehr et al., 2010; King, 1995; Rawolle, 2010; Rawolle et al., submitted for publication), which point to the assumption that goals are associated with the explicit motive system and visions are associated with the implicit motive system. They make it possible to establish a framework for the distinction of (personal) goals and (personal) visions. Integrated into the information-processing model of implicit and explicit motivation (Schultheiss, 2001, 2008), the differentiation between the two constructs can be seen in Figure 4 (Chapter 3.3). Visions and goals are likely to interact with different motivational systems. Visions transfer information about a desired situation in the future in a picture-like format and make them available to the implicit motive system, which is sensitive to picture-like stimuli. Goals, however, transfer information about the desired end state in a more language-based format. This is the type of information which addresses the explicit motive system.

In conclusion, the results not only enable a conceptual distinction of personal visions and personal goals, but also provide a solid basis for sustainable establishment of the construct (*personal*) vision in psychological research.

5.4 Discussion Part 4 – Exploring Goal Progress of Vision-Derived Goals in a Longitudinal Design

In general, the empirical findings support the goal progress hypothesis (Hypothesis 4.1) of the study in the power domain and limited in the achievement motive. High power content of vision-derived goals that was backed up by high power motive was a significant predictor of future goal progress. More specifically, individuals who have a high power motive derive goals from their personal vision that are also high in power content power content (*motive-congruent goals*; see Hypotheses 3.2 and 3.3). The motive-congruence of vision-derived goals was partially mediated by the power content of the personal vision. In other words, power content of vision-derived goals is predicted directly and indirectly by the participant's implicit power motive. The resulting power content of vision-derived goals predicts the goal progress at Session 2. Goal progress, in turn, predicts participants' positive mood at Session 2. Thus, although pursuing personal goals endowed with strong implicit motives may make the individual more vulnerable to impaired emotional well-being as a result of blocked goal pursuit, these individuals appear to offset this vulnerability by being successful at realizing their goals. Nearly the same hold true for the achievement domain. In this domain, I found that high achievement content of vision-derived goals led to higher goal progress. However, the achievement content of the vision-derived goals was only partially backed up by the implicit achievement motive, as the effect was relative high and in the right direction but not significant. However, there was a marginally

significant indirect effect of the implicit achievement domain on goal progress through motive content of vision-derived goals. In the affiliation domain, there was no association between the implicit affiliation motive and the affiliation content of the vision-derived goals. Moreover, goal progress was almost impaired for participants pursuing vision-derived goals high affiliation content that were not backed up by a high implicit affiliation motive.

In addition, the study lends support to the assumption that perceived progress in goal achievement acts as a cause of change in emotional well-being (measured via positive mood; Hypotheses 4.2 and 4.3). Goal progress of vision-derived goals that are backed up by a strong implicit power motive leads to heightened positive mood. The higher the goal progress in vision-derived goals is, the higher the positive mood becomes. Moreover, in the power and the achievement domain, vision-derived goals that were backed up by the corresponding implicit motive had an indirect effect on positive mood through goal progress. More precisely, individuals pursuing vision-derived goals that were backed up by strong implicit motives achieved more goal progress than individuals pursuing vision-derived goals that were not backed up by implicit motives. This higher goal progress of motive-congruent vision-derived goals, in turn, led to enhanced positive mood.

These findings are in line with the theoretical models explained in Chapter 3.1.3, that distinguish two independent systems, that guide human behavior: an automatic, intuitive, non-verbal, hedonically oriented implicit motivation system and an effortful, analytical, language-based, socially oriented (non hedonic) explicit goal pursuit system (Kehr, 2004b; McClelland et al., 1989; Schultheiss, 2008). If vision-derived goals are backed up by strong implicit motives, behavior is guided by the automatic, intuitive, non-verbal, hedonically oriented system (Schultheiss et al., 2008). Thus, the pursuit and realization of motive-congruent goals is facilitated via an intuitive mode of goal pursuit based on implicit motives. Moreover, the support of the implicit motives can also influence goal progress on an indirect path through the motive content of personal visions.

5.5 Implications for Practice

The findings help to answer several important questions for individuals as well as groups and organizations. First, which attributes does a vision have to incorporate to be effective? Second, why should the organization develop a vision? And third, what can be done to get one's wishes and dreams in alignment with one's implicit motives?

Regarding the first question, this issue is especially important in the organizational context. For once, people designing organizational visions have to consider the use of imagery. The use of imagery arouses positive affect in the listener. This positive affect increases the motivating power of the vision. For twice, as positive affect depends on the

congruence of implicit motives and the motive content of the vision, it is important for the vision content to include incentives for each of the three motive domains (Kehr, 2005). Sometimes it is hard to add a monothematic vision incentive which addresses also the other two motive domains, without losing authenticity and diluting the message. "Our organization shall become world-spanning" would be an example for a monothematic vision, which addresses and motivates primarily the power-motivated individuals. One possibility to also reach the affiliation and achievement motivated individuals is to communicate the vision in ways that are appealing for these two motives, such as communicating the vision in a friendly way face to face (for the affiliation motive) or emphasizing the importance of an excellent work of each individual to reach the vision (for the achievement motive).

The same holds true for the individual context. One should develop a personal vision that is high in imagery. As rich imagery triggers affective reactions connected with the vision, one can affectively judge whether the vision matches one's own implicit motives, or whether it does not.

Therefore, the results can be used to create vision workshops, which focus exactly on these attributes during the process of vision development. The vision workshops can be oriented on the development of individual personal visions as well as on the establishment of effective corporate visions.

Regarding the second question, the results emphasize the important role of organizational visions. A personal vision is an effective tool to increase motivation, to energize, inspire, and challenge individuals. This should also hold true for organizational visions that meet the implicit motives of the stakeholders. Especially in times of change, motivation for change is rather low, as a result of fear of the future. To establish a common 'vision for change' can compensate this missing motivation and serve as a common basis for an effective and long lasting organizational change (Kehr, 2008).

Regarding the third question, the results demonstrate that in order to get one's wishes and dreams in alignment with one's implicit motives, it is sufficient to develop a positive image of the future. A systematic elaborated and often expensive diagnosis of one's own motives can therefore be partly circumvented. Moreover, through the process of vision development it is also possible to bring one's goals into alignment with one's implicit motives. This fosters, on a short-term perspective, intrinsic motivation and decreases goal-motive-incongruencies. In other words, personal visions have the capacity to promote congruence between the implicit and the explicit motive system. This, in turn, allows individuals to decide about goals and projects that entail activities and situations which are aligned with their implicit motives. More specifically, a strategic use of personal visions can promote a person's motivational competence, that is, the ability to align the

conscious self as well as the current and future situations and goals with the own implicit motives (Rheinberg, 2006; Rheinberg & Engeser, 2010). This positive effect of personal visions could be of use in therapeutic settings. The exact realization of both vision development and goal derivation can be based on Kehr's Self-Management Training (Kehr & Rosenstiel, 2006, p. 126). In this training, participants learn to choose action alternatives that trigger positive affect during the visualization of the goal realization, which in turn indicates a motive-congruence with the implicit motives. In a long-term perspective, motive-congruent vision-derived goals lead to higher level of goal progress in the power and the achievement domain. The goal progress, in turn, is associated with heightened positive mood. Thus, the results provide evidence that the implicit motive system and the explicit goal pursuit system work not independent, but that they interact to shape individuals' feelings and behavior (Brunstein & Maier, 2005; Schultheiss et al., 2008). The findings suggest that synergies between the two motivational systems occur when goal striving provide opportunities for the satisfaction of implicit motives or when vision-derived goals are backed up by strong implicit motives. In sum, personal visions not only allow to derive motive-congruent goals from them, but these vision-derived goals exhibit also a higher goal progress due to the support of the implicit motives. Once again, this result supports the importance of personal visions in daily life.

The advantages of personal visions over Schultheiss and Brunstein's (1999) goal imagery, which also increases the motivational competence in a given situation, are a) the non-situation-specific effect of personal visions and b) the automatic, non-intentional comparison between personal vision and implicit motives, which is facilitated by the picture-like format of visions.

5.6 Limitations and Future Directions

Apart from replicating the findings of the reported studies and from examining the missing mediation in the achievement and the affiliation domain, I believe that the following limitations need to be addressed in future research.

5.6.1 Part 2 – Conceptual and empirical differences between personal visions and personal goals

In the second part of my study, the research focus was on comparing the imagery of personal visions and personal goals by using a computer-based analysis for Referential Activity. In addition, it would be interesting to compare individuals with and without a personal vision regarding their Referential Competence. That is, do visionary individuals with a personal vision have a higher referential competence compared to individuals

without a personal vision? Do visionary individuals have a better chance to reach high goal-motive-congruence as hypothesized by Schultheiss et al. (2011)? This approach should comprise several different RC assessments like the color-naming/word-reading task (Bucci, 1984; Bucci & Freedman, 1978) and further latency-based naming tasks for other types of material (e.g., geometric shapes, facial expressions) as well as content-coding (Bucci & Kabasakalian-McKay, 1992) and other means of computer-based analysis (Mergenthaler & Bucci, 1999). Furthermore, motivational congruence is influenced by other factors besides RC, such as action orientation, self-determination, or the successful mastery of developmental challenges (see Thrash et al., 2007, for a review). Therefore, it would be interesting to explore differences between visionary persons and non-visionary persons regarding personality concepts.

5.6.2 Part 3 – Closing the gap between implicit motives and personal goals

I only measured participants' personal visions, goals, explicit motives, and implicit motives, without manipulating these variables. An experimental design in which the congruence between vision and implicit motives is manipulated by assigning motive-specific visions to participants with different implicit motive disposition is essential to understand the relationships more precisely. This topic was addressed by Rawolle (2010; Kehr et al., 2010). Her research examined the motivational effects of individual visions in a lab experiment using visions that were constructed specifically for the purpose of the experiments. The visions contained specific motivational content to arouse the targeted implicit motive. The strength of the resulting implicit motivation was measured by a variety of motivational indicators. Her results provide strong and reliable empirical evidence that visions are motivationally effective by arousing implicit motives (for more details, see Chapter 3.2.4). These findings should be supplemented with experimental manipulations of the imagery of visions in order to further examine the role of imagery on motivation.

In this context neuroimaging studies could help to support the distinction between visions and goals. Usually, self-reports are mediated by the left brain hemisphere, whereas mental images are processed within both, the left and the right brain hemisphere (Kosslyn, 1999; Kosslyn et al., 2006). Moreover, activation of the early visual cortex (i.e., Areas 17 and 18) has been found during mental imagery (for review, see Kosslyn et al., 2001). As personal visions are mental images of the future, I would expect a left and right hemispheric activation as well as an activation of the early visual cortex during the time they are actively processed. In contrast, personal goals represent concrete intentions derived from the more abstract cognitive representations of personal preferences – the self-ascribed explicit motives (Schultheiss et al., 2011). Therefore, I would expect a left hemispheric prevalence during their processing.

In addition, the present research focused on the implicit motivation system to account for the motivating power of personal visions. Still, I also assessed explicit motives in order to determine the relationship between personal visions, vision-derived goals, and the explicit motive system. As personal visions are represented in a pictorial format, they should be anchored in the implicit motive system. At the same time, explicit aspirations should be incorporated into the mental image. Or at least, the motive content of the personal vision should not be contradistinctive to the explicit motive system. The personal vision would otherwise trigger a chronic dissonance between implicit and explicit motive system. Results of Part 3 showed a significant impact of the participants' explicit motives in the affiliation domain. Future research needs to examine the role of the explicit motive system during the process of vision development in more detail. One interesting starting point would be to distinguish between people who have already described their personal vision to others and people who have not. The communication of the personal vision requires a translation of the nonverbal mental image into verbal phrases (through referential processes; Schultheiss, 2001, 2008). As a result, personal visions could also contain a verbal part. These verbal parts allow a comparison with the explicit motive system (Schultheiss, 2008) and in this way an incorporation of the person's explicit motives into the personal vision. In other words, people who have already tried to put their vision into words should show higher alignment between the motive content of the personal vision and the explicit motives compared to people who have not tried to put their vision into words.

Furthermore, I did not compare the motive-congruence of vision-derived goals with personal goals of the same person that were not derived from the personal vision. Therefore, I cannot rule out the possibility that such "not vision-derived" goals would not have been motive-congruent. Thus, it is important to confirm and generalize the results in future research, comparing vision-derived goals with goals of the same person, but with different origin.

Moreover, I only assessed hedonic tone (positive affect) as one indicator of implicit motivation. However, the consumption of affectively charged rewards, as indicated by high hedonic tone is not only associated with implicit motivation, but is also related to motivational activation, as indicated by high energetic arousal and tense arousal (cf., Matthews et al., 1990; Schultheiss & Brunstein, 1999; Weinberger & McClelland, 1990). For instance, in their studies on experimentally varied visions, Rawolle and colleagues (Kehr et al., 2010; Rawolle, 2010) showed that agentic visions (i.e., visions that furnish achievement or power-related cues) promoted a state of activation (i.e., tense and energetic arousal), whereas affiliation visions promoted hedonic feelings. Therefore, it would be promising to examine the effects of personal visions on energetic arousal and

tense arousal. Here again, it is possible that the motive domains would specifically arouse the different affective indicators.

Future research should examine the behavioral effects of actual personal visions. I only predicted the effects of motive-congruent personal visions on the motive-congruency of vision-derived goals and on positive affect. Further effects on behavior, especially on work-related performance and subjective well-being, should be examined in order to extend the existing findings and to determine what visions are capable of. Moreover, applying a longitudinal design to my assumptions is necessary to clarify the hypothesized causal relationships. In the present studies I only explored whether motive-congruent personal visions lead to positive affect, but I did not address the questions if this relationship could be reversed. Thus, it is of interest to further evaluate the idea of a guiding function of emotions.

5.6.3 Linking Part 2 and 3

Moreover, linking the results of Part 2 and Part 3 leads to the following overall model concerning the relationship between imagery and motivation aroused by personal visions: The higher the imagery of the personal vision is, the higher the motivation is. This effect is mediated by the positive affect participants experience while they are thinking about their personal vision (as demonstrated in Part 2). In addition, positive affect is a result of the motive-congruence of the personal vision (as demonstrated in Part 3). That is, the motive congruence of the personal vision can be seen as moderator of the mediator (see Figure 18). Prior to my studies, these effects have only been shown separately. Moreover, the motivation was rated by the participants. Future research needs to support this overall model by testing the two assumptions at the same time and by using different motivational indicators as dependent variables.

Moreover, the findings need to be transferred to applied settings. One possibility would be to close the gap between personal visions and organizational visions: Could a personal vision be the link between an organizational vision and the motives of the employees within this organization? A second point is to generalize the findings of my present research in order to create effective organizational visions (concerning employee performance or organizational outcomes). According to my results, two aspects need to be considered when addressing this question: The vision needs to (1) give rise to mental imagery, and (2) have a motivational incentive value that matches the employees' implicit motives. To examine the relevance of the pictorial quality of the vision, future research needs to compare the motivational effects of organizational visions formulated in a pictorial as opposed to a nonpictorial way. Furthermore, future research will need to analyze organizational visions in terms of their motivational incentive value. As the

employees of an organization usually differ in terms of their implicit motive profile (see McClelland & Boyatzis, 1982, for a description of different leadership motive pattern), it would be useful for organizations to develop multi-thematic visions (cf. Kehr, 2005) that offer incentives for all three motive domains. In this context, it would also be fertile to explore cultural differences concerning the effects of a vision.

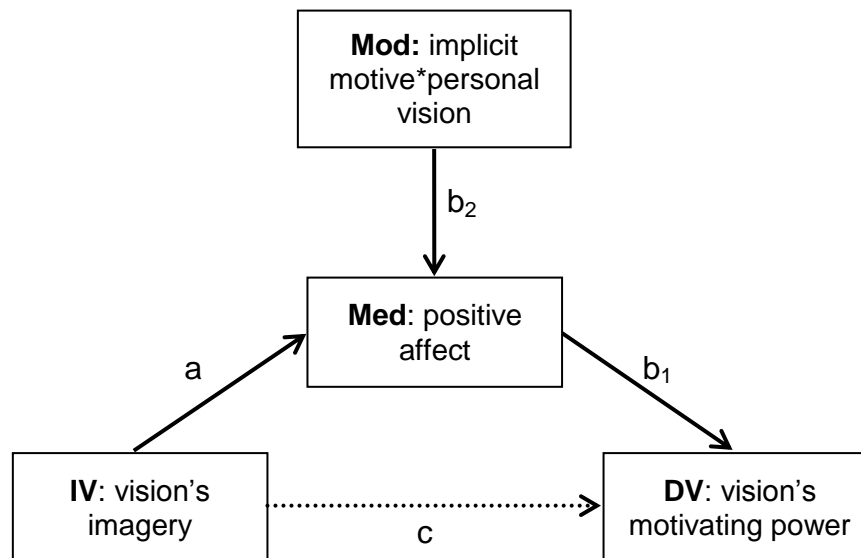


Figure 18. Moderated Mediation Hypothesis: The Influence of Imagery on Motivation. IV = Independent Variable; Med = Mediation; DV = Dependent Variable; Mod = Moderation.

5.6.4 Part 4 – Exploring goal progress of vision-derived goals in a longitudinal design

In the assessment of goal progress, I have relied on the idiographic-nomothetic goal assessment approach prevalent in the goal literature and asked my participants to evaluate their current goal progress. Future research should therefore address whether the findings I obtained with this self-report measure can also be replicated if more specific and behavioral measures of goal pursuit and progress are used. For instance, goal progress could be assessed with goal attainment scaling techniques. In this way, participants could, at the beginning of a goal pursuit, define which outcomes could be considered as good, acceptable, or poor progress and later indicate which outcome they did in fact attain (e.g., Kiresuk, Smith, & Cardillo, 1994; Schultheiss et al., 2008). This approach helps to minimize retrospective biases and adjustments in participants' judgment of what good goal progress is. Similarly, the assessment of positive mood was restricted to participants' self-report. Here again, biases and distortions can develop.

Thus, future research on the role of motive-congruence and goal progress on emotional well-being would benefit from using more objective measures for positive mood.

Moreover, I found a very good fit of the assumed overall model illustrated in Figure 15 and the predicted mediation, but only in the power domain. Furthermore, in the power and the achievement domain, the effects of motive content of vision-derived goals were only marginally significant. Of course, some of the smaller and nonsignificant effects may well have been significant if the sample size would have been larger. Therefore, the relatively small sample size ($N = 38$) is a reason to be cautious about interpreting the results. With these methodological limitations in mind, I conclude that the present study provides preliminary data that can be integrated into existing theorizing and empirical research.

5.7 Conclusion

The present research provides the first empirical findings regarding the difference of personal visions and goals. In addition, it provides some of the first empirical evidence for the association between personal visions and the implicit motive system. Moreover, the findings outline the role of positive affect in the perception of the motivational power of personal visions as well as in the development of a motive-congruent personal vision.

My hypotheses and findings are based on well-established multiple-system models of information processing in cognitive science (e.g., Paivio, 1986; Squire, 2004) and their extension to motivation research (Kehr, 2004b, 2004c; Schultheiss, 2001, 2008; Weinberger & McClelland, 1990).

The findings complement earlier research on visions in individual settings (Kehr et al., 2010) as well as in organizational settings and yield beneficial effects of personal visions on the development of motive-congruent goals (Rawolle, 2010; Schultheiss & Brunstein, 1999, 2002). Moreover, they further support the view that the implicit motive system and the explicit goal pursuit system work not independent, but that they interact to shape individuals' feelings and behavior (Schultheiss et al., 2008). By bridging the gap between the two unrelated motive systems (explicit and implicit), the present study underscores the relevance of personal visions in daily life as well as in visionary leadership. Moreover, the findings regarding the differences and similarities between personal visions and personal goals contribute to the understanding of the profound effects of visionary leadership and its underlying motivational mechanisms.

6 Zusammenfassung [Summary]

Persönliche Visionen sind idealisierte Bilder der eigenen Zukunft. Persönliche Ziele sind spezifische, individualisierte Pläne der eigenen Zukunft. Auch wenn Visionen und Ziele konzeptuell betrachtet ähnlich sind, legen sorgfältigere Vergleiche nahe, dass sie sich in manchen Punkten unterscheiden. Visionen und Ziele interagieren wahrscheinlich mit unterschiedlichen motivationalen Systemen: Visionen übermitteln Informationen über wünschenswerte Situationen in der Zukunft in einem bildhaften Format und machen sie dadurch zugänglich für das implizite Motivsystem, welches sensitiv für motivspezifische, bildhafte Reize ist. Ziele dagegen übermitteln Informationen über wünschenswerte Zielzustände in einem eher sprachbasierten Format. Diese Art von Information spricht das explizite Motivsystem an.

Das Ziel der vorliegenden Arbeit war es, empirische Unterstützung für die konzeptionelle Unterscheidung der zwei verwandten Konstrukte persönliche Visionen und persönliche Ziele zu liefern. Zudem sollten die motivationalen Mechanismen und Wirkungen von persönlichen Visionen näher untersucht werden.

Ich wurde von folgenden Hypothesen geleitet: 1) Persönliche Visionen werden in einem bildhaften Format repräsentiert, wohingegen persönliche Ziele in einem sprachbasierten Format repräsentiert werden. 2) Auf Grund ihres bildhaften Formats und dem daraus resultierenden Zugang zum impliziten Motivsystem sollten persönliche Visionen kongruenter mit den impliziten Motiven einer Person sein als persönliche Ziele. 3) Die Imagination einer motivspezifischen Vision sollte die entsprechenden impliziten Motive anregen. Diese Anregung wird als positiver Affekt erlebt. 4) Wenn Ziele von einer motivkongruenten persönlichen Vision abgeleitet werden, sind auch diese Ziele motivkongruent. 5) Diese motivkongruenten, von persönlichen Visionen abgeleiteten Ziele sollten über eine definierte Zeit einen höheren Zielfortschritt aufweisen als nicht motivkongruente Ziele, da sie durch die impliziten Motive der Person unterstützt werden. Dieser Zielfortschritt führt wiederum zu erhöhten emotionalen Wohlbefinden.

Meine Hypothesen basierten auf fest etablierten Mehrprozessmodellen der Informationsverarbeitung. Diese haben ihren Ursprung in der kognitiven Wissenschaft (e.g., Paivio, 1986), wurden in den letzten Jahren aber auch in die Motivationsforschung integriert (Kehr, 2000, 2004c; Schultheiss, 2008; Weinberger & McClelland, 1990).

Um die Hypothesen zu überprüfen, untersuchte und verglich ich zwei Stichproben. Die erste Stichprobe bestand aus Personen mit einer persönlichen Vision, die zweite aus Personen mit persönlichen Zielen.

Zuerst explorierte ich die Charakteristika persönlicher Visionen, unter anderem Inhalt, Zeitrahmen und angesprochene Lebensbereich, mit der Absicht, ein besseres Verständnis über das Konstrukt persönliche Visionen zu erhalten.

Daraufhin untersuchte ich persönliche Visionen und persönliche Ziele hinsichtlich ihrer Unterschiede und Gemeinsamkeiten sowie den Einfluss von Bildhaftigkeit auf die motivierende Kraft von persönlichen Visionen und persönlichen Zielen. Übereinstimmend mit der Konzeptualisierung von Visionen als mentale Bilder und von Zielen als kognitive und verbale Repräsentationen, zeigte sich eine höhere Bildhaftigkeit (gemessen über subjektive Einschätzung und computergestützte Inhaltsanalysen) in den Visionsbeschreibungen als in den Zielbeschreibungen. Darüber hinaus führte sowohl bei persönlichen Visionen als auch bei persönlichen Zielen eine hohe Bildhaftigkeit zu einer höheren Selbsteinschätzung der Motivation. Schließlich erhielten persönliche Visionen von den Probanden höhere Werte bei Attributen und Effekten, die mit dem impliziten Motivsystem assoziiert sind. Im Gegensatz dazu erhielten persönliche Ziele hohe Werte bei Attributen, die mit dem expliziten Motivsystem assoziiert sind.

Als drittes überprüfte ich die Beziehung zwischen impliziten und expliziten Motiven sowie dem Motivgehalt von persönlichen Visionen und daraus abgeleiteten Zielen. Die Ergebnisse lieferten Belege für die Annahme, dass persönliche Visionen mit den impliziten Motiven der Person assoziiert sind, weniger aber mit den expliziten Motiven. Wie vorhergesagt fand ich in allen drei Motivbereichen Macht, Leistung und Anschluss einen positiven Zusammenhang zwischen dem Motivgehalt der persönlichen Vision und den impliziten Motiven. Darüber hinaus zeigte sich im Leistungs- und im Machtbereich ein positiver Zusammenhang zwischen dem Motivgehalt der aus persönlichen Visionen abgeleiteten Ziele und den impliziten Motiven. Für das Machtmotiv zeigte sich die erwartete Mediation, d.h. die Motivkongruenz der visionsabgeleiteten Ziele entstand durch motivkongruente persönliche Visionen. Zudem führte die Motivkongruenz persönlicher Visionen beim Machtmotiv zu erhöhtem positivem Affekt während der Imagination der persönlichen Vision.

Als viertes untersuchte ich den Zielfortschritt bei aus persönlichen Visionen abgeleiteten Zielen und dessen Auswirkung auf emotionales Wohlbefinden. Dabei zeigte sich, dass aus persönlichen Visionen abgeleitete Ziele, die durch die impliziten Motive der Person unterstützt wurden, innerhalb von zwei Monaten einen erhöhten Zielfortschritt aufwiesen. Dieser Zielfortschritt führte zu verbesserten emotionalen Wohlbefinden.

Die vorliegende Forschung liefert die ersten empirischen Befunde zu Unterschieden zwischen persönlichen Visionen und persönlichen Zielen. Zudem liefert sie erste Belege für den Zusammenhang zwischen persönlichen Visionen und dem impliziten Motivsystem. Außerdem betonen die Befunde die Relevanz von positivem Affekt bei der Wahrnehmung

der motivationalen Kraft von persönlichen Visionen sowie der Entstehung motivkongruenter persönlicher Visionen. Die Ergebnisse ergänzen frühere Forschung zu Visionen im individuellen wie auch im organisationalen Rahmen und verweisen auf den positiven Einfluss von persönlichen Visionen auf die Entstehung von motivkongruenten Zielen. Darüber hinaus liefern sie weitere Befunde für die Annahme, dass das implizite Motivsystem und das explizite Zielverfolgungssystem nicht unabhängig voneinander arbeiten, sondern beim Modellieren von menschlichen Gefühlen und Verhalten interagieren. Durch den Brückenschlag zwischen den beiden unabhängigen Motivsystemen (explizit und implizit) unterstreicht die Arbeit die Relevanz persönlicher Visionen im täglichen Leben sowie bei visionärer Führung. Zusätzlich tragen die Befunde über Unterschiede und Gemeinsamkeiten zwischen persönlichen Visionen und persönlichen Zielen zu einem besseren Verständnis der positiven Effekten von visionärer Führung und seinen zugrundeliegenden motivationalen Mechanismen bei.

7 References

- Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and interpreting interactions*. Newbury Park: Sage.
- Andrews, J. D. W. (1967). The achievement motive and advancement in two types of organization. *Journal of Personality and Social Psychology*, 6, 163-168. doi:10.1037/h0024689
- Arbuckle, J. L. (2010). Amos (Version 19.0) [Computer software]. Chicago, IL: SPSS.
- Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review*, 64, 359-372. doi:10.1037/h0043445
- Atkinson, J. W., Heyns, R. W., & Veroff, J. (1958). The effect of experimental arousal of the affiliation motive on thematic apperception. In J. W. Atkinson (ed.), *Motives in fantasy, action, and society: A method of assessment and study* (pp. 95-104). Princeton, NJ: Van Nostrand.
- Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin*, 120, 338-375. doi:10.1037/0033-2909.120.3.338
- Bargh, J. A. (1989). Conditional automaticity: Varieties of automatic influence in social perception and cognition. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought* (pp. 3-51) New York: Guilford Press.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182. doi:10.1037/0022-3514.51.6.1173
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.
- Bass, B. M., & Avolio, B. J. (1993). Transformational leadership: A response to critiques. In B. M. Bass & B. J. Avolio (Eds.), *Leadership: Theory and research perspectives and directions* (pp. 49-80). New York: Academic Press.

-
- Baum, J. R., Locke, E. A., & Kirkpatrick, S. A. (1998). A longitudinal study of the relation of vision and vision communication to venture growth in entrepreneurial firms. *Journal of Applied Psychology, 83*, 43-54. doi:10.1037/0021-9010.83.1.43
- Baumann, N., Kaschel, R., & Kuhl, J. (2005). Striving for unwanted goals: Stress-dependent discrepancies between explicit and implicit achievement motives reduce subjective well-being and increase psychosomatic symptoms. *Journal of Personality and Social Psychology, 89*, 781-799. doi:10.1037/0022-3514.89.5.781
- Beauducel, A., & Wittmann, W. W. (2005). Simulation study on fit indices in confirmatory factor analysis based on data with slightly distorted simple structure. *Structural Equation Modeling, 12*, 41-75. http://dx.doi.org/10.1207/s15328007sem1201_3
- Berson, Y., Shamir, B., Avolio, B. J., & Popper, M. (2001). The relationship between vision strength, leadership style, and context. *The Leadership Quarterly, 12*, 53-73. doi:10.1016/S1048-9843(01)00064-9
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley.
- Bono, J. E. (2001). *Self-determination at work: The motivational effects of transformational leaders*. Unpublished doctoral dissertation, University of Iowa.
- Broverman, D. M. (1960a). Dimensions of cognitive style. *Journal of Personality, 28*, 167-185. doi:10.1111/j.1467-6494.1960.tb01611.x
- Broverman, D. M. (1960b). Cognitive style and intra-individual variation in abilities. *Journal of Personality, 28*, 240-256. doi:10.1111/j.1467-6494.1960.tb01616.x
- Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. *Journal of Personality and Social Psychology, 65*, 1061-1070. doi:10.1037/0022-3514.65.5.1061
- Brunstein, J. C. (2008). Implicit and explicit motives. In J. Heckhausen & H. Heckhausen (Eds.), *Motivation and action* (2nd ed.). New York: Cambridge University Press. doi:10.1017/CBO9780511499821.010
- Brunstein, J. C., Dangelmayer, G., & Schultheiss, O. C. (1996). Personal goals and social support in close relationships: Effects on relationship mood and marital satisfaction. *Journal of Personality and Social Psychology, 71*, 1006-1019. <http://dx.doi.org/10.1037/0022-3514.71.5.1006>
-

-
- Brunstein, J. C., & Gollwitzer, P. M. (1996). Effects of failure on subsequent performance: The importance of self-defining goals. *Journal of Personality and Social Psychology*, *70*(2), 395-407. doi:10.1037/0022-3514.70.2.395
- Brunstein, J. C., Lautenschlager, U., Nawroth, B., Pöhlmann, K., & Schultheiss, O. (1995). Persönliche Anliegen, soziale Motive und emotionales Wohlbefinden. *Zeitschrift für Differentielle und Diagnostische Psychologie*, *16*, 1-10.
- Brunstein, J. C., & Maier, G. W. (1996). Persönliche Ziele: Ein Überblick zum Stand der Forschung [An overview of present research]. *Psychologische Rundschau*, *47*, 146-160.
- Brunstein, J. C., & Maier, G. W. (2005). Implicit and self-attributed motives to achieve: two separate but interacting needs. *Journal of Personality and Social Psychology*, *89*, 205-222. doi:10.1037/0022-3514.89.2.205
- Brunstein, J. C., Maier, G. W., & Schultheiss, O. C. (1999). Motivation und Persönlichkeit: Von der Analyse von Teilsystemen zur Analyse ihrer Interaktion. In M. Jerusalem & R. Pekrun (Eds.), *Emotion, Motivation und Leistung* (pp. 147-167). Göttingen: Hogrefe.
- Brunstein, J. C., Schultheiss, O. C., & Grässmann, R. (1998). Personal goals and emotional well-being: The moderating role of motive dispositions. *Journal of Personality and Social Psychology*, *75*, 494-508. doi:10.1037/0022-3514.75.2.494
- Bucci, W. (1984). Linking words and things: Basic processes and individual variation. *Cognition*, *17*, 137-153. doi:10.1016/0010-0277(84)90016-7
- Bucci, W. (1985). Dual coding: A cognitive model of psychoanalytic research. *Journal of the American Psychoanalytic Association*, *33*, 571-607. doi:10.1177/000306518503300305
- Bucci, W. (1989). A reconstruction of Freud's Tally Argument: A program for psychoanalytic research. *Psychoanalytic Inquiry*, *9*, 249-281. doi:10.1080/07351698909533766
- Bucci, W., & Freedman, N. (1978). Language and hand: The dimension of referential competence. *Journal of Personality*, *46*, 594-622. doi:10.1111/j.1467-6494.1978.tb00188.x

-
- Bucci, W., & Kabasakalian-McKay, R. (1992). *Scoring referential activity: Instructions for use with transcripts of spoken narrative texts*. Ulm (Germany): Ulmer Textbank.
- Bucci, W., & Maskit, B. (2007). Beneath the surface of the therapeutic interaction: the psychoanalytic method in modern dress. *Journal of the American Psychoanalytic Association, 55*, 1355-1397. doi:10.1177/000306510705500412
- Buchheim, A., & Mergenthaler, E. (2000). The relationship among attachment representation, emotion-abstraction patterns, and narrative style: A computer-based text analysis of the Adult Attachment Interview. *Psychotherapy Research, 10*, 390-407. doi:10.1093/ptr/10.4.390
- Campbell, A., & Yeung, S (1991). Creating a sense of mission. *Long Range Planning, 24*, 10-20. doi:10.1016/0024-6301(91)90002-6
- Campos, A. (1989). Emotional values of words: Relations with concreteness and vividness of imagery. *Perceptual and Motor Skills, 69*, 495-498.
- Carroll, J. S. (1978). The effect of imagining an event on expectations for the event: An interpretation in terms of the availability heuristic. *Journal of Experimental Social Psychology, 14*, 88-96. doi:10.1016/0022-1031(78)90062-8
- Carver, C. S. (2001). Affect and the functional bases of behavior: On the dimensional structure of affective experience. *Personality and Social Psychology Review, 5(4)*, 345-356. doi:10.1207/S15327957PSPR0504_4
- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*, 19-35. doi:10.1037/0033-295X.97.1.19
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York: Cambridge University Press.
- Cavanaugh, J. C., & Blanchard-Fields, F (2006). *Adult development and aging* (5th ed.). Belmont, CA: Wadsworth Publishing/Thomson Learning.
- Choi, J. (2006). A motivational theory of charismatic leadership: Envisioning, Empathy, and Empowerment. *Journal of Leadership & Organizational Studies, 13*, 24-43. doi:10.1177/10717919070130010501

-
- Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data*. London: Sage.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Collins, J. C., & Porras, J. I. (1991). Organizational vision and visionary organizations. *California Management Review*, 34(1), 30-52.
- Conger, J. A. (1999). Charismatic and transformational leadership in organizations: An insider's perspective on these developing streams of research. *Leadership Quarterly*, 10, 145-179. doi:10.1016/S1048-9843(99)00012-0
- Conger, J. A., & Kanungo, R. N. (1998). *Charismatic leadership in organizations*. Thousand Oaks, CA: Sage.
- Cortes, J. B. (1960). The achievement motive in the Spanish economy between the 13th and 18th centuries. *Economic Development and Cultural Change*, 9, 144-163. doi:10.1086/449892
- Damasio, A. (1999). *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*. San Diego: Harcourt.
- Davidson, R. J. (1995). Cerebral asymmetry, emotion, and affective style. In R. J. Davidson & K. Hugdahl (Eds.), *Brain asymmetry* (pp. 367-381). Cambridge, MA: The MIT Press.
- DeCharms, R., & Moeller, G. H. (1962). Values expressed in American children's readers: 1800-1950. *Journal of Abnormal and Social Psychology*, 64, 136-142. doi:10.1037/h0045865
- Donley, R. E., & Winter, D. G. (1970). Measuring the motives of public officials at a distance: an exploratory study of American presidents. *Behavioral Science*, 15, 227-236. doi:10.1002/bs.3830150304
- Doran, G. T. (1981). There's a S.M.A.R.T. way to write management's goals and objectives. *Management Review*, 70(11), 35-36.
- Efron, B. (1982). *The jackknife, the bootstrap, and other resampling plans*. (SIAM Monograph #38) Philadelphia: Society for Industrial and Applied Mathematics.

-
- Elliot, A., & Dweck, C. S. (2005). *Handbook of Competence and Motivation*. New York: Guilford.
- Emmons, R. A. (1989). The personal striving approach to personality. In L. A. Pervin (Ed.), *Goal concepts in personality and social psychology* (pp. 87-126). Hillsdale, NJ: Erlbaum.
- Emmons, R. A. (1996). Striving and feeling: Personal goals and subjective well-being. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 313-337). New York: Guilford Press.
- Emmons, R. A., & King, L. A. (1988). Conflict among personal strivings: Immediate and long-term implications for psychological and physical well-being. *Journal of Personality and Social Psychology*, *54*, 1040-1048. <http://dx.doi.org/10.1037/0022-3514.54.6.1040>
- Emmons, R. A., & McAdams, D. P. (1991). Personal strivings and motive dispositions: Exploring the links. *Personality and Social Psychology Bulletin*, *17*, 648-654. doi:10.1177/0146167291176007
- Emrich, C. G., Brower, H. H., Feldman, J. M., & Garland, H. (2001). Images in words: Presidential rhetoric, charisma, and greatness. *Administrative Science Quarterly*, *46*, 527-557. doi:10.2307/3094874
- Epstein, S. (1973). The self-concept revisited, or a theory of a theory. *American Psychologist*, *28*, 404-416. doi:10.1037/h0034679
- Epstein, S. (1990). Cognitive-experiential self-theory. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 165-192). New York: Guilford Press.
- Epstein, S. (1991). Cognitive-experiential self-theory: Implications for developmental psychology. In M. R. Gunnar & L. A. Sroufe (Eds.), *The Minnesota Symposia on Child Development: Selfprocesses and development* (Vol. 23., pp. 79-123). Hillsdale, NJ: Erlbaum.
- Epstein, S. (1994). Integration of the cognitive and the psychodynamic unconscious. *American Psychologist*, *49*, 709-724. doi:10.1037/0003-066X.49.8.709
- Farah, M. J. (1985). Psychophysical evidence for a shared representational medium for mental images and percepts. *Journal of Experimental Psychology General*, *114*, 91-103. doi:10.1037/0096-3445.114.1.91
-

-
- Farah, M. J. (1988). Is visual imagery really visual? Overlooked evidence from neuropsychology. *Psychological Review*, 95, 307-317. doi:10.1037/0033-295X.95.3.307
- Finke, R. A. (1989). *Principles of mental imagery*. Cambridge MA: MIT Press.
- Fraisse, P. (1969). Why is naming longer than reading? *Acta Psychologica*, 30, 96-103. doi:10.1016/0001-6918(69)90043-2
- Freud, S. (1900). *The interpretation of dreams*. New York: Random House.
- Glaser, B. G. (1998). *Doing grounded theory: Issues and discussion*. Mill Valley, CA, The Sociology Press.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory strategies for qualitative research*. Chicago: Aldine.
- Gollwitzer, P. M. (1995). Das Rubikonmodell der Handlungsphasen. In J. Kuhl & H. Heckhausen (Eds.), *Enzyklopädie der Psychologie. Teilband C/IV/4: Motivation, Volition und Handlung* (pp. 531-582). Göttingen: Hogrefe.
- Gollwitzer, P. M. (1996). The volitional benefits of planning. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action. Linking cognition and motivation to behavior* (pp. 287-312). New York: Guilford.
- Greenwald, A. G., Klinger, M. R., & Schuh, E. S. (1995). Activation by marginally perceptible („subliminal“) stimuli: Dissociation of unconscious from conscious cognition. *Journal of Experimental Psychology: General*, 117, 248-257.
- Hallinger, P., & Heck, R. (2002). What do you call people with visions? The role of vision, mission and goals in school improvement, in: K. Leithwood, P. Hallinger, G. Furman, P. Gronn, J. Macbeath, B. Mulford, & K. Riley (Eds), *The Second International Handbook of Educational Leadership and Administration*. Dordrecht, The Netherlands, Kluwer.
- Heckhausen, H. (1977). Motivation: Kognitionspsychologische Aufspaltung eines summarischen Konstrukts. *Psychologische Rundschau*, 28, 175-189.
- Heckhausen, H., Schmalt, H.-D., & Schneider, K. (1985). *Achievement motivation in perspective*. New York: Academic Press.

-
- Hermann, M. G. (1980). Explaining foreign policy behavior using the personal characteristics of political leaders. *International Studies Quarterly*, 24, 7-46. doi:10.2307/2600126
- Hofer, J., & Chasiotis, A. (2003). Congruence of life goals and implicit motives as predictors of life satisfaction: Cross-cultural implications of a study of Zambian male adolescents. *Motivation and Emotion*, 27, 251-272. doi:10.1023/A:1025011815778
- House, R. J. (1977). A 1976 theory of charismatic leadership. In J. G. Hunt & L. L. Larson (Eds.), *Leadership: The cutting edge* (pp. 189-207). Carbondale, IL: Southern Illinois University Press.
- House, R. J., & Podsakoff, P. M. (1994). Leadership and effectiveness: past perspectives and future directions for research. In J. Greenberg (Ed.), *Organizational behavior: The state of science* (pp. 45-82). Hillsdale, NJ: Erlbaum.
- House, R. J., & Shamir, B. (1993). Toward the integration of transformational, charismatic, and visionary theories. In M. M. Chemers & R. Ayman (Eds.), *Leadership theory and research: Perspectives and directions* (pp. 81-107). San Diego: Academic Press.
- Ilies, R., Judge, T., & Wagner, D. (2006). Making sense of motivational leadership: The trail from transformational leaders to motivated followers. *Journal of Leadership and Organizational Studies*, 13, 1-22. doi:10.1177/10717919070130010301
- Inquisit 2.0.50401 [Computer software]. (2005). Seattle, WA: Millisecond Software LLC.
- Jackson, D. N. (1984). *Personality Research Form* (3 ed.). Port Huron, MI: SigmaAssessment Systems, Inc.
- Jacobs, R. L., & McClelland, D. C. (1994). Moving up the corporate ladder: A longitudinal study of the leadership motive pattern and managerial success in women and men. *Consulting Psychology Journal Practice and Research*, 46, 32-41. doi:10.1037/1061-4087.46.1.32
- Job, V., & Brandstätter, V. (2009). Get a taste of your goals: Promoting motive-goal congruence through affect-focus goal fantasy. *Journal of Personality*, 77, 1527-1560. doi:10.1111/j.1467-6494.2009.00591.x

-
- Job, V., Langens, T., & Brandstätter, V. (2009). Effects of achievement goal striving on well-being: The moderating role of the explicit achievement motive. *Personality and Social Psychology Bulletin*, 35, 983-996. doi:10.1177/0146167209336606
- Johnson, M. K., & Sherman, S. J. (1990). Constructing and reconstructing the past and the future in the present. *Handbook of motivation and cognition: Foundations of social behavior*, 2, 482-526.
- Kantrabutra, S. (2006). Relating Vision-based Leadership to Sustainable Business Performance: A Thai Perspective, *Leadership Review*, 6, 37-53.
- Kantrabutra, S., & Avery, G. C. (2002). Proposed model for investigating relationships between vision components and business unit performance. *Journal of Management and Organization*, 8, 22-39. doi:10.5172/jmo.2002.8.2.22
- Kehr, H. M. (2000). *Motivation und Volition. Theoretische Ansätze, empirische Studien und Konzepte zur Intervention* (cumulated habilitation treatise). München: Ludwig-Maximilians-Universität München, Fakultät für Psychologie und Pädagogik.
- Kehr, H. M. (2004a). Implicit/explicit motive discrepancies and volitional depletion among managers. *Personality and Social Psychology Bulletin*, 30, 315-327. doi:10.1177/0146167203256967
- Kehr, H. M. (2004b). Integrating implicit motives, explicit motives, and perceived abilities: The compensatory model of work motivation and volition. *Academy of Management Review*, 29, 479-499. doi:10.2307/20159055
- Kehr, H. M. (2004c). *Motivation und Volition: Funktionsanalysen, Feldstudien mit Führungskräften und Entwicklung eines Selbstmanagement-Trainings (SMT)*. [Motivation and Volition: Functional analyses, field studies among managers, and development of self-management training (SMT)] (Motivationsforschung, Bd. 20). Göttingen: Hogrefe.
- Kehr, H. M. (2005). Das Kompensationsmodell von Motivation und Volition als Basis für die Führung von Mitarbeitern. [The compensatory model of motivation and volition as a basis for leadership.] In R. Vollmeyer & J. Brunstein (Eds.), *Motivationspsychologie und ihre Anwendung* (pp. 131-150). Stuttgart: Kohlhammer.
- Kehr, H. M. (2008). Für Veränderungen motivieren mit Kopf, Bauch und Hand. [Motivate for change with head, heart and hand.] *OrganisationsEntwicklung*, 3, 23-30.
-

-
- Kehr, H. M. (2011). Führung und Motivation: Implizite Motive, explizite Ziele und die Steigerung von Willenskraft. *Personalführung, 4*, 66-71.
- Kehr, H. M., & Rawolle, M. (2008). *Die motivierende Kraft von Visionen: Eine Untersuchung der zugrundeliegenden Wirkungsmechanismen [The motivating power of visions: Testing the mechanisms]*. Antrag auf Sachbeihilfe an die Deutsche Forschungsgemeinschaft (DFG) bewilligt unter KE 725/5-1.
- Kehr, H. M., & Rawolle, M. (2009). Kopf, Bauch und Hand - wie Motivation Veränderungsprozesse unterstützt. [Head, heart and hand - how motivation drives change processes.] *Wirtschaftspsychologie aktuell, 2*, 23-26.
- Kehr, H. M., Rawolle, M., & Strasser, A. (2010). *Die motivierende Kraft von Visionen: Eine Untersuchung zugrunde liegender Wirkmechanismen [The motivating power of visions: Testing the mechanisms]* (Abschlussbericht zum DFG-Projekt KE 725/5-1). München: Technische Universität, Lehrstuhl für Psychologie.
- Kehr, H. M., & Rosenstiel, L. v. (2006). Self-Management Training (SMT): Theoretical and empirical foundations for the development of a metamotivational and metavolitional intervention program. In D. Frey, H. Mandl & L. v. Rosenstiel (Eds.), *Knowledge and action* (pp. 103-141). Cambridge, MA: Huber & Hogrefe.
- King, L. A. (1995). Wishes, motives, goals, and personal memories: Relations of measures of human motivation. *Journal of Personality, 63*, 985-1007. doi:10.1111/j.1467-6494.1995.tb00323.x
- Kiresuk, T., Smith, A., & Cardillo, J. (1994). *Goal attainment scaling: Applications, theory, and measurement*. London: Erlbaum.
- Kirkpatrick, S. A., & Locke, E. A. (1996). Direct and indirect effects of three core charismatic leadership components on performance and attitudes. *Journal of Applied Psychology, 81*, 36-51. doi:10.1037/0021-9010.81.1.36
- Kirkpatrick, S. A., Locke, E. A., & Latham, G. P. (1996). Implementing the vision: How is it done? *Polish Psychological Bulletin, 27*, 93-106.
- Kirkpatrick, S. A., Wofford, J. C., & Baum, J. R. (2002). Measuring motive imagery contained in the vision statement. *The Leadership Quarterly, 13*, 139-150. doi:10.1016/S1048-9843(02)00096-6
-

-
- Klinger, E. (1967). Modeling effects on achievement imagery. *Journal of Personality and Social Psychology*, 7, 49-62. doi:10.1037/h0024936
- Klinger, E. (1971). *Structure and functions of fantasy*. New York: Wiley & Sons.
- Klinger, E. (1977). *Meaning and void: Inner experience and the incentives in people's lives*. Minneapolis: University of Minnesota Press.
- Klinger, E. (1987). The power of daydreams. *Psychology Today*, 21, 36-44.
- Köllner, M., & Schultheiss, O. C. (2011). *A meta-analysis of the correlation between implicit and explicit measures of motivational needs for achievement, affiliation, and power*. Manuscript in preparation.
- Kosslyn, S. M. (1994). *Image and brain: The resolution of the imagery debate*. Cambridge MA: MIT Press.
- Kosslyn, S. M. (2005). Mental images and the brain. *Cognitive Neuropsychology*, 22, 333-347. doi:10.1080/02643290442000130
- Kosslyn, S. M., Alpert, N. M., Thompson, W. L., Maljkovic, V., Weise, S. B., Chabris, C. F., Hamilton, S. E., Rauch, S. L., & Buonanno, F. S. (1993). Visual mental imagery activates topographically organized visual cortex: PET investigations. *Journal of Cognitive Neuroscience*, 5, 263-287. doi:10.1162/jocn.1993.5.3.263
- Kosslyn, S. M., Ganis, G., & Thompson, W. L. (2001). Neural foundations of imagery. *Nature Reviews Neuroscience*, 2, 635-642. doi:10.1038/35090055
- Kosslyn, S. M., Ganis, G., & Thompson, W. L. (2006). Mental imagery and the human brain. In: Q. Jing, M. R. Rosenzweig, G. D'Ydewalle, H. Zhang, H.-C. Chen, & K. Zhang (Eds.), *Progress in Psychological Science Around the World: Neural, Cognitive and Developmental Issues* (Vol.1, pp. 195-209). London: Psychology Press.
- Kosslyn, S.M., Shin, L. M., Thompson, W. L., McNally, R. J., Rauch, S. L., Pitman, R. K., & Alpert, N. M. (1996). Neural effects of visualizing and perceiving aversive stimuli: A PET investigation. *NeuroReport*, 7, 1569-1576. <http://dx.doi.org/10.1097/00001756-199607080-00007>
-

-
- Kosslyn, S. M., & Thompson, W. L. (2003). When is early visual cortex activated during visual mental imagery? *Psychological Bulletin*, *129*, 723-746. doi:10.1037/0033-2909.129.5.723
- Kouzes, J. M., & Posner, B. Z. (1987). *The leadership challenge*. San Francisco: Jossey-Bass.
- Kreiman, G., Koch, C., & Itzhak, F. (2001) Imagery neurons in the human brain. *Nature*, *408*, 357-361. doi:10.1038/35042575
- Kruglanski, A. W., Shah, J. Y., Fishbach, A., Friedman, R. Chun, W. Y., & Sleeth-Keppler, D. (1996). A theory of goal systems. *Advances in experimental social psychology*, *34*, 331-378. doi:10.1016/S0065-2601(02)80008-9
- Kuhl, J. (2000). A functional design approach to motivation and self-regulation: The dynamics of personality systems and interactions. In M. Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 111-170). San Diego, CA: Academic Press.
- Kuhl, J., Kazén, M., & Koole, S. L. (2006). Putting self-regulation theory into practice: A user's manual. *Applied Psychology: An International Review*, *55*, 408-418. doi:10.1111/j.1464-0597.2006.00260.x
- Langdrige, D. (2006). Ideology and utopia: Social psychology and the social imaginary of Paul Ricoeur. *Theory and Psychology*, *15*, 373-389.
- Langens, T. A. (2002). *Tagträume, Anliegen und Motivation* [Daydreaming, goals, and motivation]. Göttingen: Hogrefe.
- Langens, T. A., & Schmalt, H.-D. (2002). Emotional consequences of positive daydreaming: The moderating role of fear of failure. *Personality and Social Psychology Bulletin*, *28*, 1725-1735. doi:10.1177/014616702237653
- Larwood, L., Falbe, C. M., Kriger, M. P., & Miesing, P. (1995). Structure and meaning of organizational vision. *Academy of Management Journal*, *38*, 740-769. doi:10.2307/256744
- Levin, I. M. (2000). Vision revisited: Telling the story of the future. *The Journal of Applied Behavioral Science*, *36*, 91-107. doi:10.1177/0021886300361005

-
- Lindlacher, F. M. (2010). *Flow beim Kletter. Was führt zum Flow-Erleben bei Hallenkletterern?* [Flow during climbing. What leads to flow-experience in indoor wall climbers?] Zulassungsarbeit. Technische Universität München, Munich, Germany.
- Litwin, G. H., & Siebrecht, A. (1967). Integrators and entrepreneurs; their motivation and effect on management. *Hosp Prog*, 48(9), 67-71.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice Hall.
- Locke, E. A., & Latham, G. P., & Erez, M. (1988). The Determinants of Goal Commitment. *Academy of Management Review*, 13(1), 23-39.
- Locke, E. A., Kirkpatrick, S. A., Wheeler, J., Schneider, J., Niles, K., Goldstein, H., Welsh, K., & Chah, D. (1991). *The essence of leadership*. New York: Lexington Books.
- Loehlin, J. C. (1998). *Latent variable models: An introduction to factor, path, and structural analysis* (3rd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Lowe, K. B., Kroeck, G. K., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytical review of the MLQ literature. *Leadership Quarterly*, 7, 385-425. doi:10.1016/S1048-9843(96)90027-2
- Lundy, A. (1988). Instructional set and Thematic Apperception Test validity. *Journal of Personality Assessment*, 52, 309-320. doi:10.1207/s15327752jpa5202_12
- Martindale, C. (1973). COUNT: A PL/I program for content analysis of natural language. *Behavioral Science*, 18, 148.
- Martindale, C., Covello, E., & West, A. (1986). Primary process cognition and hemispheric asymmetry. *Journal of Genetic Psychology*, 147, 79-87. doi:10.1080/00221325.1986.9914482
- Matthews, G., Jones, D. M., & Chamberlain, A. G. (1990). Refining the measurement of mood: The UWIST Mood Adjective Checklist. *British Journal of Psychology*, 81, 17-42. doi:10.1111/j.2044-8295.1990.tb02343.x
- Maykut, P., & Morehouse, R. (1994). *Beginning qualitative research*. London: The Falmer Press.

-
- McAdams, D. P. (1988). *Power, intimacy, and the life story: Personological inquiries into identity*. New York: Guilford Press.
- McAdams, D. P., & Powers, J. (1981). Themes of intimacy in behavior and thought. *Journal of Personality and Social Psychology*, *40*, 573-587. doi:10.1037/0022-3514.40.3.573
- McClelland, D. C. (1958). The importance of early learning in the formation of motives. In J. W. Atkinson (Ed.), *Motives in fantasy, action, and society: A method of assessment and study* (pp.437-452). Princeton, NJ: Van Nostrand.
- McClelland, D. C. (1975). *Power: The inner experience*. New York: Irvington Publishers.
- McClelland, D. C. (1979). Inhibited power motivation and high blood pressure in men. *Journal of Abnormal Psychology*, *88*, 182-190. doi:10.1037/0021-843X.88.2.182
- McClelland, D. C. (1985). How motives, skills, and values determine what people do. *American Psychologist*, *40*, 812-825. doi:10.1037/0003-066X.40.7.812
- McClelland, D. C. (1986). Some reflections on the two psychologies of love. *Journal of Personality*, *54*, 334-353. doi:10.1111/j.1467-6494.1986.tb00398.x
- McClelland, D. C. (1987). *Human motivation*. New York: Cambridge University Press.
- McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1953). *The achievement motive*. New York: Appleton-Century-Crofts. doi:10.1037/11144-000
- McClelland, D. C., & Boyatzis, R. E. (1982). Leadership motive pattern and long-term success in management. *Journal of Applied Psychology*, *67*, 737-743. doi:10.1037/0021-9010.67.6.737
- McClelland, D. C., & Burnham, D. (1976). Power is the great motivator. *Harvard Business Review*, *25*, 159-166.
- McClelland, D. C., & Franz, C. E. (1992). Motivational and other sources of work accomplishments in mid-life: A longitudinal study. *Journal of Personality*, *60*, 679-707. doi:10.1111/j.1467-6494.1992.tb00270.x
- McClelland, D. C., & Kirshnit, C. (1988). The effect of motivational arousal through films on salivary immunoglobulin A. *Psychology and Health*, *2*, 31-52. doi:10.1080/08870448808400343
-

-
- McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? *Psychological Review*, *96*, 690-702. doi:10.1037/0033-295X.96.4.690
- McClelland, D. C., & Pilon, D. A. (1983). Sources of adult motives in patterns of parent behavior in early childhood. *Journal of Personality and Social Psychology*, *44*, 564-574. doi:10.1037/0022-3514.44.3.564
- Mergenthaler, E. (1996). Emotion-Abstraction Patterns in verbatim protocols: A new way of describing psychotherapeutic processes. *Journal of Consulting and Clinical Psychology*, *64*, 1306-1318. doi:10.1037/0022-006X.64.6.1306
- Mergenthaler, E., & Bucci, W. (1999). Linking verbal and nonverbal representations: Computer analysis of referential activity. *British Journal of Medical Psychology*, *72*, 339-354. doi:10.1348/000711299160040
- Miller, D. W., & L. J. Marks (1997). The effects of imagery-evoking radio advertising strategies on affective responses. *Psychology and Marketing*, *14*, 337-360. doi:10.1002/(SICI)1520-6793(199707)14:4<337::AID-MAR3>3.0.CO;2-A
- Mio, J. S. (1996). Metaphor, politics, and persuasion. In J. S. Mio, & A. N. Katz (Eds.), *Metaphor: Implications and applications* (pp. 127-145). Mahwah, NJ: Erlbaum.
- Mio, J. S., Riggio, R. E., Levin, S., & Reese, R. (2005). Presidential leadership and charisma: The effects of metaphor. *The Leadership Quarterly*, *16*, 287-294. doi:10.1016/j.leaqua.2005.01.005
- Mischel, W., Cantor, N., & Feldman, S. (1996). Principles of self-regulation: The nature of willpower and self-control. In E. T. Higgins & A. Kruglanski (Eds.) *Social psychology: Handbook of basic principles* (pp. 329-360). New York: Guilford Press.
- Murray, H. A. (1938). *Explorations in personality*. New York: Oxford University Press.
- Murray, H. A. (1943). *Thematic Apperception Test manual*. Cambridge, MA: Harvard University Press.
- Naidoo, L. J., & Lord, G. R. (2008). Speech imagery and perceptions of charisma: The mediating role of positive affect. *Leadership Quarterly*, *19*, 283-296. doi:10.1016/j.leaqua.2008.03.010

-
- Oettingen, G. (1999). Free fantasies about the future and the emergence of developmental goals. In J. Brandstädter & R. M. Lerner (Eds.), *Action and self-development: Theory and research through the life span* (pp. 315-342). Thousand Oaks: Sage.
- Oettingen, G., & Mayer, D. (2002). The motivating function of thinking about the future: Expectations versus fantasies. *Journal of Personality and Social Psychology*, 83, 1198-1212. doi:10.1037/0022-3514.83.5.1198
- Oettingen, G., Pak, H., & Schnetter, K. (2001). Self-regulation of goal setting: turning free fantasies about the future into binding goals. *Journal of Personality and Social Psychology*, 80, 736-753. doi:10.1037/0022-3514.80.5.736
- Oettingen, G., & Thorpe, J. (2006). Fantasy realization and the bridging of time. In L. J. Sanna & E. C. Chang (Eds.), *Judgments over time: The interplay of thoughts, feelings, and behaviors* (pp. 120-144). New York: Oxford University Press.
- Paivio, A. (1971). *Imagery and verbal processes*. New York: Holt, Rinehart & Winston. (Reprinted 1979, Hillsdale, NJ: Erlbaum)
- Paivio, A. (1986). *Mental representations: A dual coding approach*. New York: Oxford University Press.
- Paivio, A. (1991). Duals coding theory: Retrospect and current status. *Canadian Journal of Psychology*, 45, 255-287. doi:10.1037/h0084295
- Pang, J. S. (2010). The Achievement Motive: A Review of Theory and Assessment of N Achievement, Hope of Success, and Fear of Failure. In O. C. Schultheiss & J. C. Brunstein (Eds.), *Implicit Motives*. New York, NY: Oxford University Press, 30-70.
- Pang, J. S., & Schultheiss, O. C. (2005). Assessing implicit motives in U.S. College students: Effects of picture type and position, gender and ethnicity, and cross-cultural comparisons. *Journal of Personality Assessment*, 85, 280-294. doi:10.1207/s15327752jpa8503_04
- Pennebaker, J. W., Chung, C. K., Ireland, M., Gonzales, A., & Booth, R.J. (2007). *The Development and Psychometric Properties of LIWC2007*. Zugriff am 24.02.2010, <http://www.liwc.net/LIWC2007LanguageManual.pdf>

-
- Pennebaker, J. W., & Francis, M.E. (1996). Cognitive, emotional, and language processes in disclosure. *Cognition and Emotion*, *10*, 601-626. doi:10.1080/026999396380079
- Peterson, B. E., & Stewart, A. J. (1993). Generativity and social motives in young adults. *Journal of Personality and Social Psychology*, *65*, 186-198. doi:10.1037/0022-3514.65.1.186
- Pfaff, D. W. (1999). *Drive: Neurobiological and Molecular Mechanisms of Sexual Motivation*. Cambridge, MA: MIT Press
- Piaget, J. (1977). *Recherches sur l'abstraction reflechissante* [Research on reflective abstraction]. Paris: Presses Universitaires de France.
- Potter, M. C., & Faulconer, B. A. (1975). Time to understand pictures and words. *Nature*, *253*, 437-438. doi:10.1038/253437a0
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, *36*, 717-731. doi:10.3758/BF03206553
- PSETools 1.01 [Computer software]. (2009). Erlangen: PreRo-IT Technik.
- Pueschel, O., Schulte, D., & Michalak, J. (2011). Be careful what you strive for: the significance of motive-goal congruence for depressivity. *Clinical Psychology and Psychotherapy*, *18*, 23-33. doi:10.1002/cpp.697
- Pylyshyn, Z. W. (2005). Mental Imagery. In R. L. Gregory (ed.), *Oxford Companion to the Mind* (2nd ed). Oxford University Press
- Rawolle, M. (2010). *The motivating power of visions: Exploring the Mechanisms*. Dissertation, Friedrich-Alexander-Universität Erlangen-Nürnberg, bewertet mit "Summa cum laude", <http://www.opus.ub.uni-erlangen.de/opus/volltexte/2010/1704/>
- Rawolle, M., Glaser, J., & Kehr, H. M. (2007). Why self-set goals may sometimes be non-motivating. In C. Wankel (Ed.), *The Handbook of 21st Century Management* (pp. 203-210). Thousand Oaks, CA: Sage.
- Rawolle, M., Patalakh, M., & Schultheiss, O. C. (2011). *Clarifying the relationships between implicit motives, self-attributed needs, and personal goal commitments*. Manuscript submitted for publication.
-

-
- Rawolle, M., Strasser, A., & Kehr, H. M. (2011). *VAES: Vision attribute and effect scale*. Manuscript in preparation.
- Rheinberg, F. (2004). *Motivationsdiagnostik* [Assessment of motivation]. *Kompendien Psychologische Diagnostik*. Göttingen, Germany: Hogrefe.
- Rheinberg, F. (2006). *Motivation*. Stuttgart: Kohlhammer/Urban.
- Rheinberg, F., & Engeser, S. (2010). Motive training and motivational competence. In O. C. Schultheiss & J. C. Brunstein (Eds.), *Implicit Motives* (pp. 510-548). Oxford: University Press.
- Rosen, G. (2009, Fall). Abstract Objects. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy*. Retrieved from <http://plato.stanford.edu/archives/fall2009/entries/abstract-objects/>.
- Ruvolo, A. P., & Markus, H. R. (1992). Possible selves and performance: The power of self-relevant imagery. Special Issue: Self-knowledge: Content, structure, and function. *Social Cognition*, *10*, 95-124. doi:10.1521/soco.1992.10.1.95
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68-78. doi:10.1037/0003-066X.55.1.68
- Sashkin, M. (1988). The visionary leader. In J. A. Conger & R. N. Kanungo (Eds.), *Charismatic leadership: The elusive factor in organizational effectiveness* (pp. 122-160). San Francisco: Jossey-Bass.
- Schacter, D. L. (1987). Implicit memory: History and current status. *Journal of Experimental Psychology: Learning, Memory and Cognition*, *13*, 501-518. doi:10.1037/0278-7393.13.3.501
- Schattke, K., Seeliger, J., Schiepe, A., & Kehr, H. M. (submitted for publication). *Activity-related incentives as motivators in open innovation communities*. Technische Universität München, Munich, Germany.
- Schneider, H. (1983). *Auf dem Weg zu einem neuen Verständnis des psychotherapeutischen Prozesses* [On the way to a new understanding of the psychotherapeutic process]. Bern, Switzerland: Huber.

-
- Schneider, W., & Shiffrin, R. M. (1977). Controlled and automatic human information processing. Part 1. Detection, search, and attention. *Psychological Review*, *84*, 1-66. doi:10.1037/0033-295X.84.1.1
- Schultheiss, O. C. (2001). An information processing account of implicit motive arousal. In M. L. Maehr & P. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 12: New directions in measures and methods, pp. 1-41). Greenwich, CT: JAI Press. 339-354.
- Schultheiss, O. C. (2006). Needs. In J. H. Greenhouse & G. A. Callanan (Eds.), *Encyclopedia of career development* (Vol. 1, pp. 532-535). Thousand Oaks, CA: Sage.
- Schultheiss, O. C. (2008). Implicit motives. In O. P. John, R. W. Robins & L. A. Pervin (Eds.), *Handbook of Personality: Theory and Research* (3rd ed., pp. 603-633). New York: Guilford.
- Schultheiss, O. C., & Brunstein, J. C. (1999). Goal imagery: Bridging the gap between implicit motives and explicit goals. *Journal of Personality*, *67*, 1-38. doi:10.1111/1467-6494.00046
- Schultheiss, O. C., & Brunstein, J. C. (2001). Assessing implicit motives with a research version of the TAT: Picture profiles, gender differences, and relations to other personality measures. *Journal of Personality Assessment*, *77*, 71-86. doi:10.1207/S15327752JPA7701_05
- Schultheiss, O. C., & Brunstein, J. C. (2002). Inhibited power motivation and persuasive communication: A lens model analysis. *Journal of Personality*, *70*, 553-582. doi:10.1111/1467-6494.05014
- Schultheiss, O. C., & Brunstein, J. C. (2005). An implicit motive perspective on competence. In A. J. Elliot & C. Dweck (Eds.), *Handbook of competence and motivation* (pp. 31-51). New York: Guilford.
- Schultheiss, O. C., & Hale, J. A. (2007). Implicit motives modulate attentional orienting to perceived facial expressions of emotion. *Motivation and Emotion*, *31*, 13-24. doi:10.1007/s11031-006-9042-9
- Schultheiss, O. C., Jones, N. M., Davis, A. Q., & Kley, C. (2008). The role of implicit motivation in hot and cold goal pursuit: Effects on goal progress, goal rumination, and

- depressive symptoms. *Journal of Research in Personality*, *42*, 971-987. doi:10.1016/j.jrp.2007.12.009
- Schultheiss, O. C., Liening, S., & Schad, D. (2008). The reliability of a Picture Story Exercise measure of implicit motives: Estimates of internal consistency, retest reliability, and ipsative stability. *Journal of Research in Personality*, *42*, 1560-1571. <http://dx.doi.org/10.1016/j.jrp.2008.07.008>
- Schultheiss, O. C., & Pang, J. S. (2007). Measuring implicit motives. In R. W. Robins, R. C. Fraley & R. Krueger (Eds.), *Handbook of Research Methods in Personality Psychology* (pp. 322-344). New York: Guilford.
- Schultheiss, O. C., Patalakh, M., Rawolle, M., Liening, S., & MacInnes, J. J. (2011). Referential competence is associated with motivational congruence. *Journal of Research in Personality*, *45*, 59-70. doi:10.1016/j.jrp.2010.11.014
- Schultheiss, O. C., & Strasser, A. (in press). Referential processing and competence as determinants of congruence between implicit and explicit motives. In S. Vazire & T. D. Wilson (Eds.), *Handbook of self-knowledge*. New York: Guilford.
- Schultheiss, O. C., Strasser, A., Rösch, A. G., Kordik, A., & Graham, S. C. C. (in press). Motivation. In V. S. Ramachandran (Ed.), *Encyclopedia of Human Behavior* (2 ed.). Oxford, GB: Elsevier.
- Schultheiss, O. C., Wirth, M. M., & Stanton, S. J. (2004). Effects of affiliation and power motivation arousal on salivary progesterone and testosterone. *Hormones and Behavior*, *46*, 592-599. doi:10.1016/j.yhbeh.2004.07.005
- Schultheiss, O. C., Wirth, M. M., Torges, C. M., Pang, J. S., Villacorta, M. A., & Welsh, K. M. (2005). Effects of implicit power motivation on men's and women's implicit learning and testosterone changes after social victory or defeat. *Journal of Personality and Social Psychology*, *88*, 174-188. doi:10.1037/0022-3514.88.1.174
- Schwarz, G. E., Weinberger, D. A., & Singer, J. A. (1981). Cardiovascular differentiation of happiness, sadness, anger, and fear following imagery and exercise. *Psychosomatic Medicine*, *43*, 343-364.
- Shamir, B., House, R. J., & Arthur, M. B. (1993). The motivational effects of charismatic leadership: A self-concept based theory. *Organization Science*, *4*, 577-594. doi:10.1287/orsc.4.4.577

-
- Shamir, B., & Howell, J. M. (1999). Organizational and contextual influences on the emergence and effectiveness of charismatic leadership. *Leadership Quarterly, 10*, 257-283. doi:10.1016/S1048-9843(99)00014-4
- Shamir, B., Zakay, E., Breinin, E., & Popper, M. (1998). Correlates of charismatic leader behavior in military units: Subordinates' attitudes, unit characteristics, and superiors' appraisals of leader performance. *Academy of Management Journal, 41*, 387-409. doi:10.2307/257080
- Sherman, S. J., Skov, R. B., Hervitz, E. F., & Stock, C. B. (1981). The effects of explaining hypothetical future events: From possibility to actuality and beyond. *Journal of Experimental Social Psychology, 17*, 142-158. doi:10.1016/0022-1031(81)90011-1
- Singer, J. L. (1966). *Daydreaming. An introduction to the experimental study of inner experience*. New York: Random House.
- Singer, J. L. (1981). *Daydreaming and fantasy*. Oxford: Oxford University Press, 1981.
- Smith, C. P. (1992). *Motivation and personality: Handbook of thematic content analysis*. New York: Cambridge University Press.
- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.), *Sociological methodology* (pp. 290-312). San Francisco, C.A.: Jossey-Bass.
- Spangler, W. D. (1992). Validity of questionnaire and TAT measures of need for achievement: Two meta-analyses. *Psychological Bulletin, 112*, 140-154. doi:10.1037/0033-2909.112.1.140
- Spangler, W. D., & House, R. J. (1991). Presidential effectiveness and the leadership motive profile. *Journal of Personality and Social Psychology, 60*, 439-455. doi:10.1037/0022-3514.60.3.439
- Squire, L. R. (2004). Memory systems of the brain: a brief history and current perspective. *Neurobiology of Learning and Memory, 82*, 171-177. doi:10.1016/j.nlm.2004.06.005
- Strange, J. M., & Mumford, M. D. (2002). The origins of vision: Charismatic versus ideological leadership. *Leadership Quarterly, 13*, 343-377. doi:10.1016/S1048-9843(02)00125-X
-

-
- Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*, *18*, 643-662. doi:10.1037/h0054651
- Stumpf, H., Angleitner, A., Wieck, T., Jackson, D. N., & Beloch-Till, H. (1985). *Deutsche Personality Research Form (PRF) [German Personality Research Form]*. Göttingen, Germany: Hogrefe.
- Taylor, S. E., & Pham, L. B. (1996). Mental simulation, motivation, and action. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 219-235). New York: Guilford.
- Taylor, S. E., Pham, L. B., Rivkin, I. D., & Armor, D. A. (1998). Harnessing the imagination: Mental simulation, self-regulation, and coping. *American Psychologist*, *53*, 429-439. doi:10.1037/0003-066X.53.4.429
- Thrash, T., & Elliot, A. J. (2002). Implicit and self-attributed achievement motives: Concordance and predictive validity. *Journal of Personality*, *70*, 729-756. doi:10.1111/1467-6494.05022
- Thrash, T. M., Elliot, A. J., & Schultheiss, O. C. (2007). Methodological and dispositional predictors of congruence between implicit and explicit need for achievement. *Personality and Social Psychology Bulletin*, *33*, 961-974. doi:10.1177/0146167207301018
- Tichy, N. M., & Devanna, M. A. (1986). *The transformational leader*. New York: Wiley.
- Tversky, A., & Kahnemann, D. (1983). Extension versus intuitive reasoning: The conjunction fallacy in probability judgment. *Psychological Review*, *90*, 293-315. doi:10.1037/0033-295X.90.4.293
- Wankel, C. (2007). *The handbook of 21st Century management*. Thousand Oaks, CA: Sage.
- Weinberger, J., & McClelland, D. C. (1990). Cognitive versus traditional motivational models: Irreconcilable or complementary? In E. T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 562-597). New York: Guilford Press.
- Westley, F., & Mintzberg, H. (1988). Visionary leadership and strategic management. *Strategic Management Journal*, *10*, 17-32. doi:10.1002/smj.4250100704
-

-
- Wicklund, R.A., & Gollwitzer, P.M. (1982). *Symbolic self-completion*. Hillsdale, NJ: Erlbaum.
- Winter, D. G. (1973). *The power motive*. New York: Free Press.
- Winter, D. G. (1980). An exploratory study of the motives of Southern African political leaders measured at a distance. *Political Psychology, 2*, 75-85. doi:10.2307/3790818
- Winter, D. G. (1989). *Manual for scoring motive imagery in running text*. Unpublished manuscript. University of Michigan, Ann Arbor.
- Winter, D. G. (1994). *Manual for scoring motive imagery in running text* (4 ed.). Department of Psychology, University of Michigan, Ann Arbor: Unpublished manuscript.
- Winter, D. G. (1999). Linking personality and "scientific" psychology: The development of empirically derived Thematic Apperception Test measures. In L. Gieser & M. I. Stein (Eds.), *Evocative images: The Thematic Apperception Test and the art of projection* (pp. 107-124). Washington, DC: American Psychological Association. doi:10.1037/10334-008
- Wolf, M., Horn, A., Mehl, M., Haug, S., Pennebaker, J. W., & Kordy, H. (2008). Computergestützte quantitative Textanalyse: Äquivalenz und Robustheit der deutschen Version des Linguistic Inquiry and Word Count [Computer-aided quantitative text analysis: Equivalence and reliability of the German adaptation of the Linguistic Inquiry and Word Count]. *Diagnostica, 2*, 85-98.
- Yukl, G. A. (1998). *Leadership in organizations* (4th ed.). Upper Saddle River, NJ: Prentice Hall.
- Zivin, G. (1979). *The development of self-regulation through private speech*. New York: Wiley.
- Zurbriggen, E. L. (2000). Social motives and cognitive power-sex associations: Predictors of aggressive sexual behavior. *Journal of Personality and Social Psychology, 78*, 559-581. doi:10.1037/0022-3514.78.3.559

Appendix A – Invitation Vision Study

*Viele Menschen haben eine persönliche Vision.
Wie sieht Ihre aus?*

Wir erforschen Visionen.

Deshalb wollen wir Ihre persönliche Vision erfahren.

Helfen Sie uns bei der spannenden Forschung über persönliche idealisierte Bilder der Zukunft. Nehmen Sie an unserem Visionsexperiment teil – natürlich anonym und diskret. Nehmen Sie sich dafür 1,5-2 Stunden Zeit.

Wir geben Ihnen etwas zurück:
Neben 10€ Aufwandsentschädigung erhalten Sie ein **individuelles, hilfreiches Feedback** über Ihre Vision, Ihre Motive und die restlichen Ergebnisse.

Das Visionsexperiment findet an der Technischen Universität München, Lothstraße 17 statt.
Schicken Sie eine Mail an folgende Email-Adresse
meinevision.TUM@gmail.com

Meine Vision
„Eine Vision ist ein idealisiertes Bild meiner Zukunft. Sie dient mir als ein zentrales Leitbild, führt mir vor Augen, wie ich mir meine Zukunft vorstelle, wohin ich strebe, was ich erreichen möchte“

Hier finden Sie uns:



Appendix B – Examples of Personal Visions and Personal Goals

Personal Visions – Example 1

Mein Leben in 10 Jahren, ein freier Tag immer Sommer Ich lebe mit meiner Familie (Mann und 3 Kinder) auf einem tollen, umgebauten, lichtdurchfluteten Bauernhof auf dem Land. Ich liege auf meiner Liege in unserem Garten, der Flieder duftet, ich höre die Kinder draußen spielen und den Hund bellen, alles um mich herum ist grün und der Himmel blau. Der Garten ist groß mit einem kleinen See, die Sonne glitzert auf dem Wasser. Mein Mann kommt und bringt zwei große Tassen Cappuccino mit dem besten Milchschaum, die wir gemeinsam trinken. Ich betrachte ihn und bin stolz und glücklich, dass wir uns nach so vielen Jahren immer noch wertschätzen, uns unterstützen, den anderen so sein lassen wie er ist; dass wir zusammen sind aber trotzdem jeder seine eigenen Interessen und sein eigenes Leben hat. Wir genießen diese freien Minuten während wir versonnen die drei Lockenschöpfe beobachten, die durch die Wiese kugeln und lachen. Auch beruflich könnte es nicht besser laufen, meine Praxis liegt nur wenige Minuten von unserem Haus entfernt, ich weiß dass ich meinen Job gut mache und er bereitet mir große Freude. Ich versuche diesen Moment, in dem man sich so fühlt, als könnte man vor Glück platzen und die Welt umarmen, für immer in meinem Kopf abzuspeichern, ist mir doch stets die Vergänglichkeit des Lebens bewusst. Ich gebe meinem Mann einen Kuss, nehme seine Hand, schließe wieder die Augen und spüre die wohlige Wärme der Sonne auf meiner Haut.

Personal Visions – Example 2

Ich möchte ein Haus in den Bergen bauen, mitten in der Natur mit einem herrlichen Ausblick. Das Haus soll freundlich und groß sein und allen Freunden und Besuchern Platz bieten. Im Winter kuschelig warm, mit einem Kaminfeuer und Blick auf die verschneiten Berge. Im Sommer kühl und angenehm inmitten von Obstbäumen. Die Tür steht immer offen. Der Nachbar kommt zu Besuch, die Freunde reisen an - manchmal mit, manchmal ohne Ankündigung. Wir kochen zusammen und genießen die gemeinsamen Gespräche bis tief in die Nacht. Ab und zu kommt die gesamte Verwandtschaft, alles ist voller Kinder. Sie spielen mit dem Hund der Nachbarn und sind den ganzen Tag unterwegs. Die Älteren sitzen auf der Terrasse und genießen den Moment.

Personal Visions – Example 3

Meine Vision ist es, an dieser Welt, in der wir Menschen leben, etwas verändern, verbessern zu können. Es wäre mir wichtig, dass ich einen kleinen Teil dazu beitragen kann, die Menschen zum richtigen Weg zu führen. Ich möchte helfen, die Menschen umweltbewusster zu machen und außerdem technische Möglichkeiten zu finden, wie wir umweltschonender leben können. Dabei sehe ich, mich in etwa 10 Jahren als Ingenieurin, wie ich Kraftwerke optimal zu koordinieren versuche, wie ich Energiequellen umweltschonend und effektiv auszuschöpfen versuche. In meiner Vision bin ich eine hart arbeitende und beschäftigte Frau, habe aber trotzdem eine Familie und Freunde, die mich bestärken in dem was ich tue. Ich stelle mir vor, wie ich in meiner Arbeit aufgehe und aus meinen Erfolgen Kraft schöpfe.

Personal Goals – Example 1

Mein persönliches Ziel ist es im Frühjahr den EWS-Teil der Diplomprüfung zu schreiben und zu bestehen. Bestehen heißt nicht 4,0, sondern es sollte schon besser sein. Schließlich benötige ich den Abschluss ein Leben lang. Das Diplomzeugnis wird einen immer begleiten. Jeder neue Arbeitgeber möchte es sicherlich sehen.

Personal Goals – Example 2

Mein wichtigstes Ziel in den nächsten Monaten (und auch länger) ist meiner 2-Monate alten Tochter "ein toller Papa" zu sein und meiner Frau so viel Unterstützung wie möglich zu geben. Dazu gehört natürlich die tatkräftige Unterstützung im Alltag für beide. Aber auch die eigenen Ansprüche und Erwartungen müssen da mal zurück stehen. Auch muss man sich viele Gedanken um die Erziehung machen, Entscheidungen treffen, Konsens erzielen. Da ich langfristig der Familie Sicherheit geben möchte, ist meine berufliche "Umorientierung" und Ausbildung zum Lehrer wichtig. Der große Vorteil dabei ist natürlich, dass der Beruf wieder Spaß macht, was wesentlich zur Stimmung daheim beiträgt.

Personal Goals – Example 3

Ich möchte sehr gerne Nachhilfeunterricht geben. Jedoch muss ich mich darum noch kümmern. Damit ich dann mit dem verdienten Geld mir ein paar extra Wünsche erfüllen kann. Sehr gerne würde ich mir ein Motorrad kaufen. Der Unterhalt von dem Motorrad ist für mich nur finanzierbar wenn ich noch nebenbei etwas verdiene. Ich hoffe sehr das ich in irgendeinem Nachhilfeinstitut das arbeiten anfangen kann. Außerdem wünsche ich mir auch dass dies dann nicht eine zu große Belastung für mich wird. Damit ich keine Probleme mit dem Studium bekomme und ich alle meine Prüfungen bestehe.

Appendix C – Vision Script

Entspannung (Relaxation):

Setzen Sie sich so bequem wie möglich in den Sessel und schließen Sie Ihre Augen. - Lassen Sie Ihren Körper die Position finden, die ihm behagt, in der Sie sich wohl fühlen. -- Und für diese kurze Zeit können Sie alles, was um Sie herum vorgeht – und Dinge, die Sie eben noch in Ihren Gedanken beschäftigt haben, – all das einmal ganz unwichtig sein lassen, ganz für sich und Ihren Körper bleiben – und spüren, wie Sie sich dabei entspannen können. --

Spüren Sie Ihren Atem – ein und aus – die Bewegung von Brustkorb und Bauch – die Anspannung beim Einatmen – das Entspannen beim Ausatmen – die Temperatur der Luft beim Einatmen – und wenn Sie wieder ausströmt. - Spüren Sie das angenehme Gefühl, immer entspannter zu werden. -- Und nun stellen Sie sich vor, dass Sie bei jedem Einatmen Entspannung und Ruhe einatmen - und bei jedem Ausatmen alles Belastende loswerden, in die Welt hinaus atmen. – Fühlen Sie sich ganz frei und lassen Sie sich fallen. --

Beim nächsten Ausatmen spüren Sie, wie sich sogar die kleinsten Muskeln unter Ihrer Kopfhaut ganz entspannen. -- Auch Ihre Augenlider sind nun ganz schwer. Sie spüren nun wie Ihr ganzes Gesicht entspannt. - Ihre Arme ruhen schwer auf den Lehnen des Sessels. Spüren Sie wie Ihre Arme schwerer und schwerer werden. Spüren Sie die Entspannung bis in die Fingerspitzen. -- Spüren Sie Ihren ganzen Körper wie er ganz schwer und ganz entspannt auf der Unterlage liegt. -- Ihr ganzer Körper scheint noch tiefer in den Sessel zu sinken. - Auch Ihre Beine und Füße bis zu den Zehen sind ganz entspannt, liegen schwer auf der Unterlage. -- Nun sind Sie ganz entspannt und ganz bei sich. –

Imagination der eigenen Vision (Imagination personal vision):

Begeben Sie sich nun in Ihrer Phantasie auf eine Zeitreise in die Zukunft hin zu dem Moment, in dem Ihre Vision wahr geworden ist. --

Stellen Sie sich diesen Moment ganz intensiv und lebhaft vor, so wie nachts, wenn Sie träumen. - Nehmen Sie sich Zeit für diese Vorstellung und benutzen Sie all Ihre Sinne um ganz dort zu sein. -- Woran erkennen Sie, dass Ihre Vision wahr geworden ist? -- Nehmen Sie sich Zeit all das was diese Situation für Sie bereit hält, in sich aufzunehmen. - Und sehen Sie sich genau um – Was erblicken Sie? - Was umgibt Sie? -- Möglicherweise sehen Sie Menschen – vielleicht auch Gebäude? -- Betrachten Sie alles in Ruhe – und nehmen Sie all das, was für Sie schön und angenehm ist, in sich auf. --

Was empfinden Sie gerade? – Wie fühlen Sie sich, jetzt, da Ihre Vision wahr geworden ist? --

Und möglicherweise hören Sie auch Geräusche, – Stimmen – Musik – vielleicht wird etwas gesprochen? Oder hören Sie die verschiedenen Geräusche der Natur und der Umgebung? -- Möglicherweise können Sie auch etwas riechen – vielleicht etwas ganz Bestimmtes. – Nehmen Sie den Geruch in sich auf. -- Und vielleicht schmecken Sie auch etwas – einen ganz bestimmten Geschmack, der sich in Ihrem Mund ausbreitet. -- Möglicherweise können Sie auch etwas fühlen – auf Ihrer Haut – in Ihren Händen – unter Ihren Füßen. – Was genau fühlen Sie? --

Achten Sie noch einmal ganz auf das, was Sie gerade sehen – hören – riechen – schmecken – und fühlen – genau jetzt, in diesem Moment, da ihre Vision wahrgeworden ist. -

Was nehmen Sie wahr? -- Was spüren Sie jetzt? -- Wie empfinden Sie diesen Moment? -
-

Und nun verabschieden Sie sich allmählich von dieser Situation. – Und nehmen Sie all das, was Sie in dieser Situation in der Zukunft empfunden haben mit hierher in die Gegenwart. -- Sie wissen, dass Sie jederzeit dorthin zurückkehren können, wann immer Sie es wollen. --

Rückkehr (Bringing back):

Und so können Sie langsam wieder hierher zurückkehren. - Nehmen Sie dieses Bild in Ihrer Vorstellung mit in die Realität. - Und kommen langsam wieder zurück in diesen Raum, in die Gegenwart. - Nun gehen Sie mit Ihrer Aufmerksamkeit wieder zu Ihrer Atmung und beobachten, ob sie jetzt tiefer ein und ausatmen. -- Lassen Sie Ihren Atem nun kräftig werden. - Nehmen Sie ein paar tiefe Atemzüge, um wieder ganz wach und frisch hier anzukommen. - Spüren Sie Ihren Körper auf dem Sessel, öffnen Sie die Augen und setzen sich auf. Gehen Sie nun bitte zurück zu Ihrem Platz und fahren Sie mit der Untersuchung fort.

.

Appendix D – Vision Attribute and Effect Scale (VAES)

Instruktion

Im Folgenden finden Sie einige Aussagen. Bitte lesen Sie die Aussagen sehr sorgfältig durch und beurteilen Sie, inwiefern diese auf Ihre persönliche Vision zutreffen. Die Aussagen sind absichtlich allgemein formuliert. Uns interessiert jedoch inwiefern diese aus IHRER Sicht für SIE persönlich zutreffen. Aussagen wie 'Man kann sich die Vision deutlich und klar vorstellen' bedeuten für Sie also 'ICH kann mir MEINE Vision deutlich und klar vorstellen'.

Es gibt keine richtigen oder falschen Antworten.

Sie können zwischen fünf Abstufungen wählen:

1 = völlig unzutreffend

2 = eher unzutreffend

3 = teilweise zutreffend

4 = eher zutreffend

5 = völlig zutreffend

Block 1: Kriterien (criteria)

bildlich (pictorial)⁶

- + Wenn man an die Vision denkt, entsteht ein Bild vor dem inneren Auge.
- Es fällt einem schwer, sich die Vision bildlich vorzustellen.

zukunftsorientiert (future orientation)

- + Die Vision beschreibt eine Situation in der Zukunft.
- Die Vision bezieht sich weniger auf die Zukunft, sondern vielmehr auf die Gegenwart bzw. die Vergangenheit.

überdauernd (stability/ frequency of thinking)

- + Die Vision kommt einem öfter in den Sinn.
- Man denkt selten an die Vision.

realistisch (realistic)

- + Es liegt im Bereich des Möglichen, dass die Vision Realität wird.
- Die Vision ist eher eine Utopie, die in der Realität nicht eintreten wird.

⁶ Um eine übersichtliche Darstellung zu gewähren wurden die Itemlabels eingefügt und die Items der Reihenfolge nach niedergeschrieben. In den Experimenten wurden die Labels nicht angegeben und die Items in einer einmal randomisierten Reihenfolge dargeboten.

Block 2: Attribute (attributes)

klar (clear)

- + Man kann sich die Vision deutlich und klar vorstellen.
- Die Vision verbindet man mit einer eher diffusen und vagen Vorstellung.

kurz (brief)

- + Die Vision kann man in wenigen Worten auf den Punkt bringen.
- Man kann die Vision nur schwer in wenigen Worten ausdrücken.

detailliert (detailed)

- + Man hat eine sehr präzise und detaillierte Vorstellung von der Vision.
- Man hat eine eher grobe und wenig detaillierte Vorstellung von der Vision.

positive Situation (desirable/ undesirable end state)

- + Die Vision beschreibt eine positive Situation, die man als erstrebenswert empfindet.
- Die Vision beschreibt eine negative Situation, die man vermeiden möchte.

Unterschied zum Ausgangszustand (discrepant from status quo)

- + Die Vision unterscheidet sich deutlich von der Situation, in der man momentan ist.
- Die Vision ist der Situation, in der man momentan ist, sehr ähnlich.

akzeptiert (widely accepted)

- + Andere Menschen bejahen die Vision.
- Andere Menschen sehen die Vision eher kritisch.

erreichbar (attainable)

- + Man kann die Vision leicht verwirklichen.
- Es ist für einen nicht leicht, die Vision zu verwirklichen.

adaptiv (adaptive)

- + Die Vision kann man leicht an sich verändernde Bedingungen anpassen.
- Auch wenn sich die Bedingungen ändern, kann man die Vision nicht anpassen.

langfristig (long-term oriented)

- + Die Vision ist langfristig ausgelegt.
- Die Vision ist kurzfristig ausgelegt.

kommuniziert (well-communicated)

- + Viele Menschen kennen die Vision.
- Die Vision ist nur einem bzw. sehr wenigen Menschen bekannt.

Block 3: Wirkung (effects)

herausfordernd (challenges)

- + Man empfindet die Vision als herausfordernd.
- Die Verwirklichung der Vision stellt einen nicht vor eine große Herausforderung.

überzeugend (persuasive)

- + Die Vision überzeugt einen sehr.
- Die Vision überzeugt einen nicht besonders.

identifikationsstiftend (provides identity)

- + Man kann sich voll und ganz mit der Vision identifizieren.
- Es fällt einem schwer, sich mit der Vision zu identifizieren.

Kräfte bündelnd (directs effort)

- + Die Vision hilft einem, seine Kräfte zu bündeln.
- Die Vision hilft einem nicht dabei, seine Kräfte zu bündeln.

orientierungsgebend (gives orientation)

- + Die Vision gibt einem Orientierung.
- Durch die Vision erhält man keine große Orientierungshilfe.

Entscheidungshilfe (guides decision)

- + Die Vision hilft einem dabei, richtige Wege von falschen zu unterscheiden.
- Bei der Beurteilung, ob ein Weg richtig oder falsch ist, hilft einem die Vision auch nicht viel weiter.

Ziele ableitbar (allows to derive goals)

- + Aus der Vision kann man eindeutige Teilziele ableiten.
- Es fällt einem schwer, die Vision in konkrete Teilziele herunterzubrechen.

flexibel (flexible reachable)

- + Die Vision kann man auf unterschiedlichen Wegen erreichen.
- Es gibt nur einen bestimmten Weg, auf dem man die Vision erreichen kann.

energetisierend (energizes)

- + Die Vision gibt einem die Energie, etwas für ihre Verwirklichung zu tun.
- Das Denken an die Vision gibt einem nicht die Energie, etwas für ihre Verwirklichung zu tun.

schwelgen (indulge)

- + Man kann stundenlang in der Vision schwelgen, ohne etwas für ihre Verwirklichung zu tun.
- Sobald man an die Vision denkt, will man etwas für sie tun.

Ausdauer stärkend (strengthens persistence)

- + Die Vision hilft einem, nach Rückschlägen oder bei Durststrecken motiviert zu bleiben und durchzuhalten.
- Die Vision hilft einem eher wenig, über Rückschläge hinwegzukommen und bei Durststrecken motiviert zu bleiben.

Positive Stimmung (positive affect)

- + Wenn man an die Vision denkt, gerät man in eine positive Stimmung.
- Die Vision als solche löst keine positiven Gefühle bei einem aus.

Negative Stimmung (negative affect)

- + Wenn man an die Vision denkt, gerät man in eine negative Stimmung.
- Die Vision als solche löst keine negativen Gefühle bei einem aus.

inspirierend (inspires)

- + Die Vision inspiriert einen zu neuen Ideen und Zielen.
- Zu neuen Ideen verhilft einem die Vision nicht.

sinnstiftend (provides meaning)

- + Die Vision gibt einem Sinn und Bedeutung für sein Tun.
- Einen tieferen Sinn für sein Tun erhält man durch die Vision nicht.

motivierend (motivates)

- + Die Vision gibt einem Kraft und motiviert.
- Zusätzliche Motivation erhält man durch die Vision nicht.

Veränderungen hervorrufend (catalyzes action)

- + Die Vision gibt einem immer wieder Impulse, wichtige Dinge zu verändern.
- Man erhält durch die Vision keine Impulse für Veränderungen.

Erklärung

Ich erkläre an Eides statt, dass ich die der **Fakultät für Wirtschaftswissenschaften** der Technischen Universität München zur Promotionsprüfung vorgelegte Arbeit mit dem Titel

**The relevance of mental images:
Personal visions bridge the gap between implicit motives and personal goals**

am **Lehrstuhl für Psychologie** unter der Anleitung und Betreuung durch **Prof. Dr. Hugo M. Kehr** ohne sonstige Hilfe erstellt und bei der Abfassung nur die gemäß § 6 Abs. 5 angegebenen Hilfsmittel benutzt habe.

Ich habe keine Organisation eingeschalten, die gegen Entgelt Betreuerinnen und Betreuer für die Anfertigung von Dissertationen sucht, oder die mir obliegende Pflichten hinsichtlich der Prüfungsleistungen für mich ganz oder teilweise erledigt.

Ich habe die Dissertation in keinem anderen Prüfungsverfahren als Prüfungsleistung vorgelegt.

Ich habe den angestrebten Doktorgrad noch nicht erworben und bin nicht in einem früheren Promotionsverfahren für den angestrebten Doktorgrad endgültig gescheitert.

Die Promotionsordnung der Technischen Universität München ist mir bekannt.

München, den 24.08.2011



(Alexandra Strasser)