

10 Motivational concepts and personality aspects across the life course

Florian Wohlkinger · Hartmut Ditton · Jutta von Maurice ·
Marion Haugwitz · Hans-Peter Blossfeld

Abstract: This chapter outlines the use and the measurement of motivational concepts and personality aspects in the German National Educational Panel Study. The selection of concepts combines elements that the prevalent motivation and personality theories have in common, thereby promoting research from different theoretical perspectives. The constructs measured are achievement motivation, personal goals, general interest orientations, topic-related interests, self-concept (both general and domain-specific), self-regulation, personality aspects such as the Big Five, and selected social behavior dimensions. These theoretical constructs and their corresponding measurements presented in this chapter were chosen on the basis of their applicability across the complete life course. Within the National Educational Panel Study, this integrated compilation of motivational concepts and personality aspects improves our understanding of educational processes and competence development from infancy to late adulthood.

Keywords: Education · Panel study · Motivation · Personality

Motivationale Konzepte und Persönlichkeitsaspekte im Lebensverlauf

Zusammenfassung: Dieses Kapitel stellt die Auswahl von motivationalen Konzepten und Persönlichkeitsaspekten im Nationalen Bildungspanel vor und erläutert Möglichkeiten zu deren

© VS Verlag für Sozialwissenschaften 2011

Dipl.-Soz. F. Wohlkinger (✉) · Prof. Dr. H. Ditton
Chair of Pedagogy and Research on Education and Socialization, LMU Munich, 80802 Munich,
Germany
e-mail: florian.wohlkinger@edu.lmu.de

Prof. Dr. H. Ditton
e-mail: ditton@lmu.de

Dr. J. von Maurice · Dr. M. Haugwitz
National Educational Panel Study, University of Bamberg, 96045 Bamberg, Germany
e-mail: jutta.von-maurice@uni-bamberg.de

Dr. M. Haugwitz
e-mail: marion.haugwitz@uni-bamberg.de

Prof. Dr. Dr. h.c. H.-P. Blossfeld
Chair of Sociology I, University of Bamberg, 96045 Bamberg, Germany
e-mail: soziologie1@sowi.uni-bamberg.de

Erfassung. Die Konstruktauswahl basierte dabei auf Gemeinsamkeiten gängiger Motivations- und Persönlichkeitstheorien, um dadurch Forschungsarbeiten aus verschiedenen theoretischen Perspektiven anzuregen. Aufgenommen wurden Leistungsmotivation, persönliche Ziele, allgemeine Interessenorientierungen, Sachinteresse, Selbstkonzept (allgemein und domänenspezifisch), Selbstregulation, sowie Persönlichkeitsaspekte wie die Big Five und ausgewählte Dimensionen des Sozialverhaltens. Bei der Auswahl der theoretischen Konstrukte und der zu deren Erfassung einzusetzenden Testverfahren stand die Anwendbarkeit über den gesamten Lebensverlauf hinweg im Vordergrund. Innerhalb des Nationalen Bildungspanels trägt diese integrierende Zusammenstellung von motivationalen Konzepten und Persönlichkeitsaspekten zur Verbesserung des Verständnisses von Bildungsprozessen und Kompetenzentwicklung von der frühen Kindheit bis ins späte Erwachsenenalter bei.

Schlüsselwörter: Bildung · Panelstudie · Motivation · Persönlichkeit

10.1 Introduction

Educational processes and competence development across the life course depend heavily on motivational concepts and personality aspects. The National Educational Panel Study (NEPS) raises some challenges connected with these concepts: First of all, the concepts to be included in the design (see Chap. 1, this volume) have to be selected carefully. Different facets of motivational concepts (in the broadest sense) and personality can be considered when investigating educational processes and the development of competencies. A well-founded selection is needed, because of the extensive number of items usually found within the available instruments and the broad variety of concepts in this field of research. Moreover, measuring these concepts is a particular challenge because they not only form an interdisciplinary research field but also have to be measured from childhood to adulthood.

A number of motivational and personality factors can be disentangled within the framework of educational processes and competence development. Some of these are quite stable; others are more variable and situation-adaptive. When selecting concepts to be included in the NEPS, we integrate the different research traditions and interests of psychologists, educational scientists, sociologists, and economists.

Because the motivational concepts and personality aspects relate substantially to each of the five NEPS pillars (see Chaps. 5–9, this volume), this topic traverses the entire pillar structure and thus constitutes its own research field within the NEPS. Motivational concepts and personality aspects play a crucial role for all five pillars, because of their relationship to the constructs measured in each pillar. For example, we know from meta-analyses that there is a moderate relationship between motivation and academic achievement (Schiefele et al. 1993), thus showing the relevance of these constructs for NEPS pillar 1.

Many different framework conceptions deal with how motivational concepts and personality aspects relate to educational performance: need for achievement theory (McClelland et al. 1953), self-determination theory (Deci and Ryan 1985), self-efficacy theory (Bandura 1997), and goal-setting theory (Locke and Latham 2002) to name but a few. Due to the quantity of work in this area, there is a plurality of concepts that all use related

terms and similar instruments (see, for a detailed overview, Eccles and Wigfield 2002). For the NEPS, we selected some common main components of multiple theoretical perspectives in order to guarantee a wide variety of possible uses of these concepts in different disciplines. This also makes it possible to compare different theories and untangle how they relate to each other.

Research on motivation has a long tradition in both psychology and educational science. Maslow (1943, 1977) already reflected on the origins and consequences of human needs and on the factors that motivate human behavior. Later on, other motivation researchers such as McClelland and colleagues (McClelland et al. 1953), Atkinson (e.g., Atkinson and Raynor 1978), Heckhausen (1989), or Weiner (1992) extended these basic thoughts and developed models focusing on the basic components of hope for success and fear of failure. Among both psychologists and educational scientists, one of the currently most popular motivational theories is Eccles and Wigfield's (2000, 2002) expectancy-value theory. This posits that decisions are based on a set of influences: on the one hand, ability beliefs defined as "the individual's perception of his or her current competence at a given activity" (Eccles and Wigfield 2000, p. 70); on the other hand, expectancies for success defined as persons' "beliefs about how well they will do on upcoming tasks" (Eccles and Wigfield 2000, p. 70). These two basic components are then combined with different task-value components (cf. Eccles and Wigfield 2000): attainment value (how important succeeding in this activity is to the individual), intrinsic value (how much joy the individual gets from performing the task or how much interest the individual has in it), utility value (how well a task corresponds to short- and long-term goals), and cost (the negative aspects that emerge when performing an activity). Other models (e.g., Bandura 1997; Hidi et al. 2004) include different contributory factors such as ability or academic self-concepts, interests, and achievement goals.

For the purposes of the NEPS, following the central ideas of Eccles and Wigfield's (2000, 2002) framework offers the chance to include various common features from different theoretical perspectives. Integrating this cross-section of characteristics from varying approaches into our study allows us to choose various applications from several theoretical orientations and to combine elements of different models. The following sections will describe the motivational and personality components measured in the NEPS.

10.2 Achievement motivation

Considering motivation from an educational perspective, *achievement motivation* obviously plays a prominent role (see also, Deci and Ryan 1985). Motivation generally can be divided into two components: intrinsic motivation defined as a "motivation to engage in an activity for its own sake", and extrinsic motivation defined as "motivation to engage in an activity as a means to an end" (Pintrich and Schunk 2002, p. 245). Depending on the theoretical framework, extrinsic motivation can be broken down into further facets. For example, Schiefele et al. (2002) distinguish performance-related, competition-related, and job-related extrinsic motivation. Other studies (e.g., Hossiep and Paschen 2003; Schuler and Prochaska 2001) distinguish even more subdimensions, thereby focusing attention on different facets of motivation.

Selecting an adequate instrument to measure achievement motivation within the NEPS is a challenging task for several reasons such as the limited measurement time or the task of measuring achievement motivation across the life course. Schiefele et al.'s (2002) scale initially appears to meet all our needs, but since it is especially constructed for students, it would have to be adjusted for the other stages. Currently, different constructs of achievement motivation are being compared in terms of their suitability for our panel. Ideally, the measure should fulfill needs such as applicability for all age groups and usability during as well as after school.

10.3 Personal goals

Starting in grade 9, the assessment of achievement motivation is being supplemented by the measurement of *goal orientations*. Since compulsory school attendance ends after that grade and a large proportion of students will leave the school system after grade 9 or 10 in order to start vocational education and training, work aspirations are of outstanding relevance. Therefore, the measurement of the *meaning of work* (MOW) adds an important aspect to the bundle of motivational concepts. Suitable scales are, on the one hand, an adaptation of the *work aspirations* instrument used in the TOSCA study (Transformations of the Secondary School System and Academic Careers; cf. Köller 2004) and, on the other hand, the *desired work conditions* instrument from the MOW International Research Team (1987). Both measures cover slightly different subdimensions such as extrinsic orientation (cf. Trautwein et al. 2006) or economic aspects (cf. Borchert and Landherr 2007) and are currently under evaluation for their specific use within the NEPS.

Another important component in motivation research closely connected to achievement motivation is *goal pursuit*. During school life, every student has to deal with positive and negative consequences for her or his learning behavior in the form of school grades. Even more influential are the students' experiences after major educational decisions such as the choice of school type. According to Brandtstädter and Renner (1990), coping with results of changes can follow two alternative strategies: adjusting personal goals to given situations ("accommodative coping") versus adjusting the environmental circumstances to the individual preferences ("assimilative coping"). Life-course researchers have recognized a shift from assimilative activities in early life stages to accommodative behavior in later life (cf. Brandtstädter and Rothermund 2002). The NEPS provides an outstanding framework for monitoring this shift over the complete life span. Moreover, it offers the chance to start observation at very early ages and thus deepen our understanding of the underlying processes. Conversely, the measurement of these strategies contributes to the motivational concepts in terms of allowing for a different account of the above-mentioned motivational theories. Therefore, we integrate two short versions of scales developed to measure the two coping strategies: the *Tenacious Goal Pursuit* and the *Flexible Goal Adjustment* scales (Brandtstädter and Renner 1990).

10.4 Interests

The development and stabilization of individual *interests* both inside and outside of school is a topic of major importance for educational scientists (cf., e.g., Daniels 2008; Krapp 1992; Todt 1978). Interests are closely connected to intrinsic motivation and always aim at a specific content (see also, Krapp 1999).

10.4.1 General interest orientations

An internationally recognized model conceptualizing *general interest orientations* is Holland's (1997) hexagonal model. This is based on the differentiation of six interest and commensurate environment types (see Bergmann and Eder 2005):

- Realistic type (R): prefers activities that include the explicit and systematic manipulation of objects, tools, machines, or animals.
- Investigative type (I): favors activities that can be characterized by an observing, symbolic, systematic, and creative investigation of physical, biological, or cultural phenomena.
- Artistic type (A): prefers ambiguous, open, and unsystematic activities that imply the manipulation of physical, verbal, or human materials to create artistic forms and products.
- Social type (S): prefers activities to inform, train, educate, cure, or advise other people.
- Enterprising type (E): favors activities that include the manipulation of other people to achieve organizational goals or to gain economic returns.
- Conventional type (C): prefers activities characterized by the explicit and systematic manipulation of data to gain organizational or economic returns.

Those six ideal types can be arranged in a preference order to form an individual interest profile. A total of 720 interest patterns can be differentiated by combination of these six types. According to their intercorrelations, the six types are arrayed in a circumplex or hexagon (Holland and Gottfredson 1992). These relations are reflected by the acronym RIASEC, which is therefore often used as a synonym for Holland's (1997) interest model. A central concept within the model is congruence. People especially select environments that are congruent to their interests and they change (or leave) incongruent environments.

In order to measure RIASEC interests, the NEPS has developed a new instrument (IILS; Interest Inventory Life Span, with a child and an adult version). It is based on the following inventories: a) a German (30-item) version of the Inventory of Children's Activities—Revised (ICA-R) from Tracey and Ward (1998; German version ICA-D: von Maurice 2006), which has already been developed and tested for elementary school age; b) the (60-item) Allgemeiner Interessen-Struktur-Test in its revised edition (AIST-R; Bergmann and Eder 2005) that can be used from 14 years of age onward. To measure general interest orientations over the life course, these instruments have been shortened and combined in NEPS: In the child version of the IILS (from grade 5 to grade 8), we chose two items from the ICA-D and one item from the AIST-R per scale; in the adult

version of the ILS (from grade 9 to adulthood), we used one item from the ICA-D and two items from the AIST-R per scale. Item selection was based on empirical analyses and plausibility checks. Consequently, a very short 18-item instrument for measuring the six Holland-scales R, I, A, S, E and C is available in both versions.

Although the RIASEC model allows us to conceptualize general interest orientations over the life course, it is best suited for the domain of work. The integration of Holland's model in the NEPS offers a great potential for many educational researchers because of its cross-cultural relevance.

10.4.2 Topic-related interests

In school studies, the measurement of interests is often oriented toward measuring interest in the respective school subject. This approach is insufficient for NEPS, because the study is conceptualized to follow individual development over the entire life span. After students have left school, subject-specific measurement only seems rewarding when another school-similar context follows that is also arranged in subjects (e.g., university). Hence, it is advisable to avoid gathering this information in a school-subject-oriented way (subject-related interest; German term "*Fachinteresse*"), but to use a different approach and ask for more general interest fields independently from school subjects (cf. Daniels 2008). Focusing on *topic-related interests* (German term "*Sachinteresse*") enables us to use the same instrument across school stages as well as after finishing school. This makes it possible for us to analyze topic-related interests over different stages (see Chap. 1, this volume). Similarly, NEPS pillar 1 covers competence domains not in close relation to a curriculum but in a more general, naturalistic way (see Chap. 5, this volume).

Throughout the whole NEPS, one particular focus is on the subjects German and mathematics. On account of this focus, subject teachers are being interviewed during the school stages in addition to the target persons (see Chap. 16, this volume). In analogy to this characteristic, the measuring of interest should include at least both the domains German and mathematics in order to allow research on the interdependence of interests, other motivational components, and school achievement. For this reason, we capture topic-related interests in the two domains German and mathematics. Using items taken from a study by Baumert et al. (2003), we are able to implement the same instrument across the whole life course.

The life-span perspective implemented in NEPS provides an important opportunity for studying individuals' development of interests. As interests are known to have profound consequences for human (choice) behavior (cf. Nagy et al. 2006), knowing whether interests do or do not "crystallize" across the life span is an important step in understanding the development of individuals' behavioral plasticity.

10.5 Self-concept

Self-concept is a major indicator for achievement and is of central importance in current educational research (cf. Shavelson and Bolus 1982; Helmke and van Aken 1995; Bong and Clark 1999; Kaufmann 2008). It can be defined as a person's perception of him- or

herself and his or her abilities (cf. Shavelson et al. 1976; Marsh and Shavelson 1985; Watermann et al. 2010).

Theoretically, the structure of the NEPS suggests a quite differentiated recording of self-concept: On the one hand, there are the school stages and their obvious close connection to school subjects. On the other hand, there are university students with an environment that is not structured by subjects as in school, but shaped by topic-oriented courses. And finally, there is the domain of working people, whose environment is no longer arranged in an explicit structure with regard to contents (though it should be noted that occupational environments can be described in terms of the RIASEC model, especially in comparison to general interest orientations, thus allowing us to examine, e.g., vocational decisions or person-environment fit). Therefore, it seems a challenging task to measure the self-concept across all stages in an identical way. However, since the self-concept is characterized by a hierarchical structure (cf., e.g., Shavelson et al. 1976; Marsh and Shavelson 1985; Marsh 1987; Lichtlein 2000), it is possible to realize a consistent capture as well as a differentiating measure of the theoretical construct—as the following section will show.

10.5.1 General self-concept

The hierarchy of the self-concept provides a particularly convenient possibility of differentiating measurement throughout the NEPS: Across the life course, the *general self-concept*—a dimension that is explicitly not connected to any domain like school, university, or work—can be measured in the exact same way at all stages. This provides the advantage of being able to compare different age groups to each other and monitor the development and stability of the general dimension of self-concept throughout the life course.

Among the conceivable measures, the Rosenberg self-esteem scale (Rosenberg 1965) seems to fulfill the requirements, because self-esteem forms the main element of self-concept (cf. Ferring and Filipp 1996). Concretely, our choice from among the available German instruments was the revised *Self-Esteem Scale* by von Collani and Herzberg (2003a). As in the original version by Rosenberg (1965), this scale includes positive as well as negative facets and offers good psychometric properties in terms of reliability and validity (von Collani and Herzberg 2003a, b). These results were affirmed in two NEPS developmental studies for grade 5 students and for university students in whom the self-esteem scale was also tested. Furthermore, the scale is very economical with only 10 items, thus meeting the needs of a panel study such as the NEPS.

10.5.2 Domain-specific self-concept

At the school stages, the measurement of the *domain-specific self-concept* is geared to the PISA 2000 study that had gathered three subdimensions: the overall academic self-concept, the verbal self-concept, and the mathematical self-concept (see Kunter et al. 2002). This entirely matches the specific structure of the school stages as well as the typical hierarchy in school. Furthermore, every subdimension consists of only three items. Therefore, the instrument perfectly suits the needs of the NEPS and will be applied at the school stages. In addition to self-concept, we measure *helplessness*. The notion of help-

lessness goes back to Abramson et al. (1978) and was adapted in a study by Ditton (2007). In analogy to its use there, we integrated the measure of helplessness separately into the NEPS for both German and mathematics, thereby complementing the measurement of domain-specific self-concept.

For the cohort of university students, of course, neither the PISA instrument nor helplessness as covered by Ditton (2007) would be adequate. Here, the measurement follows the idea of Dickhäuser et al. (2002) by using their absolute academic self-concept scale, whereas helplessness is geared to Jerusalem and Schwarzer's (2006) study-specific helplessness.

For the adult stage, we are currently investigating how to capture the self-concept. Potential scales could be selected from, for instance, Schuler and Prochaska (2001) or Hossiep and Paschen (2003). The final decision will be based on empirical evidence provided by analyses of our pilot studies.

10.6 Self-regulation

Educational processes within the information society are demanding and require a large amount of self-regulation. Learning processes are becoming largely dependent on personal initiative—not only in institutional contexts but also in out-of-school or working environments. This requires the initiation and regulation of learning processes by oneself as well as personal decisions about what to learn.

Self-regulated learning is divided into three components: motivational, metacognitive, and cognitive (Artelt et al. 2003; Boekaerts 1997; Zimmerman and Schunk 2001). This section addresses the metacognitive aspect of self-regulated learning. Metacognition means cognition about cognition and encompasses the regulation of the learning process. The NEPS is investigating declarative as well as procedural aspects of metacognition (cf., e.g., the conceptualization by Flavell 1979).

Declarative metacognition is understood as knowledge about persons (e.g., expertise levels, own memory), tasks (e.g., task difficulty), and strategies (knowledge about and usefulness of learning strategies). Procedural metacognition focuses on the implementation of metacognitive knowledge in the process of self-regulated learning. Typical self-regulated activities are planning, monitoring, regulating, and evaluating. In line with the expert report by Roßnagel et al. (2009), the NEPS measures procedural and declarative aspects of metacognition as a part of self-regulation competencies. To capture the declarative aspect of metacognition, we are implementing a scenario-based metacognitive knowledge test based on Artelt et al.'s (2001) and Schlagmüller and Schneider's (2007) test construction principles. The test consists of several scenarios describing typical challenging learning and leisure-time activities. For each scenario, a list of approaches of differing strategic quality is presented. Subjects are asked to judge these different strategies according to their usefulness in the respective situation. The test is scored by comparing performance with experts' judgments on the relative usefulness of the presented alternatives.

For several reasons, this test format fits school-based learning best, and, to the best of our knowledge, it has only been evaluated and implemented in this stage (see Artelt et al.

2009 for the instruments used in the PISA-study 2009; as well as the WLST by Schlagmüller and Schneider 2007). Therefore, in addition to these newly developed tests, we plan to complete the assessment of the declarative aspect in the less school-related stages with a questionnaire on self-regulation. With reference to the expert report by Roßnagel et al. (2009), we plan to investigate both short- and long-term self-regulation.

The procedural aspect of metacognition is assessed with single indicators (see, for an overview of different procedures, Cavanaugh and Perlmutter 1982). The assessment of comprehension monitoring is integrated into each competence domain. Subjects are asked to estimate their own achievement in the respective domain-specific test.

10.7 Personality

Alongside the dimensions of achievement motivation, personal goals, interests, self-concept, and self-regulation, another element is of major importance: an individual's *personality*. By measuring personality characteristics starting at a very young age and continuing up to adulthood, it should be possible to identify not only developmental risks but also protective factors against just these risks (Weinert et al. 2007). In psychological research, the dominant model with a very long tradition is the five factor model (FFM) of personality, which can be recovered in most western cultures (e.g., McCrae and Costa 1985; McCrae and Costa 1991; Asendorpf and van Aken 2003; Weinert et al. 2007). A lot of instruments are available for collecting information on personality. The so-called "Big Five" factors are Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Because most instruments such as the well-known NEO-FFI (Borkenau and Ostendorf 1993) use extensive item batteries with about 50–100 items (cf. Rammstedt 2007) to access the Big Five, their use for the NEPS is very limited. A current short version is the BFI-10 by Rammstedt and John (2007). It has been developed explicitly for contexts in which there is limited time for questioning, and it provides valuable psychometric characteristics with only two items per dimension. Merely for the agreeableness dimension, Rammstedt and John (2007) recommend adding a third item. Because this factor might be crucial for profound analyses on specific research questions, this item has also been included.

For the younger cohorts, no self-reported measure of personality is available. Here parents and educators can provide valuable information about the child's personality. According to recent research, the parents' judgment is a useful and quite stable indicator even for 4-year-old children (cf. Weinert et al. 2007). For younger children, parents' and caregivers' evaluation of the child's temperament can lead to a better understanding of personality development and its relation to educational processes, because personality emerges out of early temperament traits in conjunction with the learning environment (Rothbart and Gartstein 2008). Therefore, the NEPS utilizes a multiactor perspective and thus provides information about the personality from very early ages up to the adult life. In this manner, we are able to monitor the development of personality traits over the complete life course, and, in the long term, collect and link data about personality, competence development, educational success, and occupational prospects.

10.8 Social behavior

Another important domain in educational processes and competence is social behavior. Socially competent behavior is of central importance for denoting risks of negative behavior development (cf. Beelmann et al. 2006; Weinert et al. 2007). Capturing social competencies in general is a challenging task, because many different instruments are available. Extensive scales focusing on as many distinct facets as possible are not suitable within the framework of a panel study. Therefore, a slightly narrowed perspective seems appropriate. Here, we concentrate on the subdomain of *social behavior* facets and thereby focus on positive and negative behavioral attributes. A popular instrument for measuring such personality characteristics is Goodman's (1997, 1999) *Strengths and Difficulties Questionnaire* (SDQ). The SDQ "provides balanced coverage of children and young people's behaviours, emotions, and relationships" (Goodman 1997, p. 581), and thus forms a proper complement for the measurement of the Big Five. Usually it consists of five dimensions, namely Emotional Symptoms, Conduct Problems, Hyperactivity, Peer Problems, and Prosocial Behavior (Goodman 1997). A major advantage of the SDQ is the availability of versions for teachers and parents. Thus, we are again able to overcome the problematic lack of self-reported measures for younger children by taking the multiactor perspective. For economic reasons, we applied psychometric and content criteria to select items for the NEPS (cf. Bettge et al. 2002; Hagquist 2007). As a result, only two of these dimensions will be used. By measuring peer problems and prosocial behavior, we focus on two oppositional aspects of social behavior, thereby enabling us to monitor two major indicators for behavioral disorder and mental health problems.

Furthermore, in the Kindergarten stage, the educators and parents will give additional information on aggressive and disruptive behavior. Here we ask them questions taken from the Teacher Assessment of Social Behaviour (TASB; see Cassidy and Asher 1992). Hence, we shall gain a quite differentiated picture of social behavior from a very young age onward, and it will be based on data from the different perspectives taken by multiple informants.

10.9 Conclusion

The aim of this article has been to give an outline of the use and the measurement of motivational concepts as well as personality aspects within the NEPS. When selecting instruments, we have focused particularly on their applicability across the complete life course. As questioning time is a scarce good, the economy of the instrument in terms of item count is also crucial—extensive scales with large item batteries cannot be incorporated into our study. Further important decision criteria of course are to select concepts that are used in several distinct motivational theories, and ones that are relevant for educational sciences and competence development research. The constructs measured are achievement motivation, personal goals, general interest orientations, topic-related interests, self-concept facets, self-regulation, personality aspects such as the Big Five, and selected social behavior dimensions. The integration of motivational concepts and

personality aspects into the NEPS allows researchers from different disciplines to analyze educational processes as well as competence development on a sophisticated level.

Acknowledgments: We would like to thank Dr. Thomas Bäumler, Prof. Dr. Gabriel Nagy, and Dr. Claudia Schlesiger for their constructive support.

References

- Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*, 49–74.
- Artelt, C., Stanat, P., Schneider, W., & Schiefele, U. (2001). Lesekompetenz: Testkonzeption und Ergebnisse. In J. Baumert, E. Klieme, M. Neubrand, M. Prenzel, U. Schiefele, W. Schneider, P. Stanat, K.-J. Tillmann, & M. Weiß (Eds.), *PISA 2000. Basiskompetenzen von Schülerinnen und Schülern im internationalen Vergleich* (pp. 69–137). Opladen: Leske + Budrich.
- Artelt, C., Baumert, J., Julius-McElvany, N., & Peschar, J. (2003). *Learners for life. Student approaches to learning. Results from PISA 2000*. Paris: OECD.
- Artelt, C., Beinicke, A., Schlagmüller, M., & Schneider, W. (2009). Diagnose von Strategiewissen beim Textverstehen. *Zeitschrift für Entwicklungspsychologie und Pädagogische Psychologie, 41*, 96–103.
- Asendorpf, J. B., & van Aken, M. A. G. (2003). Validity of Big Five personality judgments in childhood: A 9 year longitudinal study. *European Journal of Personality, 17*, 1–17.
- Atkinson, J. W., & Raynor, J. O. (1978). *Personality, motivation, and achievement*. Washington, DC: Hemisphere.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Baumert, J., Gruehn, S., Heyn, S., Köller, O., & Schnabel, K. (2003). *Bildungsverläufe und psychosoziale Entwicklung im Jugendalter (BIJU). Dokumentation: Bd. 1 Skalen Längsschnitt 1. Wellen 1–4*. Berlin: Unveröffentlichte Dokumentation am Max-Planck-Institut für Bildungsforschung.
- Beelmann, A., Lösel, F., Stemmler, M., & Jaursch, S. (2006). Beurteilung von sozialen Verhaltensproblemen und Erziehungsschwierigkeiten im Vorschulalter. *Diagnostica, 52*, 189–198.
- Bergmann, C., & Eder, F. (2005). *Allgemeiner Interessen-Struktur-Test mit Umwelt-Struktur-Test (UST-R)—Revision* (3rd ed.). Weinheim: Beltz-Test.
- Bettge, S., Ravens-Sieberer, U., Wietzker, A., & Hölling, H. (2002). Ein Methodenvergleich der Child-Behavior Checklist und des Strengths and Difficulties Questionnaire. In B.-M. Kurth (Ed.), *Kinder- und Jugendgesundheitsurvey* (Das Gesundheitswesen: Sonderbd. 1, pp. 119–124). New York: Georg Thieme.
- Boekaerts, M. (1997). Self-regulated learning: A new concept embraced by researchers, policy makers, educators, teachers, and students. *Learning and Instruction, 7*, 161–186.
- Bong, M., & Clark, R. E. (1999). Comparison between self-concept and self-efficacy in academic motivation research. *Educational Psychologist, 34*, 139–153.
- Borchert, M., & Landherr, G. (2007). Meaning of Work. Auswertung einer Befragung von Teilnehmern des Management Forum Starnberg, durchgeführt im November 2006, Duisburg.
- Borkenau, P., & Ostendorf, F. (1993). *NEO-Fünf-Faktoren-Inventar (NEO-FFI) nach Costa und McCrae. Handanweisung*. Göttingen: Hogrefe.
- Brandtstädter, J., & Renner, G. (1990). Tenacious goal pursuit and flexible goal adjustment: Explanation and age-related analysis of assimilative and accommodative strategies of coping. *Psychology and Aging, 5*, 58–67.
- Brandtstädter, J., & Rothermund, K. (2002). The life-course dynamics of goal pursuit and goal adjustment: A two-process framework. *Developmental Review, 22*, 117–150.

- Cassidy, J., & Asher, S. R. (1992). Loneliness and peer relations in young children. *Child Development, 63*, 350–365.
- Cavanaugh, J. C., & Perlmutter, M. (1982). Metamemory: A critical examination. *Child Development, 53*, 11–28.
- Daniels, Z. (2008). *Entwicklung schulischer Interessen im Jugendalter*. Münster: Waxmann.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Dickhäuser, O., Schöne, C., Spinath, B., & Stiensmeier-Pelster, J. (2002). Die Skalen zum akademischen Selbstkonzept. Konstruktion und Überprüfung eines neuen Instrumentes. *Zeitschrift für Differentielle und Diagnostische Psychologie, 23*, 393–405.
- Ditton, H. (2007). *Kompetenzaufbau und Laufbahnen im Schulsystem. Ergebnisse einer Längsschnittuntersuchung an Grundschulen*. Münster: Waxmann.
- Eccles, J. S., & Wigfield, A. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25*, 68–81.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*, 109–132.
- Ferring, D., & Philipp, S.-H. (1996). Messung des Selbstwertgefühls: Befunde zu Reliabilität, Validität und Stabilität der Rosenberg-Skala. *Diagnostica, 42*, 284–292.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist, 34*, 906–911.
- Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 38*, 581–586.
- Goodman, R. (1999). The extended version of the strengths and difficulties questionnaire as a guide to child psychiatric caseness and consequent burden. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 40*, 791–799.
- Hagquist, C. (2007). The psychometric properties of the self-reported SDQ—An analysis of Swedish data based on the Rasch model. *Personality and Individual Differences, 43*, 1289–1301.
- Heckhausen, H. (1989). *Motivation und Handeln* (2. völlig überarbeitete und ergänzte Aufl.). Berlin: Springer.
- Helmke, A., & van Aken, M. A. G. (1995). The causal ordering of academic achievement and self-concept of ability during elementary school: A longitudinal study. *Journal of Educational Psychology, 87*, 624–637.
- Hidi, S., Renninger, A. K., & Krapp, A. (2004). Interest, a motivational variable that combines affective and cognitive functioning. In D. Y. Dai & R. J. Sternberg (Eds.), *Motivation, emotion, and cognition: Integrative perspectives on intellectual functioning and development* (pp. 89–115). Mahwah: Erlbaum.
- Holland, J. L. (1997). *Making vocational choices. A theory of vocational personalities and work environments* (3rd ed.). Odessa: Psychological Assessment Resources.
- Holland, J. L., & Gottfredson, G. D. (1992). Studies of the hexagonal model: An evaluation (or, the perils of stalking the perfect hexagon). *Journal of Vocational Behavior, 40*, 158–170.
- Hossiep, R., & Paschen, M. (2003). *Das Bochumer Inventar zur berufsbezogenen Persönlichkeitsbeschreibung (BIP)* (2. vollständig überarbeitete Aufl.). Göttingen: Hogrefe.
- Jerusalem, M., & Schwarzer, R. (2006). Dimensionen der Hilflosigkeit. In A. Glöckner-Rist (Hrsg.), *ZUMA-Informationssystem. Elektronisches Handbuch sozialwissenschaftlicher Erhebungsinstrumente*. ZIS Version 10.00. Mannheim: Zentrum für Umfragen, Methoden und Analysen.
- Kaufmann, A. (2008). *Die Rolle motivationaler Schülermerkmale bei der Entstehung sozialer Disparitäten des Schulerfolgs. Eine Längsschnittuntersuchung an Grundschulen in Bayern und Sachsen*. Berlin: Mensch-und-Buch-Verlag.
- Köller, O. (2004). *Wege zur Hochschulreife in Baden-Württemberg. TOSCA—eine Untersuchung an allgemein bildenden und beruflichen Gymnasien*. Opladen: Leske & Budrich.

- Krapp, A. (1992). *Interesse, Lernen, Leistung. Neuere Ansätze der pädagogisch-psychologischen Interessenforschung*. Münster: Aschendorff.
- Krapp, A. (1999). Intrinsische Lernmotivation und Interesse. Forschungsansätze und konzeptuelle Überlegungen. *Zeitschrift für Pädagogik*, 45, 387–406.
- Kunter, M., Schümer, G., Artelt, C., Baumert, J., Klieme, E., Neubrand, M., Prenzel, M., Schiefele, U., Schneider, W., Stanat, P., Tillmann, K.-J., & Weiß, M. (2002). *PISA 2000: Dokumentation der Erhebungsinstrumente* (Vol. 72). Berlin: Max-Planck-Institut für Bildungsforschung.
- Lichtlein, M. (2000). *Selbstkonzeptentwicklung in der beruflichen Erstausbildung unter besonderer Berücksichtigung motivationaler Aspekte*. München: Utz, Wiss.
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, 57, 701–717.
- Marsh, H. W. (1987). The hierarchical structure of self-concept and the application of hierarchical confirmatory factor analysis. *Journal of Educational Measurement*, 24, 17–39.
- Marsh, H. W., & Shavelson, R. (1985). Self-concept: Its multifaceted, hierarchical structure. *Educational Psychologist*, 20, 107–123.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370–396.
- Maslow, A. H. (1977). *Motivation und Persönlichkeit*. Olten: Walter.
- McClelland, D., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1953). *The achievement motive*. Princeton: Van Nostrand.
- McCrae, R. R., & Costa, P. T. (1985). Comparison of EPI and psychoticism scales with measures of the five-factor model of personality. *Personality and Individual Differences*, 6, 587–597.
- McCrae, R. R., & Costa, P. T. Jr. (1991). The NEO personality inventory: Using the five-factor model in counseling. *Journal of Counseling and Development*, 69, 367–372.
- MOW—The MOW International Research Team (1987). *The meaning of working*. London: Academic.
- Nagy, G., Trautwein, U., Köller, O., Baumert, J., & Garrett, J. (2006). Gender and course selection in upper secondary education: Effects of academic self-concept and intrinsic value. *Educational Research and Evaluation*, 12, 323–345.
- Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education. Theory, research, and applications* (2nd ed.). Upper Saddle River: Merrill, Prentice Hall.
- Rammstedt, B. (2007). The 10-item big five inventory—Norm values and investigation of sociodemographic effects based on a German population representative sample. *European Journal of Psychological Assessment*, 23, 193–201.
- Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five inventory in English and German. *Journal of Research in Personality*, 41, 203–212.
- Rothbart, M. K., & Gartstein, M. A. (2008). Temperament. In M. M. Haith & J. B. Benson (Eds.), *Encyclopedia of infant and early childhood development* (pp. 318–333). Oxford: Elsevier.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton: Princeton University Press.
- Roßnagel, C. S., Bittner, J., & Staudinger, U. M. (2009). *Self-regulation across the lifespan: Its conceptualization and assessment in the National Educational Panel Study (NEPS)*. Bamberg: Expert Report for NEPS.
- Schiefele, U., Krapp, A., & Schreyer, I. (1993). Metaanalyse des Zusammenhangs von Interesse und schulischer Leistung. *Zeitschrift für Entwicklungspsychologie und Pädagogische Psychologie*, 25, 120–148.
- Schiefele, U., Moschner, B., & Husstegge, R. (2002). *Skalenhandbuch SMILE-Projekt*. Bielefeld: Unveröffentlichtes Manuskript, Abteilung für Psychologie, Universität Bielefeld.
- Schlagmüller, M., & Schneider, W. (2007). *WLST 7-12. Würzburger Lesestrategie-Wissenstest für die Klassen 7 bis 12*. Göttingen: Hogrefe.

- Schuler, H., & Prochaska, M. (2001). *Leistungsmotivationsinventar: Dimensionen berufsbezogener Leistungsorientierung*. Göttingen: Hogrefe.
- Shavelson, R. J., & Bolus, R. (1982). Self concept: The interplay of theory and methods. *Journal of Educational Psychology*, 74, 3–17.
- Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Self-concept: Validation of construct interpretations. *Review of Educational Research*, 46, 407–441.
- Todt, E. (1978). *Das Interesse: Empirische Untersuchungen zu einem Motivationskonzept*. Bern: Huber.
- Tracey, T. J. G., & Ward, C. C. (1998). The structure of children's interests and competence perceptions. *Journal of Counseling Psychology*, 45, 290–303.
- Trautwein, U., Jonkmann, K., Gresch, C., Lüdtke, O., Neumann, M., Klusmann, U., Husemann, N., Maaz, K., Nagy, G., Becker, M., & Baumert, J. (2006). *Transformation des Sekundarschulsystems und Akademische Karrieren (TOSCA). Dokumentation der eingesetzten Items und Skalen. Welle 3*. Berlin: Max-Planck-Institut für Bildungsforschung.
- von Collani, G., & Herzberg, P. Y. (2003a). Eine revidierte Fassung der deutschsprachigen Skala zum Selbstwertgefühl von Rosenberg. *Zeitschrift für Differentielle und Diagnostische Psychologie*, 24, 3–7.
- von Collani, G., & Herzberg, P. Y. (2003b). Zur internen Struktur des globalen Selbstwertgefühls nach Rosenberg. *Zeitschrift für Differentielle und Diagnostische Psychologie*, 24, 9–22.
- von Maurice, J. (2006). *ICA-D. Deutschsprachige Version des Inventory of Children's Activities—Revised (ICA-R, Tracey & Ward, 1998)*. Bamberg: Unveröffentlichtes Manuskript, Otto-Friedrich-Universität Bamberg.
- Watermann, R., Klingebiel, F., & Kurtz, T. (2010). Die motivationale Bewältigung des bevorstehenden Grundschulübergangs aus Schüler- und Elternsicht. In K. Maaz, J. Baumert, C. Gresch, & N. McElvany (Hrsg.), *Der Übergang von der Grundschule in die Sekundarstufe* (S. 355–383). Berlin: Bundesministerium für Bildung und Forschung.
- Weiner, B. (1992). *Human motivation: Metaphors, theories, and research*. Newbury Park: Sage.
- Weinert, S., Asendorpf, J. B., Beelmann, A., Doil, H., Frevert, S., Hasselhorn, M., & Lohaus, A. (2007). *Expertise zur Erfassung von psychologischen Personmerkmalen bei Kindern im Alter von fünf Jahren im Rahmen des SOEP (DIW: Data Documentation 20)*. Berlin: Deutsches Institut für Wirtschaftsforschung.
- Zimmerman, B. J., & Schunk, D. H. (2001). *Self-regulated learning and academic achievement: Theoretical perspectives*. Mahwah: Erlbaum.