Mara Gerich

Teachers' Counseling Competence in Parent-Teacher Talks

Modeling, Intervention, Behavior-Based Assessment

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For my family

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Abstract

Counseling students and their parents is emphasized as a central pedagogical task of teachers in international research on teacher professionalization and standards for teacher education. In particular, parent counseling on the support of students' learning processes, for example, by providing assistance with homework, enhancing motivation, and structuring time for homework and leisure, has become increasingly important. Nevertheless, there is still little research that deals explicitly with the topic of teachers' counseling competence, especially in this specific domain. Research gaps firstly include the examination of specific skills and abilities that make teachers competent counselors as well as specific variables that predict or are related to the level and development of teachers' counseling competence. Secondly, there are only few studies in which specific interventions for the acquisition of counseling competence are systematically varied and examined in terms of their effectiveness. However, not only in research but also in teacher preparation and continuing education, counseling competence in parent-teacher talks is still a neglected topic, as educational programs that specifically focus on the improvement of this essential teacher competence are still rare. Finally, little research has been performed on the development of appropriate assessment approaches. In particular, behavior-based methods for the measurement of teachers' counseling competence as well as the evaluation of specific interventions are especially lacking.

In light of the described research gaps, the present doctoral thesis addresses the (1) modeling, (2) improvement through intervention, and (3) behavior-based assessment of teachers' counseling competence in parent-teacher talks on the support of students' learning processes (in the following, the term is used interchangeably with the abbreviated form 'counseling competence').

The purpose of Study 1 was to establish a model of teachers' counseling competence valid for the population of primary and secondary school teachers as well as identify specific variables that predict or are related to teachers' counseling competence. The examination was based on previous findings by Bruder (2011) and Klug, Bruder, Keller, and Schmitz (2012) valid for the population of

higher track secondary school teachers. Moreover, additional investigations focused on potential differences concerning the level of teachers' counseling competence between the diverse school types in primary and secondary education. Structural equation modeling revealed the appropriateness of a second-order, four-dimensional model, that emphasizes the process-character of parent counseling, as well as the existence of three specific teacher characteristics that are positively related to teachers' counseling competence. Analyses investigating potential group differences between the examined school types revealed no substantial differences in teachers' counseling competence.

The aim of Study 2 was to examine the effectiveness of several interventions on the improvement of teachers' counseling competence. For this, a training program including active and reflective learning as well as a process-oriented feedback intervention were developed on the basis of the four-dimensional model established in Study 1. The examination of the intervention effects was carried out within the framework of a longitudinal quasi-experimental study with prospective teachers on the basis of pre-, post-, and follow-up test measures as well as time-series data. Analyses indicated the beneficial effects of both interventions on participants' competence acquisition.

Within the framework of Study 3, a behavior-based instrument involving simulated parent-teacher talks with standardized parents was developed and validated for assessing changes in teachers' counseling competence due to specific interventions. Moreover, it was investigated whether participation in the simulated counseling talks could serve as an intervention for improving teachers' counseling competence. The examinations were carried out within the scope of the longitudinal quasi-experimental study with prospective teachers on the intervention effects of training and feedback on counseling competence (Study 2). Analyses revealed the suitability of the simulations both for assessing changes in prospective teachers' counseling competence due to specific interventions and improving counseling competence.

In conclusion, this doctoral thesis makes an important contribution to research on the topic of teachers' counseling competence, particularly in the specific domain of parent-teacher talks with regard to the support of students' learning processes. Moreover, the gained insights permit several implications for educational practice, particularly within the context of teacher preparation and continuing education. The four-dimensionality of the established competence model demonstrates that teachers' counseling competence in parent-teacher talks on the support of students' learning processes is composed of several competence areas that can be present to differing degrees. As it includes the most important skills that teachers should possess within this specific competence area, the model provides a profound empirical basis for the development of effective teacher education programs. Moreover, the identification of specific teacher

characteristics that are positively related to counseling competence indicates that even the improvement of related variables, such as imparting knowledge on counseling and learning strategies, might lead to an increase in teachers' counseling competence. In this connection, the results of the intervention studies carried out within the framework of this doctoral thesis demonstrate that, with the help of appropriate interventions, teachers' counseling competence can already be successfully fostered during university teacher preparation. Here, the application of active learning, reflection, and process-oriented feedback turned out to be effective. Thus, the training program, feedback intervention, and counseling talk simulations outlined above could serve as a starting point for the development of effective curricular programs. In addition, the results concerning the structure of the competence model provide a profound basis for the elaboration of sophisticated assessment approaches, such as the counseling talk simulations developed and validated in this doctoral thesis. Here, the underlying four-dimensional competence model allows for not only the measurement of teachers' general counseling competence but also the differentiated assessment of individual competence characteristics concerning the four competence dimensions. Finally, those instruments can be used for the systematic evaluation of interventions for the improvement of teachers' counseling competence.

Zusammenfassung

Die Beratung von Schülern und Eltern wird sowohl in der internationalen Lehrerprofessionalisierungs-forschung als auch in Standards zur Lehrerbildung als eine der zentralen pädagogischen Aufgaben von Lehrkräften beschrieben. Dabei wird insbesondere die Beratung von Eltern in Bezug auf die Unterstützung ihrer Kinder beim Lernen, zum Beispiel durch Hilfestellung bei den Hausaufgaben, die Förderung und Aufrechterhaltung von Lernmotivation oder die gemeinsame Planung von Lern- und Freizeitphasen, immer wichtiger. Dennoch existieren bislang nur wenige Forschungsarbeiten, die sich speziell mit dem Thema der Beratungskompetenz von Lehrkräften, insbesondere in dieser spezifischen Domäne, beschäftigen. Besonderer Forschungsbedarf besteht dabei zum einen hinsichtlich der Ermittlung spezifischer Fähigkeiten und Fertigkeiten, welche Lehrkräfte bei der Lernberatung in Elterngesprächen benötigen, sowie bestimmter Variablen die zur Vorhersage der Beratungskompetenz und ihrer Entwicklung genutzt werden können bzw. mit dieser zusammenhängen. Zum anderen existieren nur wenige Untersuchungen, in deren Rahmen unterschiedliche Interventionen zur Förderung der Beratungskompetenz in Elterngesprächen systematisch variiert und hinsichtlich ihrer Wirksamkeit überprüft werden. Aber nicht nur im Bereich der pädagogisch-psychologischen Forschung, sondern auch in der Aus- und Weiterbildung von Lehrkräften findet die Beratungskompetenz in Elterngesprächen bislang noch zu wenig Beachtung. Schließlich besteht auch im Bereich der Entwicklung geeigneter Instrumente zur Messung der Beratungskompetenz von Lehrkräften sowie der Evaluation entsprechender Interventionen zu ihrer Förderung noch deutlicher Forschungsbedarf. Hierbei fehlt es insbesondere an verhaltensbasierten Methoden.

Angesichts der beschriebenen Forschungslücken befasst sich die vorliegende Doktorarbeit mit der (1) Modellierung, (2) Förderung durch Intervention und (3) verhaltensbasierten Messung der Beratungs-kompetenz von Lehrkräften bei der Beratung von Eltern in Bezug auf die Unterstützung ihrer Kinder beim Lernen (im Folgenden wird die Kurzform „Beratungskompetenz" verwendet).

Studie 1 beinhaltete die Entwicklung und Validierung eines Modells der Beratungskompetenz von Primar- und Sekundarschullehrkräften sowie die Identifikation spezifischer Lehrermerkmale, die zur Vorhersage der Beratungskompetenz herangezogen werden können bzw. mit dieser zusammenhängen. Die Untersuchung basierte dabei auf bereits vorliegenden Ergebnissen von Bruder (2011) und Klug, Bruder, Keller und Schmitz (2012) für die Teilgruppe der Gymnasiallehrkräfte. Darüber hinaus wurden potenzielle Unterschiede bezüglich der Ausprägung der Beratungskompetenz zwischen den einzelnen untersuchten Schulformen geprüft. Mithilfe von Strukturgleichungsanalysen konnte ein prozessorientiertes vierdimensionales Modell zweiter Ordnung sowie die Existenz dreier zentraler Lehrermerkmale, die mit der Beratungskompetenz in positiver Weise zusammenhängen, bestätigt werden. Zwischen den untersuchten Schulformen konnten keine signifikanten Kompetenzunterschiede nachgewiesen werden.

Studie 2 diente der Überprüfung der Wirksamkeit verschiedener Interventionen zur Förderung der Beratungskompetenz von Lehrkräften. Hierzu wurden auf Basis des in Studie 1 validierten vier-dimensionalen Kompetenzmodells ein Trainingsprogramm mit Fokus auf aktiven und reflexiven Lernmethoden sowie ein prozessorientiertes Feedbackinstrument entwickelt. Die Überprüfung der Wirksamkeit der Interventionen erfolgte im Rahmen einer quasi-experimentellen Längsschnittstudie mit Lehramtsstudierenden auf der Basis von Prä-, Post- und Follow-Up-Messungen sowie Zeitreihendaten. Im Rahmen der Analysen konnten positive Effekte beider Interventionen auf den Kompetenzerwerb der Teilnehmer bestätigt werden.

In Studie 3 wurde ein verhaltensbasiertes Instrument in Form simulierter Elterngespräche mit standardisierten Eltern zur Messung von Veränderungen in der Beratungskompetenz von Lehrkräften aufgrund spezifischer Interventionen entwickelt und validiert. Darüber hinaus wurde geprüft, ob die Teilnahme an den Gesprächssimulationen selbst als Intervention zur Förderung der Beratungskompetenz dienen kann. Die Untersuchung wurde im Rahmen der quasi-experimentellen Längsschnittstudie mit Lehramtsstudierenden zur Überprüfung der Wirksamkeit von Training und Feedback auf den Erwerb von Beratungskompetenz durchgeführt (Studie 2). Die Analysen bestätigten die Eignung der Gesprächssimulationen sowohl zur Messung von Veränderungen der Beratungskompetenz der Teilnehmer aufgrund der genannten Interventionen als auch als Methode zur Kompetenzförderung.

Zusammenfassend leistet die vorliegende Doktorarbeit einen wichtigen Beitrag zur Forschung zum Thema der Beratungskompetenz von Lehrkräften, insbesondere in der spezifischen Domäne der Beratung von Eltern hinsichtlich der Unterstützung ihrer Kinder beim Lernen. Darüber hinaus erlauben die gewonnenen Erkenntnisse verschiedene Implikationen für die pädagogische Praxis, insbesondere im Bereich der Lehreraus- und -weiterbildung. Die empirisch

nachgewiesene Vierdimensionalität des Kompetenzmodells zeigt, dass sich die Beratungskompetenz von Lehrkräften in Elterngesprächen aus verschiedenen Teilkompetenzen zusammensetzt, welche in unterschiedlicher Weise ausgeprägt sein können. Da das Modell die wichtigsten Fähigkeiten und Fertigkeiten umfasst, die Lehrkräfte in der Lernberatung mit Eltern benötigen, bietet es eine empirisch fundierte Grundlage für die Entwicklung geeigneter Lehreraus- und -weiterbildungsprogramme. Zusätzlich legt die Identifikation der mit der Beratungskompetenz zusammenhängenden Lehrermerkmale nahe, dass die Beratungskompetenz auch durch die Förderung dieser Variablen, z.B. durch Vermittlung von Wissen über Beratung und Lernstrategien, gesteigert werden kann. In diesem Zusammenhang zeigen die Ergebnisse der beiden im Rahmen der vorliegenden Dissertation durchgeführten Interventionsstudien, dass die Beratungskompetenz von Lehrkräften mithilfe entsprechender Interventionen bereits in der universitären Lehrerausbildung erfolgreich gefördert werden kann. Hier erwiesen sich insbesondere der Einsatz von aktiven Lernformen, Reflexion und prozessorientiertem Feedback als gewinnbringend. Das beschriebene Trainingsprogramm, das Feedbackinstrument sowie die Gesprächssimulationen könnten hier als Modelle für entsprechende curriculare Programme dienen. Die Ergebnisse bezüglich der Struktur des Kompetenzmodells bieten darüber hinaus eine fundierte Grundlage für die Erarbeitung differenzierter Messinstrumente, wie z.B. des im Rahmen dieser Arbeit entwickelten und validierten Simulationsansatzes. Hierbei ermöglicht die Entwicklung entsprechender Instrumente auf Basis des vierdimensionalen Kompetenzmodells nicht nur die Messung der allgemeinen Beratungskompetenz, sondern auch die differenzierte Ermittlung individueller Kompetenz-ausprägungen auf den verschiedenen Kompetenzdimensionen. Diese Instrumente können schließlich für die systematische Evaluation der genannten aber auch in Zukunft zu entwickelnden Interventionen zur Förderung der Beratungskompetenz von Lehrkräften genutzt werden.

I Synopsis

1 Theoretical Background

1.1   Relevance of Teachers' Counseling Competence in Parent-Teacher Talks

Teaching in the twenty first century is characterized by a variety of complex professional tasks and demands (Assuncao Flores, 2012; Høigaard, Giske, & Sundsli, 2011; Pransky, 2008; Schultz & Ravitch, 2013). One essential requirement that teachers are faced with in their professional routines, especially in recent years, is the counseling of students and parents (Grewe, 2005; Guli, 2005; Hertel, Bruder, Jude, & Steinert, 2013; Schnebel, 2007). Consequently, counseling is specified as a central pedagogical task in government recommendations and standards for teacher education all over the world (e.g., National Commission on Teaching and America's Future, 1997; Standing Conference of the Ministers of Education and Cultural Affairs of the States in the Federal Republic of Germany, 2004). Moreover, counseling competence has been implemented in concepts of teachers' professional competences (e.g., Baumert & Kunter, 2011).

   Against the background of international education studies (PISA, TIMSS), parent counseling on students' learning processes, especially, has become increasingly important (Guli, 2005; Whiston, Tai, Rahardja, & Eder, 2011), as parental support plays an essential role in students' academic development as well as their social, emotional, and behavioral adjustment (Christenson & Sheridan, 2001; Cox, 2005; Hill & Taylor, 2004; Hill & Tyson, 2009; Jeynes, 2003, 2007; Miller, Colebrook, & Ellis, 2014; Pomerantz, Moorman, & Litwack, 2007; Reschly & Christenson, 2012). Especially home-based involvement practices, such as providing assistance with homework, enhancing motivation, and

structuring time for homework and leisure, have been shown to improve students' academic achievement and performance (Alexander, Entwisle, & Olson, 2001; Cotton & Wikelund, 2001; Fan & Chen, 2001; Henderson & Mapp, 2002; Ysseldyke & Christenson, 2002).

However, parents often lack confidence in their ability to support their children's homework and learning activities and, therefore, increasingly request guidance from teachers (Borgonovi & Montt, 2012; Hertel et al., 2013; Hoover-Dempsey, Walker, Jones, & Reed, 2002). Thus, whether parental participation can be used effectively as an educational resource depends to a great extent on teachers' efforts to involve and support parents in facilitating their children's academic development (Barton, Drake, Perez, St. Louis, & George, 2004; Hoover-Dempsey et al., 2005; Kohl, Lengua, & McMahon, 2000). Substantial research has indicated a relationship between teachers' use of effective parent participation practices and parents' home- and school-based involvement behaviors across cultural, socioeconomic, and developmental boundaries (Anderson & Minke, 2007; Barton et al., 2004; Deslandes & Bertrand, 2005; Green, Walker, Hoover-Dempsey, & Sandler, 2007; Hoover-Dempsey et al., 2005; Walker, Ice, Hoover-Dempsey, & Sandler, 2011). In this context, different sources specifically identify the counseling of parents with respect to the support of students' learning processes as an important opportunity for teachers to encourage parental involvement (Bryan & Holcomb-McCoy, 2007; Christenson & Carlson, 2005; Christenson & Cleary, 1990; Epstein, 1993; Guli, 2005; Karbach, Gottschling, Spengler, Hegewald, & Spinath, 2013; Whiston et al., 2011). Within the context of counseling talks, teachers and parents can come together to jointly identify possible learning difficulties that need to be addressed and determine specific intervention strategies in the school and home context (Keys, Bemak, Carpenter, & King-Sears, 1998).

Consequently, teachers must be well educated in counseling parents with respect to the support of students' learning processes in order to meet the high demands concerning the participation of parents in their children's academic development. This is becoming particularly important in light of the challenges associated with the increasing diversity of the parent and student population in terms of family circumstances, socioeconomic status, cultural backgrounds, academic abilities, and learning conditions (Boethel, 2003; Lee, 2001).

1.2   Definition

Although the importance of counseling parents in supporting their children's educational progress has been noted in current research and practice, there are

still few studies that explicitly address specific counseling skills that make teachers competent counselors in this specific domain. Existing definitions are primarily based on an intuitive understanding of counseling rather than empirical findings (McLeod, 1992) and are typically adapted from clinical or therapeutic paradigms (Strasser & Gruber, 2003). Thus, clear definitions and empirically validated models of teachers' counseling competence are rare. In fact, there is an explicit call for a precise definition as well as the specification of subcomponents of teachers' counseling competence on the basis of sophisticated psychometric models (Hofer, Wild, & Pikowsky, 1996; McLeod, 2003; Scofield & Yoxtheimer, 1983; Strasser & Gruber, 2003).

1.2.1 Definition of Competence

The concept of competence is central to empirical studies dealing with the development of human resources and the productivity of education (Klieme, Hartig, & Rauch, 2010) and has become increasingly important in educational research, psychology, and neighboring disciplines in the last few years (e.g., Csapó, 2004; Klieme, Funke, Leutner, Reimann, & Wirth, 2001; Klieme & Hartig, 2007; Rychen & Salganik, 2001, 2003; Sternberg & Grigorenko, 2003; Weinert, 2001). However, the specific understanding of the concept of competence shows a wide range of interpretation from one scientific alignment to another (Klieme & Hartig, 2007).

   This doctoral thesis is based on the competence definitions by Weinert (2001) and Fleischer, Koeppen, Klenk, Klieme, and Leutner (2013). The concept of competence by Weinert (2001, p. 27) regards competence as "an individual's available or learnable cognitive ability for solving specific problems as well as the related motivational, volitional, and social readiness and abilities to successfully and responsibly use problem solutions in variable situations". With reference to Weinert (1999, 2001), Klieme and Leutner (2006), as well as Klieme et al. (2008), Fleischer et al. (2013, p. 6) define competences as "context-specific cognitive dispositions that are acquired by learning and needed to successfully cope with certain situations or tasks in specific domains, which can be acquired through experience gained from relevant, demanding situations, by specific external interventions, or institutionalized educational processes." This concept of competence contains the following characteristics: (1) Differentiation from talent concepts in favor of the accentuation of acquiring competences through experience gained from relevant demanding situations, specific external interventions, or institutionalized educational processes (Hartig & Klieme, 2006; Klieme, Hartig, & Rauch, 2008; Klieme & Leutner, 2006; Pant, Böhme, & Köller, 2012; Strasser & Gruber, 2003), (2) differentiation from constructs of general ability,

such as intelligence, in favor of a narrower definition of the specific domain of expertise (Fleischer et al., 2013; Pant et al., 2012), (3) action-oriented accentuation of the relation of competence to performance in concrete functional requirements (Chomsky, 1980; Erpenbeck & von Rosenstiel, 2007; Pant et al., 2012), (4) reference to "real life" in terms of abilities demonstrated in changing contexts and situative imponderabilities (Pant et al., 2012), (5) focus on cognitive aspects, in order to consider abilities separated from motivational and affective influences on performance (Fleischer et al., 2013; Pant et al., 2012), and (6) accentuation of a certain degree of awareness and reflection that leads to professional flexibility and openness to individual development (Terhart, 2007).

1.2.2 Definition of Counseling Competence

The scholarly literature includes numerous descriptions of general counseling competence. Strasser and Gruber (2003, p. 388), for example, define counseling competence as "professional knowledge about facts and effectiveness of method that permits reflected experience on the basis of personal resources, thus enabling the counselor to use the knowledge effectively and appropriately to the specific situation, which leads to successful goal attainment with regard to the counseling process". McLeod (2003) defines seven central components of counseling competence: (1) interpersonal skills such as appropriate listening and communicating, (2) personal beliefs and attitudes such as believing in the potential for change, (3) conceptual ability, which includes the ability to understand and assess the client's problems and problem-solving skills, (4) personal "soundness", which includes self-confidence and secure personal boundaries as well as the absence of irrational beliefs or social prejudice, (5) mastery of technique concerning the constructive application and evaluation of specific interventions, (6) the ability to understand and work within social systems, and (7) openness to learning and inquiry, which includes being curious about clients' backgrounds and problems. Another general description, which summarizes these aspects into four central components of counseling competence, is specified by Hackney and Cormier (1998). They postulate counseling competence to be comprised of counselors' (1) personal characteristics, (2) interpersonal characteristics, (3) differential or conceptual abilities, and (4) intervention techniques. Additional definition approaches can be found in Crouch (1992), Egan (2002), and West and Cannon (1988).

In addition to general definitions of counseling competence, the literature also contains specific definitions of counseling in schools. Schwarzer and Buchwald (2006), for example, define six specific competence areas of counselors in the school context: (1) personal resources, (2) social skills, (3) counseling

skills, (4) professional knowledge, (5) coping skills, and (6) process expertise. Honal and Schlegel (2002), in contrast, name the following competence areas of counselors in schools: (1) conversation skills, (2) diagnostics, (3) cooperative interventions for individuals or groups, (4) professional knowledge, (5) work with adults, (6) collaboration, (7) evaluation, and (8) basic conditions of good counseling in the school context.

There are also several definitions of parent counseling and the counseling on learning strategies in the literature. However, they typically refer to counseling by school psychologists. For example, Sheridan, Kratochwill, and Bergan (1996) define parent counseling as a structured, indirect, collaborative, problem-solving relationship between the psychologist and one or more parent consultees. Other sources define parent counseling as an interactive process of co-construction between multiple experts (e.g., Idol, Nevin, & Paolucci-Whitcomb, 1994) that is characterized by collaboration and joint ownership of responsibilities and accountability for outcomes (Reschly & Christenson, 2012). More precisely, Guli (2005) emphasizes counseling regarding school-related behavioral concerns, including problems with social skills and homework completion. Working on problems with homework completion is an example of the counseling on learning processes, which is generally specified to focus on problems and developments in the field of student skills that are necessary for successfully completing learning tasks.

In summary, the literature already contains numerous definitions of general counseling competence, counseling in schools, and parent counseling. However, theoretical definitions or concepts that explicitly address specific counseling skills that make teachers competent counselors in parent-teacher talks on the support of students' learning processes are still lacking.

1.3 Models

To date, in accordance with the current lack of theoretical definitions, there have also been few attempts of establishing elaborated models specifying particular subcomponents of teachers' counseling competence in parent teacher-talks on the support of students' learning processes.

1.3.1 Munich Model of Teachers' Communicative Competence in Parent-Teacher Conversation

One approach of theoretical modeling the general conversational competence of teachers in parent-teacher talks was carried out by Gartmeier, Bauer, Fischer,

Karsten, and Prenzel (2011). Their Munich model of communicative competence in parent-teacher conversation (Figure 1.1) focuses on three competence facets that represent important factors for the constructive realization of parent-teacher talks: (1) interpersonal relationship, (2) problem solving, and (3) structuring of the conversation. These competence facets are related to three central situation types in parent-teacher conversations: (a) parent counseling in participatory decision-making, (b) conflict situations due to parental complaints, and (c) communicating unpleasant messages. Thus, the model also contains important basal competence facets in the context of counseling parents in general. However, it does not refer to the specific domain of parent counseling on the support of students' learning processes. Moreover, the three competence facets are addressed on a rather general level instead of specifying specific skills and abilities relevant to the counseling of parents on the support of their children's educational progress.

Communicative competence

Competence facets

Situation types

Parent counseling (participatory decision-making)

Conflict situations (parental complaints)

Communicating unpleasant messages

Interpersonal relationships

Problem solving

Structuring of the conversation
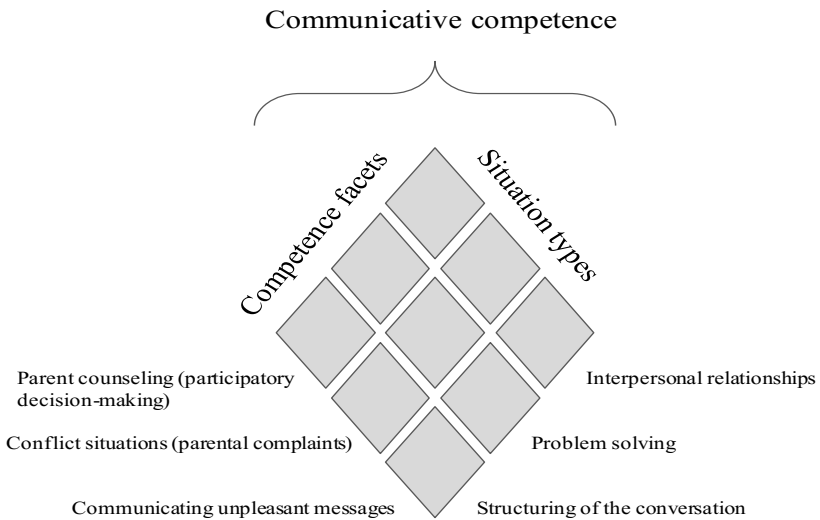
Figure 1.1. Munich model of teachers' communicative competence in parent-teacher conversation (Gartmeier et al., 2011).

1.3.2 Five-Factorial Model of Higher Track Secondary School Teachers'
Counseling Competence

One of the first models that specifically focus on the differentiated description of
teachers' counseling competence in the domain of counseling parents on the
support of their children's learning processes was established by Hertel (2009).
With reference to Schwarzer and Buchwald's (2006) competence areas (see
section 1.2.2), she theoretically developed a five-factorial model and empirically
validated it on the basis of self-assessment data from a sample of German teach-
ers working in higher track secondary education (*Gymnasium*). The competence
factors comprised in the model are: (1) personal resources, (2) social skills, (3)
counseling skills and pedagogical knowledge, (4) process expertise, and (5)
coping skills. The first four factors are divided into two subscales each (see Ta-
ble 1.1).

Table 1.1

Five-factorial model of higher track secondary school teachers' counseling
competence (Hertel, 2009)

Factor	Personal resources	Social skills	Counseling skills and pedagogical knowledge	Process expertise	Coping skills
Subscales	*Task-monitoring*	*Cooperative actions*	*Diagnostic competence*	*Strategy adaptation*	
	Self-reflection	*Cooperative attitude*	*Conversa-tional com-petence*	*Goal and resource orientation*	

1.3.3 Four-Dimensional Model of Higher Track Secondary School Teachers'
Counseling Competence

A later approach of modeling the same construct, which integrated the model by
Hertel (2009) as well as other concepts on counseling in general, counseling in
schools, and short-term therapy (e.g., McLaughlin, 1999; McLeod, 2003; Reid,

1990; Strasser & Gruber, 2003; West & Cannon, 1988), was established by Bruder (2011). On the basis of data from German higher track secondary school teachers acquired by means of a scenario test (see section 1.5.2), she developed and empirically validated a four-dimensional model including the following dimensions, which contain several subcomponents each (see Figure 1.2): (1) counseling skills, (2) diagnostic and pedagogical knowledge, (3) collaboration and perspective taking, and (4) coping. The counseling skills dimension includes the elementary counseling procedures of active listening, paraphrasing, and structuring the talk. The diagnostic and pedagogical knowledge dimension contains aspects that are necessary to develop appropriate and customized solutions for student learning difficulties such as problem definition, search for possible causes, strategy application (concerning learning strategies), and goal orientation. The collaboration and perspective taking dimension includes cooperative actions, perspective taking, and resource and solution orientation, which turn the counseling talk into a co-construction process and encourage collaboration between teachers and parents. Finally, the coping dimension includes strategies for coping with criticism and dealing with difficult situations, which constitute the most important abilities needed to professionally address difficulties that may arise in the course of a counseling talk.
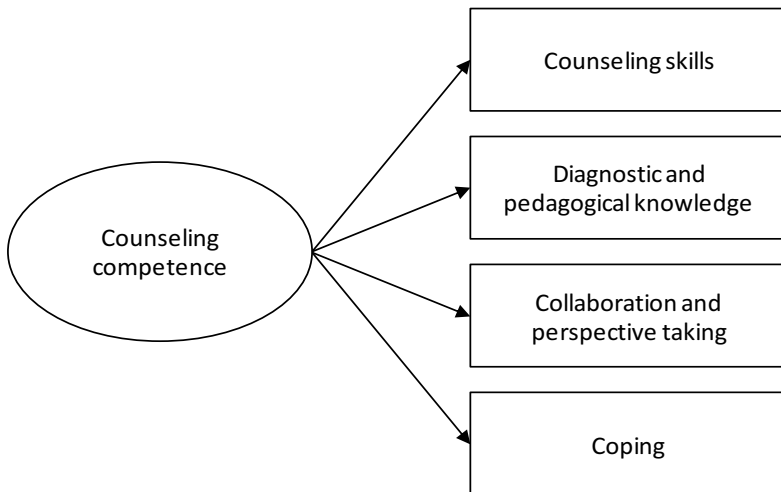
Figure 1.2. Four-dimensional model of higher track secondary school teachers' counseling competence (Bruder, 2011).

1.3.4 Predictors of counseling competence

In addition to the specification of the four competence dimensions outlined above, Bruder and colleagues (Bruder, 2011; Klug, Bruder, Keller, & Schmitz, 2012) aimed to identify specific variables that lead to a high level of counseling competence and, thus, can be used to predict the extent of teachers' counseling competence. With reference to research on teachers' professional development and counseling expertise, the authors postulated three predictor variables to have a substantial influence on the degree of teachers' counseling competence: (1) elementary knowledge of counseling and learning strategies, (2) professional self-concept as a counselor, and (3) reflected experience (Figure 1.3).

A basic requirement for developing competences, in general (Schmidt, Norman, & Boshuizen, 1992; Tillema & Veenman, 1987; Weinert, 1999) and in teacher education, specifically (Bakkenes, Vermunt, & Wubbles, 2010; Kunter et al., 2007; Verloop, Van Driel, & Meijer, 2001), is acquiring domain-specific knowledge. Thus, even teachers must obtain a certain degree of professional knowledge of counseling and learning strategies in order to become an effective counselor.

Teachers' professional self-concept is also deemed to be an influential factor regarding teacher efficacy (Beijaard, Verloop, & Vermunt, 2000; Flores & Day, 2006; Lyhty-Ruohotie, 2013). In general, the concept is considered to be a multifaceted construct that includes several personal resources. However, it is explicitly defined in different ways in the field of teaching and teacher education, depending on the specific domain or context (for a review, see Beijaard, Meijer, & Verloop, 2004). For the domain of counseling, Bruder and colleagues (Bruder. 2011; Klug et al., 2012) extracted four central variables from the literature on teachers' professional growth (Baumert & Kunter, 2011; Shulman & Shulman, 2004; Woolfolk-Hoy, Davis, & Pape, 2006) that are relevant to a teacher's professional self-concept as a counselor: motivation for counseling, self-efficacy in counseling, attitude towards counseling, and sense of self as a counselor.

Furthermore, gaining experience and subsequent reflection on experienced action are considered to be key components in contemporary models of teachers' professional growth (Clarke & Hollingsworth, 2002; Loughran, 2002; Postholm, 2008; Watts & Lawson, 2009). Particularly with regard to the development of counseling competences, the importance of reflected experience is consistently highlighted (Collins, Arthur, & Wong-Wylie, 2010; Furr & Carroll, 2003; Gruber & Strasser, 2006; Ronnestad & Skovholt, 2001; Skovholt & Jennings, 2004; Thiel, 2003).
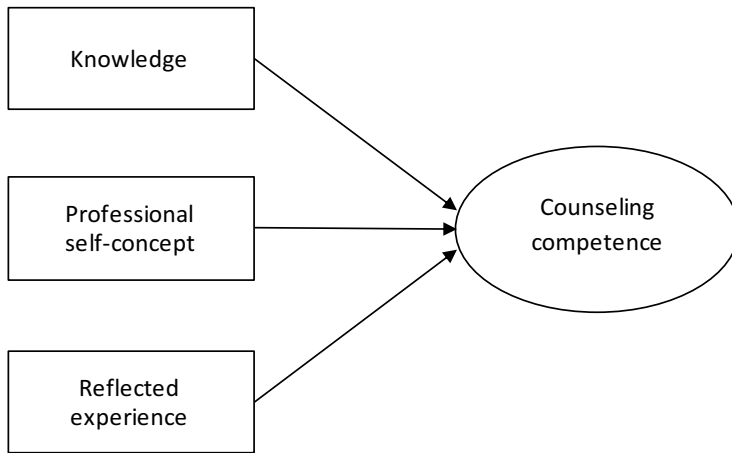
Figure 1.3. Predictors of higher track secondary school teachers' counseling competence (Bruder, 2011; Klug et al., 2012).

1.4   Intervention

1.4.1   *Current Demand for Educational Programs on Counseling Competence*

As outlined above, the importance of parental involvement and counseling parents on the support of their children´s educational progress has been noted in empirical research. Nevertheless, international research on teacher education indicates that teacher education institutions often fail to assist prospective teachers in acquiring and developing the interpersonal competences they will need to counsel parents effectively (Hertel et al., 2013; Hiatt-Michael, 2001; Krumm, 1996; Lawrence-Lightfoot, 2003; Walker & Dotger, 2012; Wild 2003). As a consequence of this so-called "specific gap in teacher education" (Epstein, 2001, 2005), novice teachers do not feel well prepared to meet the demands of the job concerning the cooperation with parents when they enter the profession (Hertel, 2009; Mandel, 2006). This, in turn, leads to a reluctance to offer counseling talks (Wild, 2003), on the one hand, and decreased job satisfaction, increased occupational stress, and a heightened risk for burnout, on the other (Darling-Hammond, 2000; Pas, Bradshaw, & Hershfeldt, 2012; Veenman, 1984). Moreover, within

the parent-teacher talk, teachers often refer to insufficient counseling strategies, which hinder a constructive, problem-related interaction (Bennewitz & Wegner, 2015) and the rash proposal of possible solutions (Gartmeier, Gebhardt, & Dotger, 2016).

Against this background, numerous studies as well as political recommendations and standards for teacher education highlight the importance of integrating counseling in teacher education worldwide (National Commission on Teaching and America's Future, 1997; Standing Conference of the Ministers of Education and Cultural Affairs of the States in the Federal Republic of Germany, 2004; Valli & Rennert-Ariev, 2000). In particular, there is a growing demand for specific programs and curricular modules to foster prospective teachers' counseling competence in early university preparation (Dotger, 2010; German Society for Psychology, 2008).

1.4.2 Effectiveness of Active Learning, Reflection, and Feedback

For the preparation of educational programs on the development of teacher competences, there is a large number of methodical recommendations in the current literature. In order to acquire practical competences beyond the mere acquisition of theoretical knowledge, corresponding programs should focus on the practical application of learning contents that are relevant for (future) professional routines (Ball & Forzani, 2009; Halász, Santiago, Ekholm, Matthews, & McKenzie, 2004; Lampert, 2010; Terhart, 2000). To do so, teacher education programs should include large sequences of active learning and reflection, which are considered to be key elements in the context of integrating theoretical knowledge and practical skills (Ericsson, Krampe, & Tesch-Römer, 1993; Garet, Porter, Desimone, & Yoon, 2001; Grossman, 2005; Sullivan, 2005; Sullivan & Rosin, 2008). Especially for the long-term development of practical competences, the importance of active learning and reflection is consistently highlighted (Ball & Forzani, 2009; Caspersen, 2013; Hershfeldt, Pell, Sechrest, Pas, & Bradshaw, 2012; Postholm, 2008; Watts & Lawson, 2009). In addition, numerous studies document the positive impact of active and reflective learning on both the transfer of learning content to later professional routines (Kolodner, Gray, & Fasse, 2003; Schwartz, Bransford, & Sears, 2004; Walker & Dotger, 2012) and the development of teachers' professional identities (Beijaard et al., 2004; Huang, Lubin, & Ge, 2011; Lyhty-Ruohotie, 2013; Schultz & Ravitch, 2013; Sutherland, Howard, & Markauskaite, 2010).

As another important educational tool, feedback has been shown to have a positive impact on learning processes (Bangert-Drowns, Kulik, Kulik, & Morgan, 1991; Dweck, 1999; Hattie & Timperley, 2007; Vollmeyer & Rheinberg,

2005), especially skills, motivation, and self-efficacy beliefs (Brown, 2004; Bruning & Horn, 2000; Crooks, 1988; Duijnhouwer, Prins, & Stokking, 2012; Kellogg & Whiteford, 2009; Kluger & DeNisi, 1996; Vollmeyer & Rheinberg, 2005). In research on teacher education, in particular, feedback has been shown to be an effective instructional practice (Copland, 2010; Wade, 1985) that supports the transfer of learning contents to professional routines (Tillema & Veenman, 1987). One of the most influential feedback theories (Hattie & Timperley, 2007) in agreement with other reviews and meta-analyses (e.g., Bangert-Drowns et al., 1991; Kluger & DeNisi, 1996; Narciss, 2008), indicates that the main purpose of feedback is to highlight the discrepancy between current understanding and performance, on the one hand, and a specific learning goal, on the other, as well as encourage and enable learners to reflect on and reduce this discrepancy (Anseel, Lievens, & Schollaert, 2009; Seibert, 1999; Watts & Lawson, 2009). In this context, effective feedback should additionally comprise comprehensive information on individual areas of improvement as well as explicit corresponding improvement strategies (Brown, 2004; Narciss, 2008). This kind of process-oriented, formative feedback (Shute, 2008) has been shown to support continuing competence development (Hattie & Timperley, 2007; Narciss, 2008; Rakoczy, Harks, Bürgermeister, & Klieme, 2011), positively affect learners' motivational beliefs and interests (Butler, 1987; Narciss & Huth, 2006), and help them take control of their own learning (Nicol & Macfarlane-Dick, 2006). As several studies indicate the positive impact of the interplay between receiving feedback and setting learning goals on competence development (Locke & Latham, 1990; Rakoczy, Harks, Klieme, Blum, & Hochweber, 2013; Sadler, 1989), providing feedback within the framework of teacher education programs should be followed by setting appropriate learning goals. Empirical evidence has shown that setting learning goals entails deeper, more self-regulated and persistent learning strategies as well as greater intrinsic motivation and performance (Grant & Dweck, 2003; Harackiewicz, Barron, Pintrich, Elliot, & Trash, 2002; Locke & Latham, 2002; Nicol & Macfarlane-Dick, 2006).

1.4.3 Intervention Programs on Counseling Competence

In the research area of teachers' counseling competence, only few intervention studies have systematically varied and examined the beneficial effects of active learning, reflection, feedback, and other interventions on the acquisition of counseling competence.

Hertel (2009) developed and implemented a first training program for the advancement of prospective and in-service teachers' counseling competence on the basis of her five-dimensional model of higher track secondary school

teachers' counseling competence (see section 1.3.2). Besides the participation in the training program, which included active role-play exercises, the author implemented two additional interventions: (1) the support of participants' self-reflections by means of a standardized reflection instrument that was completed both before and after the role-play exercises, and (2) individual feedback regarding participants' competence development on the basis of self-report data with corresponding recommendations for continuing practice. The evaluation of the training program (including active learning) revealed significant improvement in participants' counseling competence. However, analyses revealed no additional beneficial effects of the self-reflection and feedback intervention on in-service and prospective teachers' counseling competence. Accordingly, participants reported that the sequences of active learning, in particular, were helpful in improving their counseling competence. In contrast, they perceived the self-reflection and feedback intervention to be of little help.

An intervention approach for enhancing prospective teachers' conversational skills in parent-teacher talks (a construct closely related to teachers' counseling competence) with a special focus on active learning, reflection, and feedback was introduced by Dotger and colleagues (Dotger et al., 2010; Dotger, Harris, & Hansel, 2008). In the so-called Simulated Interaction Model (SIM), prospective teachers participate in a series of one-on-one interactions with standardized parents within the framework of which they are provided the opportunity to practice their communication skills. These standardized parents are carefully trained actors who are scripted to present specific statements, questions, or concerns – known as "verbal triggers" – during the parent-teacher talk simulations in accordance with a carefully designed case profile. In contrast, the teacher candidate taking part in the simulation is given an "appropriate" amount of background knowledge regarding the hypothetical student in terms of a general academic profile but is not scripted in any way concerning his/her behavior during the interaction with the standardized parent. The simulated parent-teacher talks are videotaped in order to subsequently provide participants with extensive feedback regarding their performance during the simulations. Furthermore, participants conduct detailed self-evaluations supported by the careful review of the video recordings of their simulated interactions as well as individual and group debriefing sessions.

Within the framework of a teacher training program for prospective teachers on communicative competence, Gartmeier et al. (2015) investigated the effectiveness of a similar intervention developed on the basis of the Munich model of teachers' communicative competence (see section 1.3.1) including role-play exercises with standardized parents and subsequent video-based feedback. In addition, the authors also examined the positive impact of an e-learning intervention including the analysis of contrastive video cases of parent-teacher con-

versations. The e-learning intervention (without active learning and feedback) was found to be more effective than the role-play intervention (including active learning and feedback), whereas the combination of e-learning and role-play was more effective than e-learning and role-play alone.

In summary, a small number of intervention studies on prospective or in-service teachers' counseling competence or closely related constructs do exist. However, to date, findings regarding the beneficial effects of active learning, reflection, and feedback interventions for their improvement remain inconsistent.

1.5   Assessment

1.5.1   Assessment of Competences

The assessment of competences plays a key role in optimizing educational processes and advancing educational systems. In this context, the focus of competence assessment can lie either in individual qualifications and learning outcomes or at an aggregated level, for example, program evaluation or system monitoring (Koeppen, Hartig, Klieme, & Leutner, 2008). The development of appropriate measurement instruments should be based on theoretically and empirically founded competence models that allow for the specific measurement results to be interpreted with reference to those underlying competence models (Bögeholz & Eggert, 2013; Koeppen et al., 2008). Following the multi-method approach, the assessment of competences should ideally be conducted using several different methods (Eid & Diener, 2006; Erpenbeck & von Rosenstiel, 2007; Ollendick, Alvarez, & Greene, 2004; Steele Shernoff & Kratochwill, 2004). Here, alternatives mentioned in research on competence assessment range from self-report instruments, such as questionnaires or interviews, to rather objective measures, such as knowledge tests, scenario tests, work samples, and performance observations (Darling-Hammond, 2006; Kane, 1992; Van der Vleuten, 1996).

1.5.2   Assessment of Counseling Competence

In accordance with the small number of approaches for modeling teachers' counseling competence in parent-teacher talks on the support of students' learning processes as well as developing effective teacher training programs, few related methods of measurement have been developed to date.

A first multi-method approach for the assessment of teachers' counseling competence was introduced by Hertel (2009). On the basis of her five-dimensional model of higher track secondary teachers' counseling competence (see section 1.3.2), she developed two self-assessment instruments, three external assessment instruments, and a knowledge test. The self-assessment instruments include a questionnaire for the measurement of teachers' self-assessed general counseling competence (trait level) as well as a questionnaire for the measurement of teachers' self-assessed counseling competence demonstrated in a specific role-play situation (state level). In both questionnaires participants are requested to respond to items on a six-point rating scale ranging from 1 (*I completely disagree*) to 6 (*I completely agree*). The external assessment instruments include written work samples as well as two behavior observation instruments. The written work samples consist of several specific case studies that describe a parent counseling situation. Participants are requested to develop specific recommendations for the teacher regarding the outlined situation. Participants' qualitative statements are analyzed by means of a rating system that has been developed on the basis of Hertel's (2009) five-dimensional model of teachers' counseling competence. The behavior observation instruments include a participatory and a non-participatory observation of teachers' counseling behavior in counseling role-playings. The participating observations are documented in a questionnaire including items on the five competence dimensions, which have to be responded to on a six-point rating scale ranging from 1 (*I completely disagree*) to 6 (*I completely agree*). The non-participating observations are implemented by means of tape recordings of the counseling role-playings that are analyzed on the basis of another corresponding rating system. The knowledge test includes four multiple-choice items for the assessment of teachers' professional knowledge of counseling. The four closed-ended questions are followed by three possible answers each, from which the right answer has to be selected. In addition, each item includes the response option "I don't know".

At present, the best validated multi-method assessment approach for the measurement of teachers' counseling competence was established by Bruder (2011) on the basis of her four-dimensional model of higher track secondary school teachers' counseling competence (see section 1.3.3). For the assessment of teachers' counseling competence as well as the related dimensions, this approach firstly contains a scenario test. Scenario tests are considered to be an appropriate and effective method to measure competences in a standardized manner that is context specific and closely related to behavior. Such tests have often been applied to assess competences, even in the field of teacher education (Hedlund, Witt, Nebel, Ashford, & Sternberg, 2006; Klug, Bruder, Kelava, Spiel, & Schmitz, 2013; Rivard, Missiuna, Hanna, & Wishart, 2007). The scenario test contains a case study of a female student with learning difficulties whose mother

is seeking advice, followed by 12 open-ended questions concerning a potential counseling talk with the student's mother. These questions represent the 12 content variables of the four model dimensions. In order to transform participants' qualitative statements into quantitative data, a detailed rating system is used.

In addition to the scenario test, Bruder (2011) also developed and validated a Situational Judgment Test (SJT) for the assessment of teachers' counseling competence. As SJTs have been shown to have substantial criterion-related validities for the criterion of job performance (McDaniel, Morgeson, Finnegan, Campion, & Braverman, 2001), the author considered the SJT approach to be a promising method for measuring teachers' counseling competence in a behavior-based manner. On the basis of Bruder's (2011) four-dimensional model of higher track secondary school teachers' counseling competence, the author developed 13 items, each including a short, realistic, and relevant counseling situation, in which a specific behavior is requested followed by four multiple-choice answer options presenting a range of possible activities. The participant is asked to choose the best and worst possible activities. In a subsequent study, Bruder, Keller, Klug, and Schmitz (2011) additionally established a short test form of the SJT including 6 of the original 13 items.

For the assessment of the three predictor variables knowledge of counseling and learning strategies, professional self-concept as a counselor, and reflected experience (Klug et al., 2012), Bruder (2011) developed a multiple-choice test and a self-assessment questionnaire. The multiple-choice test aims to measure teachers' knowledge of counseling and learning strategies and consists of nine closed-ended questions with four possible answers each. These nine items include four items for assessing professional counseling knowledge (e.g., "What are the advantages of the active listening technique in a counseling talk?") and five items for measuring specific learning strategy knowledge (e.g., "Which possibilities does a student have to motivate himself/herself while studying?"). Participants are requested to choose the best answer or answers (the latter in the case that multiple answers were allowed, which was noted next to the respective item). The self-assessment questionnaire was constructed for the assessment of teachers' professional self-concept as a counselor and reflected experience. Participants are requested to respond to 22 items on a six-point rating scale ranging from 1 (*I completely disagree*) to 6 (*I completely agree*). 17 items assess professional self-concept, whereas five items measure reflected experience.

1.5.3   Behavior-Based Assessment of Counseling Competence

Paper-pencil assessments such as the aforementioned scenario test and the SJT (Bruder, 2011) constitute useful instruments for the measurement of teachers'

counseling competence. However, it is particularly important to note that both instruments actually measure how teachers would act in a counseling talk when guided to some extent by specific questions. In real counseling talks, teachers have no such guidance. Therefore, a central aim of current research on teacher competences, in general, as well as teachers' counseling or conversational competence, in particular, is the development of behavior-based instruments, for example, direct performance observation in concrete and realistic application situations (Kane, 1992).

As already demonstrated by Hertel (2009), a promising alternative is the observation of participants' performance in videotaped simulated parent-teacher talks in the form of role-playings with standardized parents. This approach appears to be suitable, as the level of counseling competence measured in role-play situations has already been shown to largely correspond to the level of counseling competence demonstrated in real counseling talks (Gallagher & Hargie, 1989). Moreover, because video recording represents an appropriate and valid strategy for the simultaneous assessment of multifaceted pedagogical skills, especially in the field of counseling (e.g., Admiraal, Hoeksma, van de Kamp, & van Duin, 2011; Huhra, Yamokoski-Maynhart, & Prieto, 2008), this method also appears appropriate for measuring teachers' counseling competence in simulated parent-teacher talks on the support of students' learning processes.

A well-validated standardized performance observation approach for the assessment of teachers' conversational skills in parent-teacher talks was established by Dotger and colleagues (Dotger et al., 2010; Dotger et al., 2008) within the framework of the Simulated Interaction Model (SIM) (see section 1.4.3). As outlined above, the SIM was initially developed as an intervention for enhancing prospective teachers' conversational skills in parent-teacher talks. However, in a subsequent study, Walker and Dotger (2012) utilized the videotaped SIM simulations as video vignettes to measure prospective teachers' conversational skills. Participants were presented two video vignettes, which functioned as models of effective and less-effective teacher-parent communication, as well as the underlying background information. After reading the background information of the specific situation, participants were asked what they would do to make the talk successful, what strategies they would use, and what questions they would ask if they were the teacher in this situation. Subsequently, candidates watched the two videos that involved two different teacher models interacting with the same standardized parent and evaluated the teachers' performance along several dimensions derived from expert opinion. In addition, candidates were asked to choose which model performed better. Although Walker and Dotger (2012) used simulated parent-teacher talks, participants' conversation competences were not assessed via participants' own behavior in the specific situation. Instead, participants' conversational competences were measured by means of participants'

theoretical descriptions of how they would act in the given situation as well as their ratings of the conversational skills demonstrated by the teacher models.

A first highly-standardized attempt at the actual measurement of prospective teachers' own behavior in simulated parent-teacher conversations was introduced by Wiesbeck, Bauer, Gartmeier, and Prenzel (2013). Using a similar approach as that by Dotger and colleagues, the authors aimed to assess prospective teachers' communicative competence in parent-teacher conversations by means of videotaped simulations with standardized parents. For the evaluation of the videotaped conversations, a detailed rating system was applied that was based on the study's underlying Munich model of communicative competence in parent-teacher conversation (Gartmeier et al., 2011; see section 1.3.1), which comprises the three competence facets interpersonal relationship, problem solving, and structuring of the conversation.

1.6   Purpose of the Thesis

On the basis of the current state of research outlined above, this doctoral thesis aims to contribute to fill several existing research gaps concerning the (1) modeling, (2) improvement through intervention, and (3) behavior-based assessment of teachers' counseling competence in parent-teacher talks on the support of students' learning processes. For this purpose, three major studies were conducted.

Regarding the modeling of teachers' counseling competence, Bruder (2011) and Klug et al. (2012) have already provided several important findings (see section 1.3.3 and 1.3.4). However, as the specification of the four competence dimensions as well as the postulation of the three predictor variables is based solely on samples of teachers working in higher track secondary education (*Gymnasium*), a model that is valid for the entire population of primary and secondary school teachers (*Grundschule, Haupt-/Realschule, Gymnasium*) is still lacking. As teachers working in different school types may be confronted with different needs and difficulties on the part of both students and parents in their counseling talks (Clark & Breman, 2009; Hertel et al., 2013; Lee, 2005), these external factors may have an influence on the development of teachers' counseling competence. Therefore, the first central aim of this doctoral thesis (Study 1) was to address this research gap by examining the factorial structure of primary and secondary school teachers' counseling competence as well as identifying specific predictor variables. To do so, it was tested whether Bruder and colleagues' dimensions and predictors can be generalized to the entire population of teachers working in primary and secondary education or whether a respecification is necessary.

In this context, with reference to comparative research on the examined school types, additional investigations focused on potential differences concerning the level of teachers' counseling competence, the related dimensions, and predictor variables between the diverse school types. In Germany, for example, research on parent counseling and parental involvement (cf., data collected in the context of the Program for International Student Assessment [PISA], 2009) indicates that teachers' supply and parents' demand for counseling talks vary as a function of the respective school type (Hertel et al., 2013; Oswald, Baker, & Stevenson, 1988). Furthermore, studies on teacher education show differences regarding the share of educational and psychological curriculum content – including student and parent counseling. These sources indicate a greater proportion of preparation programs for primary and lower track secondary school teachers than for teachers working in higher track secondary education (Döbrich et al., 2003). Based on this research, it was hypothesized that teachers working in primary and lower track secondary education (*Grundschule, Haupt-/Realschule*) possess superior counseling competence and demonstrate greater values regarding the related predictor variables than teachers working in higher track secondary education (*Gymnasium*).

In order to meet the growing demand for specific programs and curricular modules to foster teachers' counseling competence (National Commission on Teaching and America's Future, 1997; Standing Conference of the Ministers of Education and Cultural Affairs of the States in the Federal Republic of Germany, 2004; Valli & Rennert-Ariev, 2000), particularly in early teacher preparation (Dotger, 2010; German Society for Psychology, 2008; see section 1.4.1), an additional central aim of this doctoral thesis was the development and evaluation of several interventions for the improvement of teachers' counseling competence, the related dimensions, and predictor variables (Study 2). On the basis of the methodical recommendations extracted from current research on competence development in teacher education outlined above (see section 1.4.2), a training program for prospective teachers was developed and evaluated. With reference to the inconsistent findings of the few intervention studies on the improvement of teachers' counseling or communicative competence (see section 1.4.3), several training conditions were examined in order to further investigate the beneficial effects of active learning, reflection, and individual process-oriented feedback on the development of teachers' counseling competence.

In addition, the beneficial effects of participating in simulated parent-teacher talks with standardized parents on the development of prospective teachers' counseling competence were examined in this doctoral thesis (Study 3). As this approach has already been shown to be effective in terms of improving prospective teachers' general conversational skills in parent-teacher talks (Dotger et al., 2010; Dotger et al., 2008), participation in the simulated parent-teacher talks

was expected to lead to an increase in participants' counseling competence as well as the related dimensions and predictor variables identified in Study 1.

The scenario test and the Situational Judgment Test for the assessment of teachers' counseling competence established by Bruder (2011; see section 1.5.2) represent objective and economic strategies for the itemized measurement of this central teacher competence. Nevertheless, as already discussed above, neither instrument is suitable for the assessment of teachers' actual behavior. Therefore, the third central aim of this doctoral thesis was the development and validation of a behavior-based instrument for the assessment of teachers' counseling competence (Study 3). In the same style of the instruments introduced by Dotger and colleagues (Dotger et al., 2010; Dotger et al., 2008) and Wiesbeck et al. (2013) for the assessment of teachers' conversational skills (see section 1.5.3), we developed and validated an instrument based on observations of participants' performance in videotaped simulated parent-teacher counseling talks in the form of role-playings with standardized parents. Here, we aimed to develop an instrument for the longitudinal assessment of changes in teachers' counseling competence due to specific interventions to allow for its application in the evaluation of specific teacher training programs on counseling.

In conclusion, the three studies conducted within the framework of the doctoral thesis pursued the following overarching objectives:

Study 1:
(a)   Examination of the factorial structure of primary and secondary school teachers' counseling competence;
(b)   Identification of specific predictor variables of primary and secondary school teachers' counseling competence;
(c)   Investigation of potential differences between primary and lower track secondary school teachers to higher track secondary school teachers concerning the level of counseling competence and related predictor variables.

Study 2:
(d)   Development and evaluation of a training program including active learning and reflection for the improvement of teachers' counseling competence and related predictor variables;
(e)   Development and evaluation of a process-oriented feedback intervention for the improvement of teachers' counseling competence and related predictor variables.

Study 3:

(f)   Development and validation of a behavior-based instrument including counseling talk simulations with standardized parents for the longitudinal assessment of changes in teachers' counseling competence due to specific interventions;

(g)   Evaluation of the participation in the counseling talk simulations as an intervention for the improvement of teachers' counseling competence and related predictor variables.

An overview of the research subjects of the three studies as well as their relations is depicted in Figure 1.4.
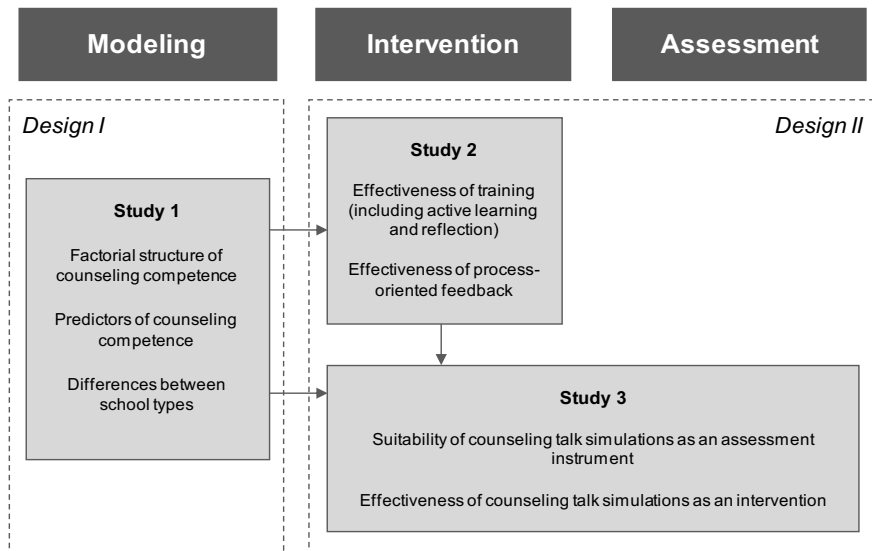
Figure 1.4. Overview of the research subjects and relations of the studies included in the doctoral thesis.

2 Thesis overview

2.1 Study 1

2.1.1 Purpose

The aims of Study 1 were to (1) examine the factorial structure of teachers' counseling competence and (2) identify specific predictor variables valid for the entire population of primary and secondary school teachers (*Grundschule, Haupt-/Realschule, Gymnasium*). Additional investigations focused on (3) the examination of potential differences concerning the level of teachers' counseling competence and related predictor variables between the examined school types.

Concerning the first aim of the study, the generalizability of Bruder's (2011) four-dimensional model (with the dimensions counseling skills, diagnostic and pedagogical knowledge, collaboration and perspective taking, and coping) valid for higher track secondary school teachers (*Gymnasium*) to the entire population of teachers working in primary and secondary education was examined. As counseling is frequently conceptualized as a process in the literature (e.g., McLeod, 2003; Strasser & Gruber, 2003; Waehler & Lenox, 2011), an alternative model structure (with the dimensions communication skills, diagnostic skills, problem-solving skills, and coping skills) that gives more consideration to the process character of a counseling talk was tested. Furthermore, because Bruder (2011) only tested a first-order factorial model, a second-order factorial model that includes counseling competence as a superior factor of the identified dimensions was also tested.

With regard to the second aim of the study, the generalizability of the predictor variables of higher track secondary school teachers' counseling competence (knowledge, professional self-concept, and reflected experience) postulated by Bruder (2011) and Klug et al. (2012) to the examined population was investigated. In this context, the impact of an additional predictor variable – counseling experience as a superior construct of reflected experience – on the degree and development of teachers' counseling competence was also examined, as not only

the reflection of experienced action but also the amount and additional characteristics of practical experience, for example, professional exchange with colleagues (Lichtenberg, 1997; McLaughlin, 1999; Zorga, 2002), appear to be relevant for the development of counseling competence.

Corresponding to the third aim of the study, potential differences concerning the level of teachers' counseling competence and related predictor variables between the examined school types were investigated. Comparative research on teacher education indicates certain differences regarding the share of educational and psychological curriculum content (including content on counseling) for the three examined subgroups in favor of primary and lower track secondary school teachers (e.g., Döbrich et al. 2003). Therefore, it was hypothesized that primary and lower track secondary school teachers (*Grundschule, Haupt-/Realschule*) possess superior counseling competence and demonstrate greater values regarding relevant predictor variables than higher track secondary school teachers (*Gymnasium*).

2.1.2 Method

Cross-sectional data from 357 teachers – 132 primary school teachers, 129 lower track secondary school teachers*,* and 96 higher track secondary school teachers – from approximately 70 schools in the German federal states of Hesse and Baden-Württemberg were analyzed. For the measurement of participants' counseling competence and related predictor variables, a revised version of the multi-method approach developed and validated by Bruder (2011), consisting of a scenario test, a multiple-choice test, and a self-assessment questionnaire (see section 1.5.2), was applied.

To examine the research questions, structural equation modeling with the software package MPlus Version 6.1 as well as analyses of variance with the software package SPSS Statistics Version 22 were performed. To test the factorial validity of both Bruder's (2011) model and the re-specified, process-oriented model for the sample investigated in the study, confirmatory factor analyses (CFA) based on the 12 items of the scenario test were conducted. In addition to this examination of the proposed factor structure on a first-order level, the existence of a second-order factor representing overall counseling competence was also tested. In order to investigate the relationships between the proposed predictor variables and counseling competence, the variables knowledge, professional self-concept, reflected experience, and experience were integrated into the model as manifest variables that predict counseling competence. Finally, for the examination of potential group differences between teachers working in primary education, lower track secondary education, and higher track secondary education, a MANOVA was conducted.

2.1.3 Results

The confirmatory factor analyses revealed that the factorial structure of teachers' counseling competence observed by Bruder (2011) for teachers working in higher track secondary education was not generalizable to the broader sample of primary and secondary school teachers. Instead, the re-specified, process-oriented factorial structure appeared to be suitable for the current sample. Moreover, the specified four dimensions could be subordinated to a second-order factor representing overall counseling competence. Because the inter-correlations between the first-order dimensions were rather large, an additional CFA for the examination of the appropriateness of a first-order, single-factor model compared with the new, four-dimensional model was conducted. Analyses clearly demonstrated that a first-order, single factor model was not compatible with the data.

After including the proposed predictor variables, the model showed a satisfactory fit to the data. However, there was no relation between reflected experience and counseling competence, whereas knowledge, professional self-concept, and experience (as a superior construct of reflected experience) were positively related to counseling competence. Therefore, the model was re-tested after eliminating reflected experience, which resulted in satisfactory model fit for the final model. In summary, the final three predictor variables explained 15 % of variance in counseling competence, whereby knowledge possessed the strongest predictive value.

Contrary to the expectations, the MANOVA investigating potential group differences between the examined subsamples revealed no significantly greater values for primary and lower track secondary school teachers than higher track secondary school teachers concerning overall counseling competence, three competence dimensions, and two predictor variables. However, concerning the dimension communication skills and the predictor variable professional self-concept, analyses revealed significantly lower values in higher track secondary school teachers than in the other two subgroups. In addition, results generally indicated a rather low overall level of counseling competence for all three subgroups.

2.1.4 Conclusions

The results of Study 1 revealed similarities but also substantial differences in the internal structure and predictability of counseling competence in higher track secondary school teachers and the broader population of teachers working in primary and secondary education. Consequently, in order to establish a model that is valid for the entire population of primary and secondary school teachers, the model structure and predictor variables (Bruder, 2011; Klug et al., 2012)

were re-specified. This resulted in a four-dimensional model that reflects the process-character of parent counseling and includes three predictor variables of counseling competence. The refutation of the appropriateness of a first-order, single factor model compared with the new four-dimensional model confirmed that teachers' counseling competence in parent-teacher talks on the support of students' learning processes is composed of several competence areas that can be present to differing degrees. However, analyses demonstrated that these competence areas could be subordinated to a second-order factor representing overall counseling competence. Possible explanations for the different model structures may be found in the differences in teacher education for the three examined subgroups outlined above (e.g., Döbrich et al., 2003). Consequently, it is conceivable that these differences have an influence on the general understanding of parent counseling as well as the internal structure of counseling competence. However, for economic and practical reasons, it does not seem expedient to specify a separate model for every subgroup; instead a shared model for the entire population of primary and secondary school teachers appears to be sufficient.

With regard to the models' practical relevance, it allows for the elaboration of effective teacher education programs on counseling parents with regard to the support of students' learning processes, as it includes the most important skills that teachers should possess within this specific domain. In this context, the rather low levels of participants' counseling competence that were observed in the study indicate a growing need for such teacher education programs, which is in line with international research on teacher education (e.g., German Society for Psychology, 2008; National Commission on Teaching and America's Future, 1997). In particular, programs for higher track secondary school teachers should focus on the development of participants' communication skills as well as participants' professional self-concept as counselors, as analyses revealed significantly lower values on these variables in comparison to participants in primary and lower track secondary education.

2.2   Study 2

2.2.1 Purpose

Within the field of teachers' counseling competence, there is a growing demand for specific programs to foster prospective and in-service teachers' counseling competence in parent-teacher talks (e.g., German Society for Psychology, 2008; National Commission on Teaching and America's Future, 1997). The purpose of

Study 2 was to address this demand by developing, implementing, and evaluating a university training program for prospective teachers on counseling parents regarding the support of students' learning processes. In accordance with methodical recommendations for the long-term development of teacher competences, the training program comprised large sequences of active learning and reflection (e.g., Ball & Forzani, 2009; Watts & Lawson, 2009). In addition, a process-oriented feedback intervention was implemented as feedback has been shown to be effective in the education of teachers and counselors (Copland, 2010; Lambert et al., 2002; McLeod, 2003; Wade, 1985). The development and evaluation of the training program and the feedback intervention were based on the model of teachers' counseling competence established in Study 1. It was hypothesized, that both participation in the training program and receiving the feedback intervention would lead to significant increases in prospective teachers' overall counseling competence, the four competence dimensions (communication skills, diagnostic skills, problem-solving skills, coping skills), and the predictor variables of counseling competence (knowledge, professional self-concept, experience). Moreover, considerable increases in participants' confidence regarding counseling tasks in their future professional routines as well as their self-assessed competence improvement due to their participation in the training program were expected.

2.2.2 Method

The study took place at a university in the German federal state of Hesse within the scope of an optional training module on educational psychology for prospective teachers. Data of 71 prospective teachers were analyzed.

A quasi-experimental design combining pre-, post-, and follow-up test measures with time-series data was implemented. It comprised three experimental conditions: a training condition (experimental group 1), a training + feedback condition (experimental group 2), and a control condition (control group). After completing a pretest, experimental groups 1 and 2 participated in the training program on counseling consisting of nine weekly sessions of 100 minutes each. The control group participated in an alternative compulsory course on educational psychology, which did not include content concerning educational counseling. At the end of the training period, participants in all experimental conditions completed a posttest. Directly following both the pretest and posttest, participants in experimental group 2 additionally received individual written feedback regarding their current level of counseling competence based on their respective results in the pretest and the posttest. Participants in the two experimental groups completed a follow-up test eight weeks after the posttest. In addition to the pre-, post-, and follow-up test measures, time-series data from the

experimental groups were collected during the entire training period by means of weekly standardized diaries.

For the pre-, post-, and follow-up assessments, the multi-method approach by Bruder (2011) was applied. In addition to counseling competence as well as the related dimensions and predictor variables, participants' confidence regarding counseling tasks in their future professional routines was measured. Moreover, participants' self-assessed competence improvement due to their participation in the training program was measured in the follow-up test. The time-series data were collected by means of a self-assessment questionnaire included in standardized diaries, which the participants in the experimental groups completed once a week during the training period. The questionnaire included several closed-ended items that were selected from the self-assessment questionnaire applied in the pre-, post-, and follow-up tests.

Data analyses were performed using the software package SPSS Statistics Version 22. In order to investigate the intervention effects of the training program and the individual process-oriented feedback as well as their stability beyond the end of the training period, multivariate repeated measures MANOVAs were performed. In addition, cross-sectional comparisons of the two intervention groups concerning participants' concluding appraisal of their individual competence improvement due to participation in the training program inquired in the follow-up test were conducted. For the participants in the two experimental groups, additional time-series analyses based on the self-assessment data obtained in the standardized diaries were conducted. In order to examine the manifestation of the pre-post findings in specific development processes of the dependent variables over the intervention period, both linear and quadratic regression models were tested.

2.2.3   Results

As hypothesized, analyses revealed that prospective teachers who participated in the training program showed significantly greater pre-post increases in counseling competence as well as the related dimensions and predictor variables than prospective teachers who did not participate in the training. Moreover, a significantly greater increase was found for prospective teachers' confidence regarding counseling tasks in their future professional routines due to their university education. Participants that additionally received individual process-oriented feedback on their pretest results showed a significantly greater pre-post increase in the overall score of counseling competence and the dimension communication skills than those who only participated in the training program. Concerning the other examined dependent variables, analyses did not reveal any additional significant effects of the feedback intervention.

Almost all observed intervention effects, particularly the improvement of participants' overall counseling competence, were stable until the follow-up test. The follow-up test measures, moreover, illustrated that participants in both intervention groups retrospectively assessed their individual competence improvement due to participation in the training program as being high. Furthermore, prospective teachers who received the additional process-oriented feedback rated their competence improvement to be greater than those who only participated in the training program.

Regression analyses on the basis of the time-series data confirmed the results of the pre-post comparisons for most of the observed dependent variables.

2.2.4   Conclusions

The results of the study demonstrate that prospective teachers' counseling competence, knowledge of counseling and learning strategies, professional self-concept as a counselor, counseling experience, and confidence in view of parent counseling talks in future professional routines can be successfully fostered by means of effective teacher education programs. Given the current insufficient consideration of counseling competence in the context of teacher education, corresponding curricula on this important topic should become a fixed component in early teacher preparation as well as continuing education. In this context, the training program outlined above could serve as a first step in the development of such programs, especially as its development and evaluation were based on the empirical validated model established in Study 1, which includes the most important skills that teachers should possess in parent counseling on the support of students' learning processes. In addition to the elaboration of educational programs on general counseling competence, the multi-method assessment approach (Bruder, 2011) utilized in the current study could be applied for the determination of individual needs of specific target groups as well as the corresponding tailor-made selection of the training content. In both cases, the respective training programs should include large sequences of active and reflective learning, in particular, as this has been shown to have a positive effect on participants' actual and perceived competence improvement in the current study.

Moreover, findings indicate an additional beneficial impact of providing individual process-oriented feedback on participants' competence development. However, as the feedback intervention did not cause an additional increase in all dependent variables, further investigations are necessary that test individual feedback's effectiveness, for example, by examining its positive impact on teachers' counseling competence independent of the outlined training program. Moreover, future research should also focus on the improvement of the feedback intervention, for example, by including specific reflection or goal setting as-

signments following the feedback (Anseel et al., 2009; Locke & Latham, 1990; Rakoczy et al., 2013; Seibert, 1999).

2.3 Study 3

2.3.1 Purpose

Although the current state of research clearly emphasizes the prominent role of teachers' counseling competence in the development of high quality educational processes, few studies have been performed on the development of appropriate approaches for the assessment of teachers' counseling competence. In particular, behavior-based instruments, for example, direct performance observation in concrete and realistic application situations have yet to be developed.

Consequently, the first research aim of Study 3 was to develop and validate a behavior-based instrument for the assessment of teachers' counseling competence in the form of videotaped counseling talk simulations with standardized parents. The development of the instrument was based on the model of teachers' counseling competence established in Study 1. In order to utilize the instrument for the evaluation of specific teacher training programs on counseling, an instrument for the longitudinal assessment of changes in teachers' counseling competence as well as the related dimensions due to specific interventions was striven for.

As the beneficial effects of practicing professional skills in concrete case-based application requirements has been demonstrated in research on competence development (e.g., Grossmann, 2005; Kolodner et al., 2003), the second purpose of the study was to examine whether participation in the counseling talk simulations could serve as an intervention for the improvement of prospective teachers' counseling competence as well as the related dimensions and predictors within the context of teacher preparation.

2.3.2 Method

Within the framework of the development of the instrument, specific case examples of hypothetical students with certain difficulties in learning that are supposedly causing a decline in their achievement were constructed. In addition, detailed written instructional materials for the participating teachers as well as the simulated parents portrayed by well-trained actors were developed. In order to analyze the participants' professional performance in the counseling talk simula-

tions, an extensive rating system based on the model of teachers' counseling competence established in Study 1 was developed.

The examinations were carried out within the scope of the longitudinal study on the effects of the outlined training program and the feedback intervention on prospective teachers' counseling competence (Study 2). Two experimental groups with a total of 51 prospective teachers were observed. Both participated in the training program on counseling competence and completed the paper-pencil pre- and posttest outlined in Study 2. Experimental group 1 additionally participated in the counseling talk simulations both before and after receiving the training intervention (simulation pre- and posttest).

Data analyses were performed using the software package SPSS Statistics Version 22. In order to validate the counseling talk simulations as an instrument for assessing changes in prospective teachers' counseling competence due to the training intervention, pre- and posttest data of the experimental group 1 gained from the simulations were compared with the pre- and posttest values in the scenario test included in the paper-pencil survey. For this, multivariate repeated measures MANOVAs with the within-subjects factor time (pretest, posttest) for the simulation data and scenario test data of experimental group 1 were performed. Subsequently, the results received from both instruments for each dependent variable were compared.

In order to investigate the suitability of the counseling talk simulations as an intervention for improving prospective teachers' counseling competence and the related predictor variables, an additional multivariate repeated measures MANOVA for the scenario test data of the experimental groups 1 and 2 with the between-subjects factor group (EG1, EG2) and the within-subjects factor time (pretest, posttest) was conducted.

2.3.3   Results

As to the question whether the counseling talk simulations could serve as an assessment instrument, the repeated measures MANOVAs revealed consistent results for both the scenario test and the counseling talk simulations with regard to participants' overall counseling competence as well as the dimensions communication skills, diagnostic skills, and problem-solving skills. In contrast to the hypothesis, analyses revealed different results concerning the coping skills dimension.

Regarding the verification of the simulations as an intervention, the multivariate repeated measures MANOVA for the scenario test data of the experimental groups 1 and 2 resulted in a significant overall interaction effect for group * time. Closer inspection revealed significant effects with large to medium

effect sizes (Cohen, 1988) of participation in the counseling talk simulations on prospective teachers' overall counseling competence, the dimensions problem-solving skills and coping skills, as well as the predictor variables knowledge and professional self-concept. For the dimensions communication skills and diagnostic skills as well as counseling experience, analyses did not reveal significant intervention effects.

2.3.4 Conclusions

By means of the outlined analyses, the counseling talk simulations turned out to be an appropriate instrument for the measurement of changes in prospective teachers' counseling competence due to specific interventions on an overall level as well as subdivided into the related dimensions. This conclusion is drawn in view of the consistency of the intervention effects measured both by means of the counseling talk simulations and with the already established scenario test for the assessment of teachers' counseling competence (Bruder, 2011). Nevertheless, future research should focus on the continuing optimization of the instrument, particularly regarding the competence dimension coping skills, as measures of this dimension obtained with the two instruments differed.

Although the counseling talk simulations were shown to be suitable for the assessment of teachers' counseling competence in the current study, their application requires extensive resources. Therefore, the scenario test still appears to be the method of choice for studies with large sample sizes, as it allows for the context specific and standardized measurement of teachers' counseling competence in a highly economical manner (cf., Hedlund et al., 2006). However, the counseling talk simulations may be used as a didactical tool within the framework of teacher education programs on counseling with smaller numbers of participants. As the results of the current study show, the exposure to realistic and complex application situations allows prospective teachers to practice and refine their professional counseling competences. Furthermore, viewing the videotapes of their own counseling behavior within the framework of the simulated parent-teacher talks provide prospective teachers the opportunity to conduct detailed self-evaluations and reflect on multiple aspects of their professional performance (e.g., Tripp & Rich, 2012; Zhang, Lundeberg, Koehler, & Eberhardt, 2011). However, not only the individual participant but also the entire learning group could benefit from the collaborative analysis of the simulation videos, as the viewing of video cases has been shown to be a powerful instructional tool in developing teacher competences (e.g., Brophy, 2004; Yadav, 2008).

3 General Discussion

3.1 Summary of Results

The first central purpose of this doctoral thesis was the examination of the internal structure of primary and secondary school teachers' (*Grundschule, Haupt-/Realschule, Gymnasium*) counseling competence in parent-teacher talks on the support of students' learning processes (Study 1). Moreover, specific predictor variables of teachers' counseling competence as well as potential differences between the examined school types concerning the level of teachers' counseling competence were supposed to be identified. The examination of the internal structure as well as the identification of potential predictor variables of teachers' counseling competence were based on findings of Bruder (2011) and Klug et al. (2012), which are valid for the subgroup of higher track secondary school teachers (*Gymnasium*). 357 teachers participated in the study. Using structural equation modeling, a process-oriented, second-order, four-dimensional model that describes the internal structure of teachers' counseling competence in terms of specific skills and abilities was established. The final dimensions were communication skills, diagnostic skills, problem-solving skills, and coping skills. The refutation of the appropriateness of a first-order, single factor model compared with the new four-dimensional model confirmed that teachers' counseling competence in parent-teacher talks on the support of students' learning processes is composed of several competence areas that can be present to differing degrees. However, analyses demonstrated that these competence areas could be subordinated to a second-order factor representing overall counseling competence. By examining the existence of specific variables that predict the level and development of teachers' counseling competence, three predictor variables (knowledge of counseling and learning strategies, professional self-concept as a counselor, and experience in counseling) were identified. With regard to the examination of potential group differences, analyses showed significantly lower values for higher track secondary school teachers (*Gymnasium*) than primary and lower track secondary school teachers (*Grundschule, Haupt-/Realschule*) regarding the di-

mension communication skills as well as the predictor variable professional self-concept. In general, analyses revealed that all three subgroups showed a rather low level of counseling competence for all three subgroups.

The second purpose of this doctoral thesis was to develop and evaluate specific interventions for the improvement of teachers' counseling competence as well as the related dimensions and predictor variables identified in Study 1. For this purpose, a training program as well as an individual feedback intervention for prospective teachers based on the four-dimensional competence model were designed and verified concerning their effectiveness in Study 2. The training program comprised large sequences of active learning and reflection, whereas the feedback was particularly characterized by its process orientation. Data of 71 prospective teachers, who participated in the longitudinal study with pre-, post-, follow-up, and time-series assessments, were analyzed by means of multivariate repeated measures MANOVAs and time-series analyses. Results substantiated the suitability of the training program for the enhancement of prospective teachers' counseling competence and the related dimensions. Moreover, participants' knowledge of counseling and learning strategies, professional self-concept as a counselor, counseling experience, and confidence in view of parent counseling talks in their future professional routines showed significant increases. Also, the individual feedback intervention was shown to be an appropriate and helpful tool for the development of prospective teachers' overall counseling competence and the dimension communication skills.

In Study 3, the beneficial effects of participating in simulated parent-teacher talks with standardized parents on the development of prospective teachers' counseling competence as well as the related dimensions and predictor variables were examined. The study was carried out within the scope of the above described longitudinal study on the effects of training and feedback on prospective teachers' counseling competence (Study 2). Pre- and posttest data of 51 prospective teachers were analyzed using a multivariate repeated measures MANOVA. Analyses revealed significant intervention effects for prospective teachers' overall counseling competence, the competence dimensions problem-solving skills and coping skills, as well as the predictor variables knowledge and professional self-concept. Consequently, the results indicate that participation in counseling talk simulations with standardized parents represents another possibility besides the training program and the feedback intervention developed and evaluated in Study 2 to enhance prospective teachers' counseling competence.

The third central aim of the thesis was to develop a behavior-based instrument for the assessment of teachers' counseling competence. To do so, the aforementioned counseling talk simulation approach with standardized parents (Study 3) was examined regarding its appropriateness not only as an intervention but also as an instrument for the assessment of changes in prospective teachers'

counseling competence due to specific interventions – in this case the training program. Multivariate repeated measures MANOVAs were conducted on the basis of pre- and posttest data acquired by means of the simulations and an already established scenario test. Afterwards, the respective improvements assessed by means of both instruments were compared. The significant improvements in participants' counseling competence and the related dimensions due to the training program measured by means of the scenario test were predominantly reflected in the simulation data. Consequently, the counseling talk simulations were suitable for the measurement of changes in prospective teachers' counseling competence due to specific interventions on an overall level as well as subdivided into the related dimensions.

3.2 Limitations and Future Research Perspectives

This doctoral thesis addresses a research area that has received little attention in educational research – the counseling competence of teachers in parent-teacher talks on the support of students' learning processes. Consequently, the outlined studies represent initial approaches to close several existing research gaps in this field. Although the outlined findings provide many important insights, they are associated with some limitations; in addition, there is still considerable need for future research in this area.

3.2.1 Modeling

An important limitation of Study 1 on the modeling of teachers' counseling competence concerns the rather low factor loadings of the components of the final four counseling competence dimensions (first-order factors). Although the current model already provides important contributions for the differentiated description of teachers' counseling competence in terms of specific skills and abilities, the factor loadings must be focused in the context of subsequent research efforts. With regard to the prediction of teachers' counseling competence, the three determined predictor variables explained only 15 % of the variance in counseling competence. Thus, there must be additional factors that have a substantial influence on the level and development of teachers' counseling competence beyond knowledge, professional self-concept, and experience. Consequently, identifying additional factors that have an influence on teachers' counseling competence as well as determining their degree of predictive validity should be a central aim of future research in the area of teachers' counseling competence.

Another limitation regarding the identification of predictor variables in the current study concerns the applied cross-sectional design. As the prediction of counseling competence in the current model is based on correlations, causal relationships cannot be determined. Thus, longitudinal data are necessary to provide evidence for the causal direction of the relationships between counseling competence and the predictors specified in the model. However, despite the cross-sectional design of the current study, hypothesis-based data analysis using structural equation modeling is a promising first step in determining causality between counseling competence and the related predictor variables.

An additional limitation pertains to the representativeness of the examined sample for the entire population of teachers working in German primary and secondary education. Because participation in the study was voluntary, consideration must be given to the possibility that the participants who took part in the survey were more motivated than those who did not and, as a result, also superior in terms of counseling competence. Thus, subsequent research should test whether the outlined results can be reproduced in a study with obligatory participation. Using multigroup comparisons based on larger sample sizes, future research efforts should also investigate, whether the model structure varies as a function of specific subgroups, for example, teachers' sex, age, job tenure, or – in an international context – nationality. Moreover, the development of teachers' counseling competence and the related dimensions specified in the model in the course of a teacher's professional career remains to be explored. Finally, the examination of the transferability of the model structure to the context of counseling students on the support of their own learning processes constitutes a central research perspective.

3.2.2 Intervention

Concerning the interventions developed and evaluated within the framework of this doctoral thesis, there are also certain limitations as well as requirements for future research. By means of the longitudinal design comprising pre-, post-, and follow-up measures used in Study 2, it was possible to examine the effectiveness of the training program and feedback intervention as well as the stability of the intervention effects even beyond the end of the training period – i.e., eight weeks after the posttest. However, future investigations should strive for an additional, considerably later date of measurement – for example, when prospective teachers enter the profession – in order to further validate the long-term intervention effects. This also applies to the intervention effects of the counseling talk simulations with standardized parents investigated in Study 3.

Another limitation concerns the samples examined in Study 2 and 3. First, the samples were relatively small and, therefore, may not necessarily be generalizable to the entire population of prospective teachers. Second, due to the quasi-experimental design, it cannot be ruled out that the results were influenced by self-selection of the participants. Whereas the training program on counseling competence was carried out with students who attended an optional course on educational psychology (experimental groups), prospective teachers in the control group participated in an alternative compulsory course. Thus, the possibility has to be considered that the prospective teachers who took part in the optional course were more motivated than those who did not, which might have had an influence on the results. As a consequence, future research should test whether the results of Study 2 and 3 can be reproduced in a study with random assignment to the experimental groups, preferably on the basis of larger sample sizes.

In this context, the current findings concerning the positive effects of the feedback intervention investigated in Study 2 might be re-tested by means of the implementation of an additional experimental group, in which participants receive individual process-oriented feedback but do not participate in the training program, in order to examine the effects of the feedback intervention independent of the training program. This seems appropriate, as analyses indicated significant positive effects of participation in the training program on all dependent variables (overall counseling competence, the dimensions and predictor variables) but not for the feedback intervention. Here, analyses revealed only significant effects on prospective teachers' overall counseling competence and the dimension communication skills. Whether these results might be explained by certain insufficiencies of the feedback intervention, on the one hand, or an overshadowing of the effects of the feedback intervention by the large effects of the training program, on the other, could be clarified by means of an additional experimental group that only receives the feedback intervention.

Future research might also address the additional positive effects of individual feedback on participants' performance in the counseling talk simulations carried out in Study 3. Just as in Study 2, the feedback should be based on the second-order, four-dimensional model of teachers' counseling competence established in Study 1 and highlight individual strengths as well as areas for improvement. Within the framework of the continuing improvement of the counseling talk simulations, continued efforts should also focus on the development of additional case scenarios with varying levels of complexity and various types of student and parent demands. This will allow for the coordination of the selected case scenarios' degree of difficulty with participants' individual competence levels as well as provide prospective teachers the opportunity to practice their counseling competences in increasingly demanding counseling situations. In addition, future research efforts should focus on the development and evaluation

of further interventions for the improvement of (prospective) teachers' counseling competence. For example, against the background of the growing demand for e-learning programs in the context of higher education and the findings of Gartmeier et al. (2015) on the effectiveness of e-learning on the development of teachers' communicative competence, the development of online trainings for prospective and in-service teachers based on the already proven training program could be a next step.

3.2.3 Behavior-Based Assessment

The findings of Study 3 concerning the suitability of the counseling talk simulations as an assessment instrument must also be viewed in light of several limitations that may be addressed in future studies. Firstly, although analyses revealed the appropriateness of the simulations as a behavior-based assessment instrument for most of the examined competence variables, they did not for the dimension coping skills. A possible reason for this is related to certain weaknesses of the applied rating system for the analysis of participants' coping skills within the simulations. Thus, future research should focus on the continuing optimization of the rating system, particularly regarding the competence dimension coping skills. Moreover, consideration should also be given to the extent of evoking socially desirable behavior in the course of the counseling talk simulations, which might especially have an influence on participants' presented coping skills (e.g., refrain from criticism).

Another limitation involves the laboratory character of the counseling talk simulations. Although the implementation of simulated parent-teacher talks allows for the observation of actual behavior in concrete, realistic application contexts, the simulations are still based on role-playing with standardized parents. Thus, with special regard to validation in the field, data collected by means of the counseling talk simulations may be compared with video recordings of real parent-teacher talks in teachers' professional routines.

Although the counseling talk simulations appear to be an appropriate instrument for the behavior-based assessment of prospective teachers' counseling competence, it is important to note that their application requires an extensive amount of resources. For this purpose, the utilized scenario test (Bruder, 2011) still appears to be the method of choice in the context of studies with large sample sizes, as it allows for the context specific and standardized measurement of teachers' counseling competence in a highly economical manner. However, future research should also focus on the continuing optimization of the scenario test.

3.3   Implications for Educational Practice

Although the findings of this doctoral thesis must be viewed in light of the outlined limitations, they already provide numerous important implications for educational practice, particularly in the context of teacher preparation and continuing education.

In the course of Study 1, analyses on the level of counseling competence of teachers working in primary and secondary education showed a rather low level of counseling competence for all three examined school types (*Grundschule, Haupt-/Realschule, Gymnasium*). These results are in line with findings of international educational research that indicates large deficits in teachers' competences concerning the counseling of students and parents (e.g., Hertel et al., 2013; Walker & Dotger, 2012; Wild 2003). Consequently, they emphasize the importance of integrating appropriate courses in teacher preparation as well as continuing education (e.g., German Society for Psychology, 2008; Hiatt-Michael, 2001; Krumm, 1996; Lawrence-Lightfoot, 2003). However, in order to develop effective corresponding educational programs, a profound empirical basis for the selection of specific contents and skills to be acquired is needed. By means of the establishment of the model of teachers' counseling competence in Study 1, such a basis was built. In this connection, the empirical verification of the appropriateness of a four-dimensional model instead of a first-order, single factor model confirmed that teachers' counseling competence is composed of several competence areas that can be present to differing degrees and enhanced independently from one another within the framework of appropriate educational programs. Moreover, the verification of the positive relations of knowledge, professional self-concept, and experience to the level and development of teachers' counseling competence indicates that even the improvement of these variables may lead to an increase in teachers' counseling competence. Consequently, the model provides a profound basis for the development and implementation of interventions on the improvement of counseling competence in general, but also for the design of precisely tailored interventions for different target groups focusing on specific subsidiary skills. In this context, the findings of Study 1 indicate that programs for higher track secondary school teachers (*Gymnasium*) should especially focus on the development of participants' communication skills as well as the development of their professional self-concept as counselors, as analyses revealed significantly lower values on those variables in contrast to their colleagues in primary and lower track secondary education (*Grundschule, Haupt-/Realschule*).

In order to differentially determine the individual requirements of specific target groups concerning the four dimensions of the competence model, the counseling talk simulations with standardized parents as well as the scenario test

can be utilized. Moreover, both instruments can be used for the systematic evaluation of the particular interventions. However, in case of both the determination of participants' individual needs before an intervention and its subsequent evaluation, the specific group sizes must be taken into consideration. The utilization of the counseling talk simulations in Study 3 was useful within the framework of intervention programs with rather small numbers of participants, as their application requires an extensive amount of resources. For intervention approaches with large group sizes, the scenario test still appears to be the method of choice, as it allows for the measurement of teachers' counseling competence in a highly economical manner (Hedlund et al., 2006). Here, the suitability of the scenario test for the assessment of teachers' counseling competence was again confirmed by the accordance of its measured values with the behavior-based measures ascertained by means of the simulations. In order to assess participants' levels of knowledge, professional self-concept, and experience, the knowledge test and the self-assessment questionnaire used in the current studies were appropriate in case of small as well as large group sizes.

The findings of Study 2 and 3 showed that there are several strategies and methods that have beneficial effects on the development of teachers' counseling competence and, therefore, should be implemented in corresponding intervention programs. First, the training program was a highly effective strategy to support participants in acquiring professional counseling competences. Here, one of the most important instructional features consisted of the large sequences of active learning and reflection (Caspersen, 2013; Huang et al., 2011; Sullivan & Rosin, 2008), particularly within the framework of extensive role-play exercises based on realistic case examples. Based on these results, an important implication for teacher preparation and continuing education concerns the comprehensive embedding of active and reflective learning in teacher training programs. This also applies for the repeated provision of individual feedback for learners, as this had an additional beneficial effect on the development of participants' overall counseling competence beyond the effects of the training program. This finding is in line with the current state of research on the positive impact of feedback on teachers' and counselors' professional development (Caspar, Berger, & Hautle, 2004; Copland, 2010; Lambert et al., 2002; Wade, 1985). The most important characteristic of the feedback intervention applied in Study 2 consisted in its process orientation, which thus should also be considered within the framework of developing additional feedback instruments for teacher education. The detailed description of participants' current level of counseling competence including information on individual strengths and weaknesses as well as explicit corresponding improvement strategies (Brown, 2004; Hattie & Timperley, 2007; Narciss, 2008) was beneficial in encouraging and guiding participants' learning efforts in the development of their counseling competence.

The findings of Study 3 identified the counseling talk simulations with standardized parents as another effective didactical tool, which can be successfully applied within the framework of future teacher education programs on counseling competence. As the results showed, the exposure to realistic and complex application situations allows participants to practice and refine their professional counseling competences, acquire professional knowledge of counseling, and develop a professional self-concept as a counselor. The application of the counseling talk simulations turned out to be helpful particularly in early teacher preparation, as prospective teachers typically do not have the opportunity to hold real parent-teacher talks. Within the framework of the simulations, participants are provided the opportunity to apply their theoretical knowledge in practical, realistic situations (Kolodner et al., 2003), while they are still under the care and guidance of the teacher education program.

In future teacher education programs including videotaped counseling talk simulations, the video recordings of the simulations should be provided to learners, as the viewing of the recordings gives participants the opportunity to conduct detailed self-evaluations and reflect on multiple aspects of their professional counseling performance (Tripp & Rich, 2012; Zhang et al., 2011). Here, in addition to watching and reflecting on the videotapes individually, prospective teachers might collaboratively watch and discuss their videos with peers in a learning group (Harford, MacRuairc, & McCartan, 2010; Zhang et al., 2011), as evidence-based feedback and suggestions for improvement from a discussion group or educators might encourage efforts for continuing professional development (Tripp & Rich, 2012). Moreover, the whole learning group can benefit from jointly watching the videos of their colleagues, as participants can learn about effective professional practice by observing the successes and struggles of others taking part in the simulations and the subsequent self-evaluation of their own practice (Hatch & Grossman, 2009; Masingila & Doerr, 2002). This has been demonstrated for teacher competences (Brophy, 2004; Yadav, 2008) as well as skills relevant to communicating with parents, in particular (Walker & Dotger, 2012).

II   Original Manuscripts

4   Study 1

4.1   Manuscript A: What Skills and Abilities Are Essential for Counseling on Learning Difficulties and Learning Strategies? Modeling Teachers' Counseling Competence in Parent-Teacher Talks Measured by Means of a Scenario Test [1]

Abstract

Counseling parents in supporting their children's learning processes is increasingly emphasized in research on parental involvement and teacher professionalization as a central task of teachers. However, to date there have been few approaches of developing theoretical or psychometric models that describe the internal structure of teachers' counseling competence in terms of specific skills and abilities as well as of explaining inter-individual differences. The purpose of the current study was to establish a model of teachers' counseling competence in parent-teacher talks concerning students' learning difficulties and learning strategies. In all, 357 teachers participated in the study, which was conducted by means of a scenario test. Structural equation modeling revealed the appropriate-

ness of a second-order, four-dimensional model. Results provide numerous implications for teacher education and future research on teacher professionalization.

4.1.1 Introduction

According to research on students' academic development, parental support plays an increasingly important role in students' learning processes as well as in their social, emotional, and behavioral adjustment (Cox, 2005; Pomerantz, Moorman, & Litwack, 2007). Especially home-based involvement practices, such as providing assistance with homework, enhancing motivation, and structuring time for homework and leisure, have been shown to improve academic achievement and performance (Fan & Chen, 2001; Henderson & Mapp, 2002). However, parents often feel insecure in supporting their children in homework and learning activities and therefore increasingly request guidance from teachers (Hoover-Dempsey, Walker, Jones, & Reed, 2002). Thus, whether parental participation can be used effectively as an educational resource depends to a great extent on teachers' efforts to involve and support parents in facilitating their children's educational improvements (Kohl, Lengua, & McMahon, 2000). In this context, different sources specifically identify counseling parents with respect to students' learning difficulties and learning strategies as an important opportunity for teachers (Guli, 2005; Whiston, Tai, Rahardja, & Eder, 2011). Within the context of counseling talks as an interactive process of co-construction (Idol, Nevin, & Paolucci-Whitcomb, 1994), teachers and parents can come together to jointly identify possible learning difficulties that need to be addressed and determine specific intervention strategies in the school and home context (Keys, Bemak, Carpenter, & King-Sears, 1998).

According to its relevance, particularly for the improvement of students' educational achievement by involving parents in their children's learning processes, counseling competence has been implemented in concepts of teachers' professional competences (e.g., Baumert & Kunter, 2011). Furthermore, the counseling of students and their parents is specified as a central pedagogical task in government recommendations and standards for teacher education all over the world (e.g., National Commission on Teaching and America's Future, 1997; Standing Conference of the Ministers of Education and Cultural Affairs of the States in the Federal Republic of Germany, 2004).

It is clear that teachers must be well educated in counseling with respect to students' learning difficulties and learning strategies in order to meet the high demands concerning the participation of parents in their children's academic development. This is becoming particularly important in light of the challenges

associated with the increasing diversity of the parent and student population in terms of family circumstances, socioeconomic status, cultural backgrounds, academic abilities, and learning conditions (Lee, 2001).

Modeling Teachers' Counseling Competence

In the current state of research, there appears to be a consensus that teachers' counseling competence in parent-teacher talks concerning students' learning difficulties and learning strategies plays a prominent role in the development of high-quality educational processes. Nevertheless, to date there have been few attempts so far at developing theoretical and psychometric models that describe the internal structure of this complex construct in terms of specific skills and abilities as well as explain inter-individual differences.

The scholarly literature includes numerous descriptions of general counseling competence. McLeod (2003), for example, defines seven central components of counseling competence: (1) interpersonal skills such as appropriate listening and communicating; (2) personal beliefs and attitudes such as believing in the potential for change; (3) conceptual ability, which includes the ability to understand and assess the client's problems and problem-solving skills; (4) personal "soundness", which includes self-confidence and secure personal boundaries as well as the absence of irrational beliefs or social prejudice; (5) mastery of technique concerning the constructive application and evaluation of specific interventions; (6) ability to understand and work within social systems; and (7) openness to learning and inquiry, which includes being curious about clients' backgrounds and problems. Another general description, which summarizes these aspects to four central components of counseling competence, is specified by Hackney and Cormier (1998): (1) counselors' personal characteristics; (2) interpersonal characteristics; (3) differential or conceptual abilities; and (4) intervention techniques. Further approaches can be found in Crouch (1992), Egan (2002), Strasser and Gruber (2003), and West and Cannon (1988). Evidently, these descriptions of counseling competence include several components that may even play an important role in the counseling competence of teachers in parent-teacher talks concerning students' learning difficulties and learning strategies. However, the aforementioned relatively general competence aspects do not provide a sufficient definition of this specific and complex construct, as they do not consider the particular problems and contextual conditions with which teachers are confronted in this specific setting. Consequently, a precise, domain-specific definition including the identification of concrete skills and abilities that compose teachers' counseling competence in parent-teacher talks on students' learning difficulties and learning strategies is still needed.

Potential starting points can be found in the literature on counseling in schools, parent counseling, and counseling on learning strategies. Honal and Schlegel (2002), for example, define the following specific competence areas of counselors in the school context: (1) conversation skills, (2) diagnostics, (3) cooperative interventions for individuals or groups, (4) professional knowledge, (5) work with adults, (6) collaboration, (7) evaluation, and (8) basic conditions of good counseling in the school context. There are also several definitions of parent counseling and the counseling on learning strategies in the literature. However, they typically refer to counseling by school psychologists. For example, Sheridan, Kratochwill, and Bergan (1996) define parent counseling as a structured, indirect, collaborative, problem-solving relationship between the psychologist and one or more parent consultees. More precisely, Guli (2005) emphasizes counseling regarding school-related behavioral concerns, including problems with social skills and homework completion. Working on problems with homework completion is an example of counseling on learning difficulties and learning strategies, which is generally specified to focus on problems and developments in the field of student skills that are necessary for successfully completing learning tasks.

One of the first approaches to developing a specific definition of teachers' counseling competence in parent-teacher talks concerning students' learning difficulties and learning strategies was proposed by Bruder (2011). On the basis of the exemplarily illustrated descriptions and definitions provided in the literature as well as a predecessor model established by Hertel (2009), Bruder theoretically developed and empirically validated a four-dimensional model on a sample of German teachers working in higher track secondary education (*Gymnasium*). The four dimensions of this model comprise the most important skills and abilities that a teacher should possess in the context of counseling parents in supporting their children's educational progress. The first dimension, *counseling skills*, includes the elementary counseling procedures of 'active listening', 'paraphrasing', and 'structuring' the talk. The second dimension, *diagnostic and pedagogical knowledge*, contains aspects that are necessary to find appropriate and customized solutions for student learning difficulties such as 'problem definition', 'search for possible causes', 'strategy application' (concerning learning strategies), and 'goal orientation'. The third dimension, *collaboration and perspective taking*, includes 'cooperative actions', 'perspective taking', and 'resource and solution orientation'. The contents of this dimension turn the counseling talk into a co-construction process and encourage collaboration between teachers and parents. Finally, the fourth dimension, *coping*, includes strategies for 'coping with criticism' and 'dealing with difficult situations', which constitute the most important capabilities needed for professionally address difficulties that may arise in the course of the counseling talk.

The Current Study

Bruder's (2011) results cannot necessarily be generalized to the broader population of teachers working in primary and secondary education, as the results are based solely on a sample of teachers working in higher track secondary education. As comparative studies show differences between the various school types concerning teacher education programs (e.g., Döbrich, Klemm, Knauss, & Lange, 2003) as well as students' and their parents' needs (Hertel, Bruder, Jude, & Steinert, 2013), these factors may have an influence on the formation of teachers' counseling competence. Thus, the aim of the current study was to establish a model of teachers' counseling competence concerning students' learning difficulties and learning strategies in parent-teacher talks (in the following we use the abbreviated term 'counseling competence') for the broader population of teachers working in primary and secondary education (*Grundschule*, *Hauptschule, Realschule*, *Gymnasium*). In this context, we firstly tested the generalizability of the factorial structure of Bruder's (2011) model to this broader population.

Secondly, as counseling is frequently conceptualized as a process in the literature (e.g., McLeod, 2003; Strasser & Gruber, 2003; Waehler & Lenox, 2011), we additionally sought to test an alternative model structure that gives more consideration to the process character of a counseling talk. Numerous sources perceive the counseling talk as a progression through various stages, although they define the number and content of those stages differently. However, most of these approaches have two specific phases in common: a diagnostic phase, including the analysis of the existing problem; and a problem-solving phase, comprising the development of appropriate solution strategies (e.g., Heppner, 1978; Thiel, 2003). In order to enable the subsequent development of appropriate solutions, it is crucial to first explore and specify the existing problem and identify possible explanatory factors that may be amenable to change (Hohenshil, 1996; McLeod, 2003). In the parent-teacher talk, teachers must be familiar with the various problems that can occur in the context of students' learning processes and their possible causes as well as possess a certain ability to take on the parent's perspective. A unique feature of the diagnostic phase in a parent-teacher talk, in contrast to most other counseling contexts, is that counseling teachers do not only gather information from parents, but also contribute relevant information gained from their classroom experiences. The results of the diagnostic phase subsequently form the basis for the development of specific tailor-made interventions in the problem-solving phase. In this phase, teachers support the collaborative problem-solving by setting a specific intervention goal, applying their knowledge of learning strategies and the conditions of their effective application, as well as maintaining a collaborative and caring attitude (McLeod, 2003). While selecting specific interventions, teachers should give special con-

sideration to all relevant resources available to the student, including those present in the student's social environment and the school (Nestmann, 2007). On this theoretical basis, we reassigned the manifest variables related to Bruder's (2011) dimensions diagnostic and pedagogical knowledge and collaboration and perspective taking to the two new dimensions *diagnostic skills* and *problem-solving skills*. Consequently, in the re-specified model the variables problem definition, search for possible causes, and perspective taking comprised the dimension *diagnostic skills*, whereas the variables strategy application, goal orientation, solution and resource orientation, and cooperative actions formed the dimension *problem-solving skills*. For purposes of clarity, we renamed the dimension counseling skills as *communication skills* and the dimension coping as *coping skills*.

Thirdly, because Bruder (2011) only tested a first-order factorial model, we additionally aimed to develop a second-order factorial model that includes counseling competence as a superior factor of the identified dimensions.

In summary, the present study addressed the following research questions:

1. Does Bruder's (2011) model of teachers' counseling competence, validated on a sample of teachers working in higher track secondary education, fit empirical data surveyed from the broader population of teachers working in primary and secondary education?

2. Does the re-specified, process-oriented model fit the data better than the factorial structure by Bruder (2011)?

3. Can the resulting first-order dimensions be subordinated to a second-order factor representing counseling competence?

4.1.2 Method

Procedure and Participants

To investigate our research questions, we contacted school administrations of primary and secondary schools in the German federal states of Hesse and Baden-Wuerttemberg via e-mail, informing them about the study and asking them to encourage participation among the teaching staff. For those schools interested in participating in the study, we inquired about the number of teachers who volunteered to participate and then sent the corresponding number of paper-pencil surveys to the schools. Each survey included a cover letter informing participants about the aim of the study, a guarantee of their anonymity, and instructions for

completing the survey. Furthermore, participants were advised of the importance of completing the entire survey without skipping over individual questions or sections. The school administration then returned all completed surveys to the research institution. After excluding 11 (3.0 %) teachers due to missing values, we obtained a final sample of 357 teachers – 132 primary school teachers (*Grundschule*), 129 lower track secondary school teachers (*Hauptschule, Realschule;* most of the schools contacted integrate both lower secondary school tracks into a single school), and 96 higher track secondary school teachers (*Gymnasium*) – from approximately 70 schools. The sex, age, job tenure, and subject distribution of the entire sample are displayed in Table 4.1. In terms of

Table 4.1

Demographic statistics of the sample

		$N = 357$
Sex	Female	271 (75.9 %)
	Male	82 (23.0 %)
	Missing values	4 (1.1 %)
Age (years)	20-29	49 (13.7 %)
	30-39	94 (26.3 %)
	40-49	77 (21.6 %)
	50-59	115 (32.2 %)
	> 59	20 (5.6 %)
	Missing values	2 (0.6 %)
Job tenure (years)	1-5	94 (26.3 %)
	6-10	60 (16.8 %)
	11-15	61 (17.1 %)
	16-20	36 (10.1 %)
	21-25	23 (6.4 %)
	26-30	27 (7.6 %)
	> 30	54 (15.1 %)
	Missing values	2 (0.6 %)
Subjects taught	Mathematics	215 (60.2 %)
	Natural sciences	162 (45.4 %)
	Languages	216 (60.5 %)
	Social sciences	168 (47.1 %)
	Art / music / physical education	232 (65.0 %)

these variables, the sample approximately resembles the national distribution of teachers in German primary and secondary education (Baumann, Schneider, Vollmar, & Wolters, 2012). Furthermore, 24 (6.8 %) participants (6 [4.5 %] primary school teachers, 14 [10.9 %] lower track secondary school teachers, and 4 [4.2 %] higher track secondary school teachers) also acted as school counselors (*Beratungslehrer*).

Measures

In order to measure teachers' counseling competence and its components, a revised version of a scenario test developed and validated by Bruder (2011) was applied. Scenario tests are considered to be an appropriate and effective method for measuring competences in a standardized manner that is context specific and closely related to behavior. Such tests have frequently been applied to assess competences, even in the field of teacher education (e.g., Hedlund, Witt, Nebel, Ashford, & Sternberg, 2006). The scenario test contains a case study of a student with learning difficulties whose mother is seeking advice and, therefore, requests a counseling talk (the case study was slightly adapted to the specific characteristics of each subgroup of participating teachers, for example, the student's age and the teachers' subjects). Participants are asked to respond to 12 open-ended questions relating to the information provided in the case study. These questions represent the 12 content variables of Bruder's (2011) four-dimensional model of teachers' counseling competence. The case study (version for higher track secondary school teachers) and the 12 open-ended questions are illustrated in Table 4.2.

In order to transform qualitative statements into quantitative data, a detailed rating system was used to convert the answers into scores from 0 to 2 for each item. To test the objectivity of the rating system for the modified versions of the original scenario test, a random selection of 35 teacher responses was scored by three independent raters. Inter-rater reliabilities for each question resulted in satisfactory intra-class correlations (ICC; McGraw & Wong, 1996) between ICC = .72 and ICC = 1.00.

Table 4.2

Case study and open-ended questions of the scenario test

Case study

Imagine that you teach fifth grade German and Biology classes at a higher track secondary school and it is currently autumn break.

Following the first exams, Mrs. Schneider, the mother of one of your students named Kristina, would like to have a counseling talk with you. Kristina received a B in German and a C in Biology. You talked on the phone with Mrs. Schneider and she told you the following:

"Kristina goes to the higher track secondary school because I wanted her to. I know that she didn't actually have a recommendation to go there, but Kristina really enjoyed learning in primary school and she always had good grades. But now I have noticed that Kristina's study habits have completely changed. She doesn't enjoy doing her homework at all anymore and I always have to fight with her in the afternoons to get her to do her homework and study. I find that really stressful and I don't really know what to do. Also, Kristina was really disappointed about getting her first bad grades in History and Geography (a D and an F, respectively). She never had grades like that in primary school. That was really hard for me, too. After that, it was even harder to get her to do her homework. But she feels really comfortable with the people in her class. Her best friend from primary school sits next to her, which really helps. You see, my husband comes home in the evenings and doesn't bother much with school things. I'm home all afternoon, but I can't really help her much with the stuff she is learning. And that's not going to get better in the years to come. I'm really not sure how I can help Kristina and I'm not sure whether it was the right decision to have her go to the higher track secondary school. If that doesn't get better, I think I might really have her switched to the lower track school for the next semester. But, on the other hand, Kristina really likes her classmates. I have already talked to her teachers for History and Geography, but they didn't really take me seriously and just said that a lot of kids have problems at first. I didn't think they were very helpful and I was kind of irritated with them, since I think education is really important and I just want what is best for my child. But I really don't want my child to have to get tutoring. I had to go and I really hated it and felt like an outsider because of it. I honestly hope that you can help me if we sit down and talk, because I really don't know what to do!"

As Kristina's teacher, you have already noticed that she has integrated herself well and gets along well with her classmates, even though she seems a little reserved. During class, Kristina speaks up a lot and answers questions. Based on her answers in class, you have the impression that she understands most of what you are teaching in your classes. On the other hand, the results of her tests, especially in Biology, were mixed. Some answers were very good and others mediocre.

Your goal as a teacher is now to have a talk with Kristina's mother and, together with her, figure out what is best for Kristina.

Table 4.2 (Continuation)

Case study and open-ended questions of the scenario test

Open-ended questions	
Perspective taking	What do you think Mrs. Schneider is feeling?
Problem definition	What problems might Kristina have?
Search for possible causes	What information would you get prior to and during the talk with her mother in order to find possible solutions after the talk?
Structuring	How do you structure the counseling talk?
Cooperative actions	How do you show Mrs. Schneider that you are interested in working with her to find a solution?
Solution & resources orientation	After you have found possible causes for Kristina's behavior: Which aspects do you talk about in order to find a good solution to Kristina's problem?
Paraphrasing; Active listening	Which talk strategies do you use in your counseling talks? Please provide examples of the strategies.
Strategy application	What learning aids or changes can you think of that you would recommend to Kristina's mother?
	Imagine that you and Kristina's mother decided on "better structuring of the homework situation" as a possible solution. Define concrete steps to implement the solution (write down each individual step).
Goal orientation	How do you end the talk with Mrs. Schneider? What do you tell her to do as the next step after the talk?
Coping with criticism	Assume that Mrs. Schneider said the following during the talk: „I have the impression that you are just defending your colleagues the whole time. But what they told me just wasn't very helpful." – How would you react to that statement?
Dealing with difficult situations	Imagine that during the talk Mrs. Schneider begins to tell you in detail about problems that she is having with her husband. – What would you do?

Data Analysis

To answer our research questions, we used structural equation modeling performed with the software package MPlus Version 6.1 (Muthén & Muthén, 2012). Since chi-square has been criticized severely as a measure of model fit due to its sensitivity to sample size and correlation magnitudes, we additionally report the chi-square/degrees of freedom ratio (Jöreskog & Sörbom, 1993) as an alternative index of model fit that minimizes the impact of sample size on model results. A ratio smaller than 2 is considered indicative of good model fit (Schermelleh-Engel, Moosbrugger, & Müller, 2003). In line with the current state of research on fit indices for structural equation modeling (e.g., Hu & Bentler, 1999), we also report the comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean squared residual (SRMR) as measures of model fit. According to the guidelines provided by the simulation studies of Hu and Bentler (1999), the CFI and TLI should be greater than .95, the RMSEA less than .06, and the SRMR less than .08.

   To test the factorial validity of Bruder's (2011) model and the re-specified, process-oriented model for the sample investigated in the current study, we first conducted confirmatory factor analyses (CFA) based on the 12 items of the scenario test. In addition to this examination of the proposed factor structure on a first-order level, we also tested for the existence of a second-order factor representing overall counseling competence.

4.1.3 Results

To examine the validity of the factor structure proposed by Bruder (2011) for the current sample (research question 1), we conducted a first-order CFA. With a significant chi-square ratio ($\chi^2(48) = 109.354$, $p < .001$), a chi-square/degrees of freedom ratio greater than 2 ($\chi^2/df = 2.278$), and a CFI and TLI less than .95 (CFI = .801, TLI = .727), the results for the proposed model showed an unsatisfactory fit with the observed data. The RMSEA and the SRMR fell within a satisfactory range (RMSEA = .060, SRMR = .049). Even when associations between error terms of the manifest variables were freely estimated, a TLI value of .948 still did not indicate satisfactory model fit. These findings indicate that the factorial structure observed by Bruder (2011) for teachers working in higher track secondary education fails to represent teachers' counseling competence for the broader sample of teachers working in primary and secondary education.

   To investigate our research question 2 we conducted another first-order CFA on the basis of the re-specified, process-oriented model structure. At first, the CFA revealed an unsatisfactory fit with the data ($\chi^2(48) = 97.314$, $p < .001$,

$\chi^2/df = 2.027$, CFI = .840, TLI = .780, RMSEA = .054, SRMR = .047). Due to theoretical considerations (see Discussion) as well as the model modification indices we repeated the CFA on the basis of the process-oriented model structure, however, allowing correlations of the error terms associated with the manifest variables goal orientation and structuring as well as goal orientation and perspective taking. Analyses revealed a very good fit to the empirical data. The chi-square ratio was nonsignificant ($\chi^2(44) = 48.417$, $p = .299$); the chi-square/degrees of freedom ratio was less than 2 ($\chi^2/df = 1.100$). The CFI and TLI were greater than .95 (CFI = .986, TLI = .979), and the SRMR value was less than .08 (SRMR = .033). The RMSEA (RMSEA = .071) fell not within a good, but acceptable range (Hu & Bentler, 1999). All factor loadings were significant (all p values < .01). Consequently, these findings indicate the factorial validity of the re-specified, process-oriented model structure for primary and secondary school teachers' counseling competence. Descriptive statistics as well as the inter-correlations for the final four dimensions of counseling competence (first-order factors) are displayed in Table 4.3.

Because the inter-correlations between the first-order dimensions were rather large, we conducted an additional CFA to examine the appropriateness of a first-order, single-factor model. The indicators of fit clearly demonstrated that a first-order, single-factor model was not compatible with the data ($\chi^2(54) = 126.252$, $p < .001$, $\chi^2/df = 2.338$, CFI = .766, TLI = .714, RMSEA = .061, SRMR = .053).

Table 4.3

Descriptive statistics and correlations for the four dimensions and overall score of counseling competence

	Range	Min	Max	*M*	*SD*	1	2	3	4
Counseling competence	0-2	0.17	1.58	1.00	.27				
1 Communication skills	0-2	0.00	1.67	0.52	.32	-	.24***	.37***	.17**
2 Diagnostic skills	0-2	0.00	2.00	1.44	.32		-	.26***	.17**
3 Problem-solving skills	0-2	0.00	2.00	1.19	.36			-	.21***
4 Coping skills	0-2	0.00	2.00	0.83	.63				-

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

In order to examine whether the newly specified first-order dimensions could be subordinated to a second-order factor representing counseling competence (research question 3), we conducted a second-order CFA, which revealed that the proposed second-order factorial model fit the data very well ($\chi^2(47)$ = 53.572, p = .237, χ^2/df = 1.140, CFI = .978, TLI = .969, RMSEA = .020, SRMR = .036). Figure 4.1 depicts the final model of teachers' counseling competence.
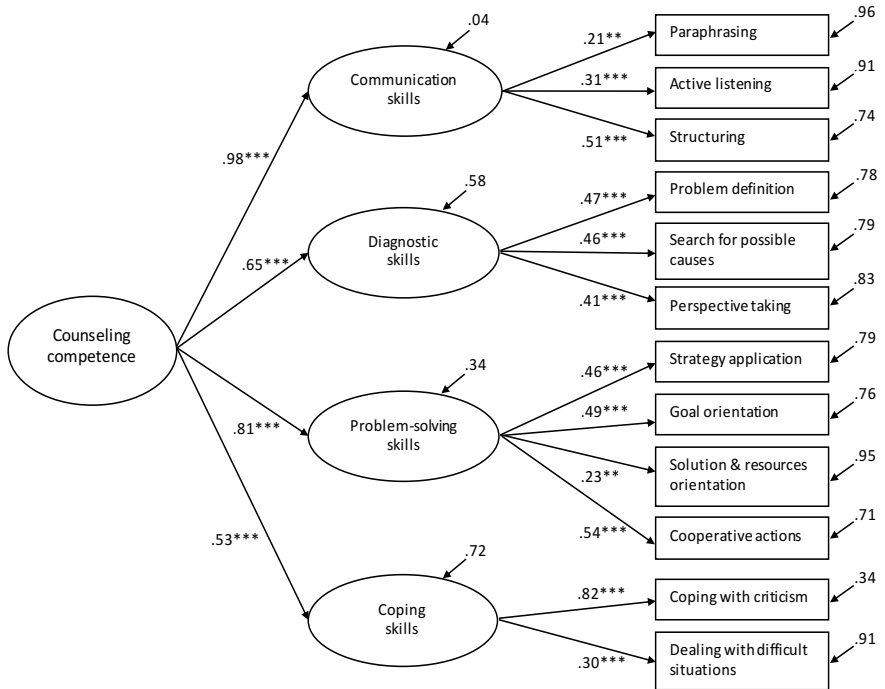
Figure 4.1. Model of teachers' counseling competence.

4.1.4 Discussion

The central purpose of the current study was to establish a model of primary and secondary school teachers' counseling competence in parent-teacher talks concerning students' learning difficulties and learning strategies. In this regard, analyses revealed that the factorial structure observed by Bruder (2011) for teachers working in higher track secondary education is not generalizable to the

broader sample of primary and secondary school teachers (research question 1). Possible explanations for this result may be found in comparative studies on the examined school types. Here, studies on teacher education show differences in terms of the share of educational and psychological curriculum content – containing student and parent counseling – for the three surveyed subgroups. In particular, these sources indicate a greater proportion of preparation programs for primary and lower track secondary school teachers than for higher track secondary school teachers (e.g., Döbrich et al., 2003). Furthermore, studies on teachers' professional routine reveal that teachers are confronted with different needs of students and their parents as a function of the respective school type (Hertel et al., 2013). Consequently, it seems conceivable that these differences have an influence on the general understanding of parent counseling, which also manifests itself in teachers' actual counseling competence. This different understanding of counseling might especially apply to the process character of a counseling talk (e.g., McLeod, 2003; Strasser & Gruber, 2003; Waehler & Lenox, 2011), as the re-specified, process-oriented factorial structure proved to be suitable for the current sample (research question 2). The refutation of the appropriateness of a first-order, single-factor model compared with the new four-dimensional model confirmed that teachers' counseling competence in parent-teacher talks concerning students' learning difficulties and learning strategies is not a single, global sphere of competence. Rather, it is composed of several competence areas that can be present to differing degrees. However, we were able to demonstrate that these competence areas could be subordinated to a second-order factor representing counseling competence (research question 3).

In our final model, we allowed the error terms associated with the manifest variables goal orientation and structuring as well as goal orientation and perspective taking to correlate. We did so despite the fact that these variables were related to divergent factors due to their related content. That is, when replying to the item in the scenario test for measuring goal orientation, the responding teacher is asked how to end the counseling talk and what to tell the parent to do as the next step after the talk. Here, the teacher is expected to briefly summarize the collaboratively determined intervention strategies, define initial steps of their realization, and pleasantly say goodbye to the parent, which all refers to the later process phases and, thus, the structuring of a counseling talk. In order to identify a suitable moment to end the counseling talk and pleasantly say goodbye, the responding teacher, in turn, requires a certain ability to take the perspective of the parent.

Closer inspection of the factor loadings revealed that most of the 12 observed variables of the final four counseling competence dimensions (first-order factors) had rather low factor loadings. This weakness of the model has to be considered in the interpretation of the results and, especially, be focused in the

context of subsequent research efforts, preferably on the basis of even larger sample sizes. Nevertheless, the model already provides important contributions for the differentiated description of primary and secondary school teachers' counseling competence in parent-teacher talks concerning students' learning difficulties and learning strategies in terms of specific skills and abilities.

In view of the well-known demand for a better integration of counseling in teacher education (e.g., Hertel et al., 2013), the model, moreover, provides a profound and detailed empirical basis for a purposive design of appropriate teacher education programs. At this juncture, the proved four-dimensionality of teachers' counseling competence indicates that teacher training programs are not limited to a focus on the development of counseling competence in general, but may also be used for the advancement of specific competence areas. In this context, the outlined assessment approach allows for the differentiated ascertainment of individual and group general counseling competence as well as detailed measurements of participants' counseling competence itemized by the four specific competence dimensions. This in turn allows for the conception and systematic evaluation of precisely tailored training programs for prospective or in-service teachers and the comprehensive monitoring of teachers' individual learning processes during coursework, as well as providing detailed individual feedback for learners (Koeppen, Hartig, Klieme, & Leutner, 2008). In addition, measures can be used for ongoing program improvement (Darling-Hammond, 2006).

Limitations and Outlook

An important limitation of the current study concerns the representativeness of the surveyed sample for the entire population of teachers working in German primary and secondary education. Because participation in the study was voluntary, we must consider the possibility that the participants who took part in the survey were more motivated than those who did not and, as a result, also superior in terms of counseling competence. Thus, subsequent research should test whether the outlined results can be reproduced in a study with obligatory participation. Moreover, using multigroup comparisons based on larger sample sizes, future research efforts should investigate whether the model structure varies as a function of specific subgroups, for example, teachers' sex, age, job tenure, or – in an international context – nationality.

The scenario test used in the current study proved to be an objective and efficient strategy for the itemized measurement of teachers' practical counseling competences with simultaneous consideration of the preconditioned economy. Certainly, scenario tests are not able to measure actual behavior; however, for studies with large sample sizes, they are the method of choice (Hedlund et al., 2006). Nevertheless, future research should focus on the further improvement of

the scenario test. To do so, data obtained from the outlined scenario test should first be compared with data obtained from other case scenarios measuring teachers' counseling competence. Then, with special regard to validation in the field, data may be compared with video recordings of teachers' counseling talks in their actual professional routine. Because the application of video recordings allows for the simultaneous measurement of multifaceted behaviors in specific situations, video recordings have been shown to be a suitable and valid method for assessing professional pedagogical skills and, especially, counseling competences (e.g., Admiraal, Hoeksma, Van de Kamp, & Van Duin, 2011). It is particularly important to note that the scenario test measures how teachers would act in a counseling talk when guided to some extent by questions, whereas teachers have no such guidance in real counseling talks. Therefore, comparisons of the scenario test and video assessment approaches should specifically focus on the replication of the findings from the scenario test in real-life situations.

Lastly, future research should also examine the development of teachers' counseling competence and its dimensions specified in the model in the course of a teacher's professional career. It appears particularly important to identify essential conditions that support the development of prospective teachers' counseling competence, for example, the application of specific instructional practices, a focus on the development of practical competences, and the assurance of the transfer of theoretically acquired knowledge to future professional routines. This, for instance, could be realized in the context of teacher training programs developed on the basis of the specified model and evaluated by means of the outlined scenario test.

4.2 Additional Analyses

4.2.1 Purpose

In addition to the examination of the factorial structure of primary and secondary school teachers' counseling competence, Study 1 focused on two further research aims, whose pursuit was not outlined in Manuscript A: (1) the identification of specific variables that can be used to predict teachers' counseling competence, and (2) the examination of potential differences concerning teachers' counseling competence and the related predictor variables between the diverse school types in primary and secondary education. This section mainly intends to present the methodical procedure as well as the results of the conducted analyses in detail. The fundamental theoretical background as well as the discussion of the results can be found in the synopsis of this doctoral thesis (sections 1 and 3).

The examination of potential predictor variables of counseling competence was based on the predictor variables identified by Klug et al. (2012), which are valid for the population of higher track secondary school teachers: knowledge of counseling and learning strategies, professional self-concept as a counselor, and reflected experience. Moreover, the existence of an additional variable predicting the degree of teachers' counseling competence was tested. According to research on teacher education and teachers' professional competences, not only reflected experience as a special facet of experience (Galvez-Martin, 2003; Gruber & Strasser, 2006; Neufeldt, Karno, & Nelson, 1996; Rønnestad & Skovholt, 2001) is relevant to the development of counseling competence but also counseling experience in general (Jennings, Goh, Skovholt, Hanson, & Banerjee-Stevens, 2003). In addition to experiences that are subsequently reflected, counseling experience also includes, for example, the amount of counseling practice (e.g., Dotger, Dotger, & Maher, 2010) and regular professional exchange with colleagues (e.g., Macha, Lödermann, & Bauhofer, 2010; Zorga, 2002). Therefore, the relation of counseling *experience* (as a superior construct of Klug et al.'s (2012) reflected experience) to the level of counseling competence was also tested.

With regard to the examination of potential differences concerning the examined school types, it was hypothesized that primary (*Grundschule*) and lower track secondary school (*Haupt-/Realschule*) teachers possess superior counseling competence and demonstrate greater values regarding the related predictor variables than higher track secondary school (*Gymnasium*) teachers. In Germany, for example, research on parent counseling and parental involvement (cf., data collected in the context of the Programme for International Student Assessment [PISA], 2009) indicates that teachers' supply and parents' demand for counseling talks vary as a function of the respective school type (Hertel, et al., 2013; Oswald, Baker, & Stevenson, 1988). Furthermore, studies on teacher education show differences regarding the share of educational and psychological curriculum content — including student and parent counseling. Consequently, these sources indicate a greater proportion of preparation programmes for primary and lower track secondary school teachers than for higher track secondary school teachers (Döbrich et al., 2003).

In summary, the following additional research questions were addressed:

1. a. Do knowledge of counseling and learning strategies, professional self-concept as a counselor, and reflected experience predict primary and seondary school teachers' counseling competence?
   b. Does counseling experience (a superior construct of reflected experience) additionally predict teachers' counseling competence?

2.	Do primary and lower track secondary school teachers achieve higher scores in counseling competence and the related predictor variables than higher track secondary school teachers?

4.2.2 Method

Participants

The examination of the research questions was based on the identical sample as the investigation of the factorial structure of teachers' counseling competence outlined in Manuscript A.

Measures

In order to measure the hypothesized predictor variables, a multiple-choice test for the assessment of knowledge of counseling and learning strategies and a self-assessment questionnaire for the measurement of professional self-concept, reflected experience, and experience were applied.

The multiple-choice test for measuring teachers' professional knowledge of counseling and learning strategies consists of nine closed-ended questions, with four possible answers each (e.g., "Which advantages are associated with the technique of active listening? a) The listener can make sure that he or she has accurately understood how the speaker is feeling. b) It makes it easier for the listener to identify with the speaker. c) The speaker feels understood. d) It makes it easy to structure the conversation."). Participants were requested to choose the best answer or answers (the latter in the case that multiple answers were allowed, which was noted next to the respective item). Participant responses to all items were coded as either correct or incorrect. Item difficulties for the knowledge test ranged between .35 and .89 and therefore fell within an acceptable range for inter-correlated items (Ramsey & Reynolds, 2000). Tests of scale reliability indicated an acceptable Cronbach's alpha of $\alpha = .63$.

The self-assessment questionnaire includes additional scales for measuring professional self-concept as a counselor (e.g., "I believe that, as a teacher, part of my job is to counsel parents.") and reflected experience (e.g., "After finishing a counseling talk, I think about whether I am satisfied with my performance as a counselor."). In addition to reflected experience as a special facet of experience, the questionnaire includes a superior scale for the measurement of experience as a superior construct. In addition to the items on the reflection of experiences, the scale comprises additional items on the amount of counseling practice (e.g., "The topic of counseling was an important part of my education as

a teacher.") as well as support and exchange with colleagues in the context of counseling activities in teachers' professional routine (e.g., "I regularly have the opportunity to talk to experienced colleagues about counseling talks."). Participants are asked to respond to items on a six-point rating scale ranging from 1 (*I completely disagree*) to 6 (*I completely agree*). Tests of scale reliability for the current sample indicated satisfactory Cronbach's alphas of α = .87 for professional self-concept as a counselor (17 items), α = .75 for reflected experience (8 items), and α = .81 for experience (16 items).

Analyses

The examination of the proposed predictor variables on counseling competence was conducted by means of structural equation modeling. At this, knowledge, professional self-concept, reflected experience, and experience were integrated as manifest variables predicting counseling competence into the second-order, four-dimensional model established in Manuscript A. In order to investigate potential group differences between the examined school types regarding counseling competence as well as the related dimensions and predictor variables, we conducted a MANOVA on the basis of the scenario test, knowledge test, and self-assessment data.

4.2.3 Results

After integrating the proposed predictor variables into the second-order, four-dimensional model, the model showed a satisfactory fit to the data ($\chi^2(90)$ = 101.462, p = .192, χ^2/df = 1.127, CFI = .965, TLI = .955, RMSEA = .019, SRMR = .038). However, analyses did not reveal a relation between reflected experience and counseling competence (ß = -.167, p = .177), whereas knowledge, professional self-concept, and experience were positively related to counseling competence. Therefore, the model was retested after eliminating reflected experience. The final model fit the observed data well ($\chi^2(79)$ = 89.223, p = .202, χ^2/df = 1.129, CFI = .968, TLI = .959, RMSEA = .019, SRMR = .039). Consequently, the results indicate that primary and secondary school teachers' counseling competence is related to knowledge of counseling and learning strategies, professional self-concept as a counselor, and counseling experience. In contrast to Klug et al.'s (2012) findings for the smaller population of higher track secondary school teachers, reflected experience as a subordinated construct of counseling experience did not turn out to be valid for the entire population of primary and secondary school teachers. In summary, the final three predictor variables explained 15 % of the variance in counseling competence, while knowledge had

the strongest predictive value (ß = .237). Descriptive statistics as well as the inter-correlations of the predictor variables are displayed in Table 4.4. Figure 4.2 depicts the final model of teachers' counseling competence with the related dimensions and predictor variables.

Table 4.4

Descriptive statistics for the predictor variables specified in the model

	Range	Min	Max	*M*	*SD*
a Knowledge	0-9	0.00	9.00	5.84	1.46
b Professional self-concept	1-6	3.21	5.95	4.95	.55
c Reflected experience	1-6	1.43	6.00	3.85	.81
d Experience	1-6	1.63	5.25	3.34	.66
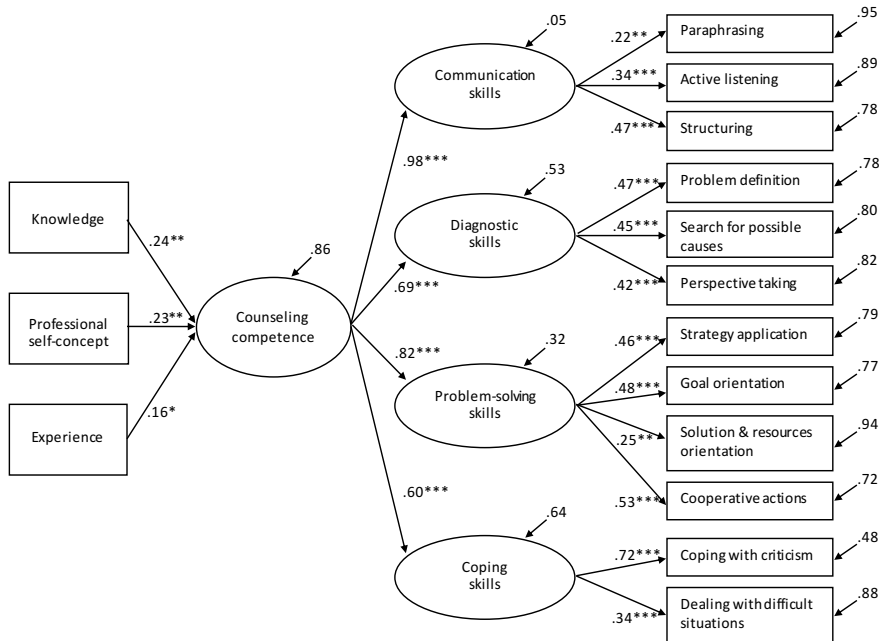
Figure 4.2. Model of teachers' counseling competence with the related dimensions and predictor variables.

The MANOVA for the examination of potential group differences between teachers working in primary schools, lower track secondary schools, and higher track secondary schools resulted in significant multivariate main effects (*Wilks´ lambda* $\Lambda = .81$, $F(14/696) = 5.64$, $p < .001$, $\eta^2 = .10$). Results for the dependent variables as well as descriptive statistics are displayed in Table 4.5.

Contrary to the expectations, post-hoc analyses did not reveal significantly greater values for primary and lower track secondary school teachers than higher track secondary school teachers concerning overall counseling competence, the dimensions diagnostic skills, problem-solving skills, and coping skills, as well as the predictor variables knowledge and experience. However, concerning the dimension communication skills ($F(2, 354) = 12.858$, $p < .001$) and the predictor variable professional self-concept ($F(2, 354) = 13.269$, $p < .001$), post-hoc analyses revealed significantly lower values for higher track secondary school teachers compared with the other two subgroups with moderately large effect sizes (Cohen, 1988). In addition, results generally indicated a rather low overall level of counseling competence for all three subgroups.

Table 4.5

Results of the MANOVA for the evaluation of group differences

| | | Group | | | | | |
| | | PST | LSST | HSST | | | |
		M (SD)	*M (SD)*	*M (SD)*	*df*	*F*	η^2
Counseling competence	Overall score	1.03 (0.26)	0.99 (0.29)	0.95 (0.25)	2/354	2.44	.01
	Communication skills	0.59 (0.33)	0.56 (0.32)	0.39 (0.27)	2/354	12.86***	.07
	Diagnostic skills	1.44 (0.32)	1.41 (0.36)	1.48 (0.25)	2/354	1.16	.01
	Problem-solving skills	1.20 (0.35)	1.20 (0.36)	1.18 (0.37)	2/354	0.09	.00
	Coping skills	0.91 (0.63)	0.79 (0.63)	0.77 (0.62)	2/354	1.65	.01
Predictor variables	Knowledge	6.05 (1.28)	5.60 (1.44)	5.87 (1.60)	2/354	3.24*	.02
	Professional self-concept	5.09 (0.46)	4.97 (0.55)	4.73 (0.58)	2/354	13.27***	.07
	Experience	3.35 (0.60)	3.34 (0.65)	3.34 (0.76)	2/354	0.03	.00

Note. PST = Primary school teachers; LSST = Lower track secondary school teachers; HSST = Higher track secondary school teachers. * $p < .05$. ** $p < .01$. *** $p < .001$.

5 Study 2

5.1 Manuscript B: Improving Prospective Teachers' Counseling Competence in Parent-Teacher Talks. Effects of Training and Feedback [2]

Abstract

Counseling parents concerning students' learning difficulties and learning strategies is considered to be an increasingly important competence area of teachers. However, there exist few educational programs, which specifically focus on the improvement of this essential teacher competence, particularly in early teacher education. The current study, which took place at a German university, describes the evaluation of a corresponding training program for prospective teachers as well as a process-oriented feedback intervention. We conducted a quasi-experimental study with three treatment groups (training group, training + feedback group, control group) combining pre-, post-, and follow-up test measures with time-series data. By means of multivariate repeated measures MANOVAs and time-series analyses we were able to demonstrate that prospective teachers' counseling competence can be successfully fostered by training and individual process-oriented feedback. Our results provide several practical implications concerning the improvement of teachers' counseling competence within the context of teacher education.

5.1.1 Introduction

Counseling is considered to be an increasingly important activity in teachers' professional routines and has been specified as a key task in recent concepts of

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teachers' professional competences in Germany and worldwide (e.g., Baumert & Kunter, 2006; Guli, 2005; Hertel, Bruder, Jude, & Steinert, 2013). Among others, parent counseling has become one of the most relevant counseling fields for teachers, as it has been shown to be an effective method of treatment delivery for a variety of school-related issues (for a review, see Guli, 2005). In particular, parent counseling concerning the support of their children's home-based learning activities (e.g., by providing assistance with homework, enhancing motivation, and structuring time for homework and leisure) has become one of the primary objectives, as parental involvement in children's education has a profound influence on students' academic success as well as social, emotional, and behavioral development (Christenson & Sheridan, 2001; Cox, 2005; Hill & Taylor, 2004; Hill & Tyson, 2009; Miller, Colebrook, & Ellis, 2014; Pomerantz, Moorman, & Litwack, 2007; Reschly & Christenson, 2012). Specifically, counseling parents with respect to students' learning difficulties and learning strategies has been identified as an important means for teachers to support students in their academic development (Guli, 2005; Whiston, Tai, Rihardja, & Eder, 2011).

Parent counseling is often used in the broader psychology literature to refer to any communication between a professional and a parent (Guli, 2005). Within school psychology, parent counseling is defined as a structured, collaborative, problem solving relationship between the counselor (in this case the teacher) and one or more parent consultees (Sheridan, Kratochwill, & Bergan, 1996). This definition particularly emphasizes, that parent counseling is to be understood as an interactive process of co-construction between multiple experts (Idol, Nevin, & Paolucci-Whitcomb, 1994), characterized by collaboration and joint ownership of responsibilities and accountability for outcomes (Reschly & Christenson, 2012). Thus, within the context of parent-teacher talks on students' learning difficulties and learning strategies, teachers and parents can come together to jointly identify possible learning difficulties that need to be addressed and determine specific intervention strategies in the school and home context (Keys, Bemak, Carpenter, & King-Sears, 1998).

Particularly in recent years, parents increasingly request guidance from teachers concerning the support of their children in homework and learning activities (Hoover-Dempsey, Walker, Jones, & Reed, 2002; Hertel et al., 2013). Thus, in order to meet these high demands and capitalize on the full potential of involving parents in their children's learning processes, teachers must be well educated in counseling and collaborating with parents. However, international research on early teacher education shows that teacher education institutions often fail to facilitate prospective teachers to acquire the interpersonal competences they will need to counsel parents effectively (Lawrence-Lightfoot, 2003; Walker & Dotger, 2012). As a consequence, novice teachers often feel overburdened by demands concerning the collaboration with parents with which they are

confronted when they enter the profession (Epstein, 2005; Mandel, 2006). This so-called "reality-shock" frequently leads to a reluctance to offer counseling talks (Wild, 2003), decreased job satisfaction, extended occupational stress, and an increased risk of burnout (Darling-Hammond, 2000; Pas, Bradshaw, & Hershfeldt, 2012).

Against this background, numerous studies on teacher education as well as political recommendations and standards for teacher education highlight the importance of integrating parent counseling in teacher education worldwide (e.g., NCTAF, 1997; Valli & Rennert-Ariev, 2000). Particularly, there is a growing demand for specific programs and curricular modules to foster prospective teachers' counseling competence in early preparation (Dotger, 2010). Whereas there already exist several training programs for prospective teachers on creating effective and collaborative partnerships with parents and general parent counseling (e.g., Brown, Harris, Jacobson, & Trotti, 2014; Ferrara, 2009; Hedges & Gibbs, 2005; Murray, Mereoiu, & Handyside, 2013), there have been few approaches of developing and evaluating training programs or other interventions with a specific focus on counseling parents with respect to students' learning difficulties and learning strategies. In Germany, too, there have been few corresponding programs to foster prospective teachers' counseling competence in early preparation, although the training in student and parent counseling is prescribed in German standards and recommendations for teacher education (German Society for Psychology, 2008; Standing Conference, 2004). Thus, in the course of the current study, we developed and evaluated a training program on counseling competence for German prospective teachers with a specific focus on counseling parents in how to support their children's home-based learning activities. As studies on different interventions in the education of counselors highlight the beneficial effects of providing continuous and systematic feedback on competence development (Caspar, Berger, & Hautle, 2004; Lambert et al., 2002; McLeod, 2003; Strasser & Gruber, 2003), we additionally developed and evaluated a corresponding feedback intervention.

Model of Teachers' Counseling Competence in Parent-Teacher Talks on the Support of Students' Learning Processes

The selection and arrangement of the specific content of the training program as well as the development of the feedback intervention were based on the model of teachers' counseling competence in parent-teacher talks concerning students' learning difficulties and learning strategies (in the following, we use the abbreviated term 'counseling competence') by Gerich et al. (2015). The four-dimensional model was developed on the basis of literature on general counsel-

ing competence, counseling in schools, parent counseling, and counseling on learning strategies (e.g., Guli, 2005; Honal & Schlegel, 2002; McLeod, 2003) as well as preliminary approaches of modeling teachers' counseling competence for the subsample of higher track secondary school teachers (Bruder, 2011; Hertel, 2009). The proposed model structure was empirically validated conducting structural equation modeling on the basis of 357 primary and secondary school teachers' data acquired by means of a scenario test (see section 2.3.1). The resulting second-order four-dimensional model comprises the most important skills and abilities a teacher should possess in the context of counseling parents in how to support their children's educational progress. The first dimension, *communication-skills*, includes general counseling practices such as 'active listening', 'paraphrasing', and 'structuring' the talk. The second dimension, *diagnostic-skills*, contains aspects necessary to analyze the existing problem and identify possible causes such as 'problem definition', 'search for possible causes' , and 'perspec-

Figure 5.1. Model of teachers' counseling competence (Gerich et al., 2015).

tive taking'. The third dimension, *problem-solving-skills*, comprises aspects necessary to find and initiate appropriate and customized solutions for learning difficulties such as 'application of learning strategies', 'goal orientation', 'solution and resource orientation', and 'cooperative actions'. Finally, the fourth dimension, *coping-skills*, includes strategies for 'coping with criticism' and 'dealing with difficult situations', which constitute the most important skills to professionally address difficulties that may arise in the course of the counseling talk.

In addition to these four dimensions of counseling competence, the authors identified several specific variables that are positively related to the level of teachers' counseling competence: *Knowledge of counseling and learning strategies*, *professional self-concept as a counselor*, and *counseling experience* (in the following, the terms are used interchangeably with the abbreviations 'knowledge', 'professional self-concept', and 'experience'). Figure 5.1 displays the model of teachers' counseling competence by Gerich et al. (2015). The selection of the training and feedback contents was based on the four dimensions of the model. However, knowledge, professional self-concept, and experience were considered only as outcome variables during the evaluation of the training program and the feedback intervention.

Training Program for Prospective Teachers on the Development of Professional Counseling Competence

The training program, which was developed on the basis of the four dimensions of the model of teachers' counseling competence by Gerich et al. (2015), is characterized by its focus on the acquisition of practical counseling competences that are substantially relevant to prospective teachers' future professional work. For this, the training program comprises large sequences of active learning and reflection. In order to encourage participants to reflect on their continual competence development, the training program additionally includes working on weekly standardized diaries, as writing in diaries has been shown to support self-reflection in educational processes (Galvez-Martin, 2003;), particularly in teacher education (e.g., Arsal, 2010).

Active learning and reflection are considered to be key elements in the context of integrating theoretical knowledge and practical skills (e.g., Sullivan & Rosin, 2008). Particularly in research on teacher education, the importance of active learning and reflection for the long-term development of practical competences is consistently highlighted (Ball & Forzani, 2009; Caspersen, 2013; Hershfeldt, Pell, Sechrest, Pas, & Bradshaw, 2012; Postholm, 2008; Watts & Lawson, 2009). In addition, numerous studies document the positive impact of active and reflective learning on both the transfer of the learning content to later professional routines (Kolodner, Gray, & Fasse, 2003; Schwartz, Bransford, &

Sears, 2004) and the formation of teachers' professional identity (Beijaard, Meijer, & Verloop, 2004; Schultz & Ravitch, 2013; Sutherland, Howard, & Markauskaite, 2010). Particularly in research on counseling, active learning and subsequent reflection are specified as key aspects of professional development of counselors (Furr & Carroll, 2003; Jennings, Goh, Skovholt, Hanson, & Banerjee-Stevens, 2003; Skovholt & Jennings, 2004; Strasser & Gruber, 2005).

A well established intervention approach for enhancing prospective teachers' conversational skills in parent-teacher talks (a construct closely related to teachers' counseling competence) with a special focus on active learning and reflection was introduced by Dotger et al. (2008, 2010). In the so-called Simulated Interaction Model (SIM), prospective teachers participate in a series of one-on-one interactions with standardized parents within the framework of which they are provided the opportunity to practice their communication skills. The simulated parent-teacher talks are videotaped in order to enable participants to subsequently conduct detailed self-evaluations within the framework of individual and group debriefing sessions. Initial evidence for the effectiveness of active learning on the improvement of prospective teachers' counseling competence in parent-teacher talks on the support of students' learning processes was adduced by Hertel (2009). In her intervention study prospective teachers' participated in a training program including repeated active role-play exercises resulting in significant competence improvements, both measured objectively and subjectively.

Individual Feedback as a Means of Facilitating the Development of Counseling Competence

Within the framework of the current study, we also developed and evaluated a feedback intervention specifically tailored to the outlined training program, which was expected to support participants' competence acquisition. In both educational research and practice, feedback is known to have a positive impact on learning processes (e.g., Hattie & Timperley, 2007), particularly skills, motivation, and self-efficacy beliefs (Duijnhouwer, Prins, & Stokking, 2012; Vollmeyer & Rheinberg, 2005). Particularly in research on teacher education, feedback has been shown to be an effective instructional practice (Copland, 2010). The beneficial influence of feedback on prospective teachers' competence improvement is also used in the aforementioned SIM by Dotger et al. (2008; 2010). In addition to the self-reflections on the basis of the videotaped simulated parent-teacher talks, participants are provided with extensive feedback regarding their performance during the simulations by course instructors and the learning group.

By analogy with the outlined training program, the development of the feedback intervention was based on the four dimensions of the model of teach-

ers' counseling competence by Gerich et al. (2015). Its most important characteristic is its process-orientation. As one of the most influential feedback theories (Hattie & Timperley, 2007) emphasizes in agreement with other reviews and meta-analyses (e.g., Narciss, 2008), the main purpose of feedback is to highlight the discrepancy between current understanding and performance, on the one hand, and a specific learning goal, on the other, as well as encourage and enable learners to reduce the discrepancy. This kind of process-oriented, formative feedback (Shute, 2008) has been shown to support further competence development (Hattie & Timperley, 2007; Narciss, 2008), positively affect students' motivational beliefs and interests (Narciss & Huth, 2006), and help students take control of their own learning (Nicol & Macfarlane-Dick, 2006). For a detailed description of the training program and the feedback intervention, see section 2.2.1 and 2.2.2).

Research Hypotheses

The objective of the current study was to evaluate the effectiveness of the outlined training program and feedback intervention in terms of enhancing prospective teachers' counseling competence, its dimensions, and related variables specified in the model of teachers' counseling competence by Gerich et al. (2015). Moreover, as several studies have observed a relationship between an insufficient preparation of prospective teachers regarding the collaboration with parents and a reduced confidence regarding forthcoming counseling tasks in future professional routines (Epstein, 2005; Mandel, 2006), we additionally investigated the effects of both interventions on measures of participants' confidence. Beyond the examination of the immediate effects of the interventions we also aimed at testing their stability even beyond the end of the training period. In addition to the outcome-oriented examination of the intervention effects, we finally targeted their process-related exploration by means of the acquisition and analysis of time-series data.

Accordingly, we formulated the following hypotheses:

1. We expected a group of prospective teachers who participated in the training program (training group) to show greater increases in counseling competence and its dimensions as well as knowledge, professional self-concept, experience, and measures of confidence over the training period than a group of prospective teachers who did not participate in the training program (control group).

2. We furthermore expected prospective teachers who additionally received the feedback intervention (training + feedback group) to show greater improvements in counseling competence and its dimensions as well as knowledge, professional self-concept, experience, and measures of confidence than prospective teachers who participated only in the training program (training group).

3. With regard to the long-term effectiveness of the interventions, we expected the postulated effects to remain stable beyond the end of the training period.

4. We finally expected the findings of the outcome-oriented investigation to also manifest themselves in the time-series data acquired throughout the intervention period.

5.1.2 Method

Participants

The study took place at a university in the federal state of Hesse, Germany, within the scope of an optional training module on educational psychology for prospective higher track secondary school teachers, which was accessible for students at all stages of study. 79 prospective teachers participated in the study. 8 participants of the training group and training + feedback group were excluded from analyses because they did not take part in all measurements carried out in the process of the study due to illness or unavoidable overlapping dates. Except for their subjects of study those participants did not differ from the participants included in the analyses regarding their demographic data. Thus, the final sample included 71 participants (56.3% women), ranging in age from 20 to 31 years ($M = 22.97$, $SD = 2.14$), who were in their second to eleventh semester ($M = 5.56$; $SD = 1.86$; standard period of study: 9 semesters). 35 (49.3%) participants studied mathematics, 30 (42.3%) natural sciences, 12 (16.9%) languages, 35 (49.3%) social sciences, and 14 (19.7%) art, music, or physical education. Five students (7.0%) had previously participated in courses on counseling. The demographic statistics of the individual treatment groups as well as the excluded participants are displayed in Table 5.1.

Procedure

In order to study the effects of the training program and feedback intervention, we implemented a quasi-experimental design combining pre-, post-, and follow-

up test measures with time-series data. The design was quasi-experimental, because the participants could not be randomly assigned to the intervention groups. Instead, the groups established themselves by the students´ optional enrollment in either one of two groups that received the training program on counseling competence (experimental groups) or a third group receiving an alternative course on educational psychology (control group). At this, prospective teachers who decided to enroll in one of the two experimental groups did not know about the different experimental conditions (training; training + feedback). The three groups were trained by the same course instructor and the two experimental groups were taught in exactly the same manner, except for the provision of the individual feedback. For the participation in the course on counseling as well as the alternative course, students received course credit. Finally, 26 students were in the training condition (experimental group 1, EG1), 23 participants were in the training + feedback condition (experimental group 2, EG2), and 22 participants were in the control condition (control group, CG).

Table 5.1

Demographic statistics of the sample

		Training group (EG1)	Training + feedback group (EG2)	Control group (CG)	Participants excluded from analyses
		n = 26	*n* = 23	*n* = 22	*n* = 8
Sex	Female	15 (57.7 %)	15 (65.2 %)	10 (45.5 %)	4 (50.0 %)
	Male	11 (42.3 %)	8 (34.8 %)	12 (54.5 %)	4 (50.0 %)
Age	*M (SD)*	22.6 (1.32)	23.5 (2.69)	22.86 (2.27)	22.63 (1.92)
Semester	*M (SD)*	5.96 (1.78)	5.87 (1.79)	4.77 (1.85)	5.13 (2.36)
Subjects studied	Mathematics	13 (50.0 %)	14 (60.9 %)	8 (36.4 %)	4 (50.0 %)
	Natural sciences	8 (30.8 %)	11 (47.8 %)	11 (50.0 %)	7 (87.5 %)
	Languages	3 (11.5 %)	6 (26.1 %)	3 (13.6 %)	1 (12.5 %)
	Social sciences	15 (57.7 %)	9 (39.1 %)	11 (50.0 %)	0 (0.0 %)
	Art / music / physical educ.	7 (26.9 %)	2 (8.7 %)	5 (22.7 %)	1 (12.5 %)
Courses on counseling	Yes	3 (11.5 %)	0 (0.0 %)	2 (9.1 %)	1 (12.5 %)
	No	23 (88.5 %)	23 (100 %)	20 (90.9 %)	7 (87.5 %)

After completing a pretest, experimental groups 1 and 2 participated in the training program on counseling as separate groups. The control group participated in the alternative compulsory course on educational psychology, which did not include content concerning educational counseling. At the end of the training period, participants in the control group and the experimental groups completed a posttest. In addition to participating in the training program, participants of experimental group 2 received an individual written feedback on their test results right after the pretest as well as the posttest. All written feedback was prepared and delivered by the course instructor. Participants in the two experimental groups completed a follow-up test eight weeks after the posttest, in order to allow the subsequent examination of the stability of the intervention effects even beyond the end of the training period. As participants in the control group did not take part in the training program or receive the feedback intervention, it was not necessary to also include the control group in the follow-up measurement.

In addition to the pre-, post-, and follow-up test measures, we collected time-series data from the experimental groups during the entire training period, beginning one week before the first training session and finishing one week after the last training session.

Training Program

The training program consisted of nine weekly sessions of 100 minutes each which were carried out by a course instructor with comprehensive content knowledge and practical experience in parent counseling, teaching of learning strategies, and teacher education. The training program was characterized by its focus on the development of practical competences that are substantially relevant to prospective teachers' future professional work. For this, the training program comprised large sequences of active learning and reflection.

A central instructional feature of the training program consisted in regular extensive role-play exercises. The role-plays were based on specific case studies on hypothetical students with certain difficulties in learning, leading to a decline in their achievement. Participants worked together in groups of three people, in which one participant slipped into the role of the counseling teacher, another one portrayed the hypothetical parent, and the third one observed the role-play. In the process of the training program roles were continually switched. By means of this approach, participants who took on the role of the counseling teacher had the opportunity to apply their theoretical knowledge in practical, realistic situations in order to acquire practical counseling competences, gain

Table 5.2

Training contents and their assignment to the components and dimensions of the model of teachers' counseling competence (Gerich et al., 2015)

	Training contents	**Model components**
Session 1	Introduction to counseling; Relevance of counseling parents in schools; Basic attitudes of a good counselor (e.g., empathy, willingness to cooperate).	Perspective taking (DS); Cooperative actions (PSS)
Session 2	Elementary counseling procedures; Structure of a counseling talk	Paraphrasing (ComS); Active listening (ComS); Structuring (ComS)
Session 3	Common problems of students in the school context and assignment to specific problem areas (learning strategies, motivation and self-confidence, school anxiety, personal problems); Information search and information sources	Problem definition (DS); Search for possible causes (DS)
Session 4	Attaining from the problem to its solution by the use of resource oriented questions	Problem definition (DS); Search for possible causes (DS); Solution and resources orientation (PSS)
Session 5	Strategies for enhancing motivation and self-confidence; Strategies for reducing anxiety	Strategy application (PSS); Solution and resources orientation (PSS); Goal orientation (PSS)
Session 6	Strategies for enhancing self-regulated learning	Strategy application (PSS); Solution and resources orientation (PSS); Goal orientation (PSS)
Session 7	Strategies for enhancing self-regulated learning	Strategy application (PSS); Solution and resources orientation (PSS); Goal orientation (PSS)
Session 8	Potential difficult situations in a counseling talk with parents and professional opportunities for action; Express and receive criticism	Coping with criticism (CopS); Dealing with difficult situations (CopS); Perspective taking (DS); Cooperative actions (PSS)
Session 9	Recapitulation of the training program; Clarification of outstanding questions	

Note. ComS = dimension communication skills; DS = dimension diagnostic skills; PSS = dimension problem-solving skills; CopS = dimension coping skills.

initial experience, and facilitate the transfer of the training content to future professional routines. Participants who portrayed the hypothetical parent were supported in developing their ability to take parents' perspectives within the context of parent-teacher talks. The participants who observed the role-plays were instructed to document the teachers' professional performance during the talk on the basis of a predefined set of questions (e.g., 'Does the teacher cooperate with the mother, inquire about her perspectives, and integrate that information into the counseling process?'; 'Does the teacher try to find out the strengths and talents of the student and how these can be utilized?'). The predefined questions served to support the observers to focus on all relevant aspects of the teachers' performance and to provide comprehensive feedback following the role-play, which in turn built the basis for subsequent reflective exchange within the group.

In addition to reflecting on their experiences during the single training sessions, participants were also encouraged to reflect on their continual competence development throughout the entire training period by completing weekly standardized diaries. By means of several open- and closed-ended questions, participants were guided to reflect on the content of the latest training sessions, the characteristics of their professional counseling behavior, their individual weaknesses and rooms for improvement, current competence advancement, perceived preparedness for future professional practice, and motivation for further competence improvement. Furthermore, the diaries included questions that specifically addressed the training issues of each session, in order to facilitate the revision and consolidation of the newly gained content knowledge. Table 5.2 provides an overview of the training contents as well as their assignment to the particular components of the four dimensions of teachers' counseling competence (Gerich et al., 2015).

Feedback Intervention

The first feedback was given right after the pretest and was generated on the basis of participants' respective results in a competence-related scenario test included in the pretest (for the description of the scenario test, its validation, and standardized evaluation, see section 2.3.1). Participants received a standardized written document, which included detailed information on their current level of counseling competence before participating in the training program displayed both as a bar chart (one bar for each competence dimension; each bar representing the achieved points as percentage of achievable points) and as a detailed text (itemized by the specific content variables of each competence dimension). In order to encourage and guide participants' learning efforts in the development of

Table 5.3

Excerpt of the feedback instrument for the dimension problem-solving skills

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In the area of 'problem-solving skills', you are already highly competent in one of the sub-aspects; in terms of the other relevant sub-aspects, you have potential for improvement.

You are highly competent in the following aspect:

Cooperative actions:
In order to provide students with the best possible support, you cooperate with parents, inquire about their perspectives, and integrate that information into the counseling process. You are prepared to help parents implement the solutions that you have come up with together. Parents are offered to contact you in case they have additional comments or questions in the future.

You have potential areas of improvement regarding your competences in the following aspects:

Strategy application:
Consider more carefully in your talks which strategies or means of support you should suggest to parents of children with learning difficulties. When doing so, think about all important aspects (e.g., development of learning strategies, improving motivation and self-confidence, getting help with homework). Also discuss with the parents concrete possibilities for implementing those suggestions in their everyday life (e.g., keeping track of homework assignments, setting up a homework friendly environment, creating weekly plans, etc.).

Goal orientation:
In your counseling talks with parents, make sure you formulate goals and strategies that you will pursue together. In a written agreement, write down goals, strategies, and dates for future meetings to ensure that all involved parties will fulfill their commitments.

Solution and resource orientation:
In talks with parents, try to find out which strengths and weaknesses their child has as well as how you can utilize those strengths. To do so, ask solution- and resource-oriented questions (e.g., "What special strengths and talents does your child have?"). Also help parents recognize and use their own possibilities for supporting their child (e.g., "What possibilities do you have in your family or circle of friends to help your child learn?").

During the training, concentrate on improving your competences in these sub-aspects of the area 'problem-solving skills'. Pay particular attention to these sub-aspects during the practice sessions in the seminar. In addition, continue to work on the sub-aspect 'cooperative actions', so that you can continue to reinforce your competence in this area.

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their counseling competence, the feedback instrument additionally comprised comprehensive information on individual rooms for improvement as well as explicit corresponding improvement strategies.

The second feedback was delivered immediately after the posttest on the basis of participants' respective posttest results in the scenario test and, again, included information about their current counseling competence after completing the training program as well as individual instructions for further improvement. Moreover, it contained information on participants' competence development during the training period by individual comparison of participants' pretest and posttest results. Table 5.3 shows an exemplary excerpt of an individual written feedback regarding the dimension problem-solving-skills for a participant with a high competence level concerning the content variable cooperative actions and a low competence level concerning the content variables strategy application, goal orientation, and solution and resource orientation.

Measures

For the pre-post-follow-up comparisons, we applied a multi-method approach for the assessment of teachers' counseling competence and its related variables, which has been validated in several previous studies (Bruder, 2011; Bruder et al., 2011; Gerich et al., 2015). It comprises an extensive paper-pencil survey, which includes several sections for measuring participants' counseling competence, knowledge of counseling and learning strategies, professional self-concept as a counselor, counseling experience, confidence regarding forthcoming counseling tasks in participants' future professional routines, and demographic information. In the follow-up test, we additionally measured participants' self-assessed competence improvement due to their participation in the training program.

Counseling Competence

Participants' counseling competence and its components were assessed by means of a scenario test. As scenario tests have been shown to be appropriate to measure competences in a standardized and economical manner that is context specific and closely related to behavior, such tests have often been applied for assessing competences, even in the field of teacher education (e.g., Klug et al., 2013; Hedlund, Witt, Nebel, Ashford, & Sternberg, 2006; Rivard, Missiuna, Hanna, & Wishart, 2007). The scenario test comprises a case study of a student with learning difficulties whose mother is seeking advice and thus requests a counseling talk. Participants were instructed to respond to 12 open-ended questions relating to the information provided in the case study. These questions

represent the 12 content variables of the four dimensions of teachers' counseling competence. The case study and the 12 open-ended questions of the scenario test are illustrated in Table 5.4.

To provide support for validation of the scenario test with regard to behavior-related data in real application situations, the scenario test data were compared to performance observations in videotaped simulated parent counseling sessions with standardized parents (Gerich et al., 2016). This approach appeared to be suitable, as the level of counseling competence measured in role-play situations has already been shown to largely correspond to the level of counseling competence demonstrated in real counseling sessions in a study with counseling students (Gallagher & Hargie, 1989). Moreover, because video recording has been shown to be an appropriate and valid strategy for the simultaneous assessment of multifaceted pedagogical skills, especially in the field of counseling (e.g., Admiraal, Hoeksma, van de Kamp, & van Duin, 2011; Huhra, Yamokoski-Maynhart, & Prieto, 2008), this method also appeared appropriate for measuring teachers' counseling competence in simulated parent counseling sessions on students' learning difficulties and learning strategies. The simulations yielded the same results as the scenario test, indicating the appropriateness of the scenario test for the cross-sectional measurement of prospective teachers' counseling competence and, most importantly, the longitudinal assessment of changes in counseling competence due to specific interventions.

To transform qualitative statements into quantitative data, participants' answers were converted into scores from 0-2 for each item using a detailed standardized rating system. The rating system includes an extensive set of possible answers to each open-ended question asked in the scenario test as well as detailed specifications on the respective scores to be awarded. An excerpt of the rating system is shown in Table 5.5. The coding was carried out by well-trained raters with sufficient content knowledge on parent counseling and learning strategies. The training of the raters included the comprehensive theoretical introduction to the specific topic of teachers' counseling competence in parent-teacher talks on the support of students' learning processes as well as the repeated joint and individual rating of exemplary qualitative statements with subsequent group reflection.

In order to test the objectivity of the rating system, and thus its robustness against any personal biases or predispositions of the raters, inter-rater reliabilities for each question were calculated in a previous study (Gerich et al., 2015), resulting in satisfactory intra-class-correlations (McGraw & Wong, 1996) between ICC = .72 and ICC = 1.00. The scenario test data served, on the one hand, for the evaluation of the outlined interventions' effectiveness and, on the other hand, for the preparation of the individual written feedback participants of experimental group 2 received after the pre- and posttest.

Table 5.4

Case study and open-ended questions of the scenario-test

Case study

Imagine that you teach fifth grade German and Biology classes at a higher track secondary school and it is currently autumn break.

Following the first exams, Mrs. Schneider, the mother of one of your students named Kristina, would like to have a counseling talk with you. Kristina received a B in German and a C in Biology. You talked on the phone with Mrs. Schneider and she told you the following:

"Kristina goes to the higher track secondary school because I wanted her to. I know that she didn't actually have a recommendation to go there, but Kristina really enjoyed learning in primary school and she always had good grades. But now I have noticed that Kristina's study habits have completely changed. She doesn't enjoy doing her homework at all anymore and I always have to fight with her in the afternoons to get her to do her homework and study. I find that really stressful and I don't really know what to do. Also, Kristina was really disappointed about getting her first bad grades in History and Geography (a D and an F, respectively). She never had grades like that in primary school. That was really hard for me, too. After that, it was even harder to get her to do her homework. But she feels really comfortable with the people in her class. Her best friend from primary school sits next to her, which really helps. You see, my husband comes home in the evenings and doesn't bother much with school things. I'm home all afternoon, but I can't really help her much with the stuff she is learning. And that's not going to get better in the years to come. I'm really not sure how I can help Kristina and I'm not sure whether it was the right decision to have her go to the higher track secondary school. If that doesn't get better, I think I might really have her switched to the lower track school for the next semester. But, on the other hand, Kristina really likes her classmates. I have already talked to her teachers for History and Geography, but they didn't really take me seriously and just said that a lot of kids have problems at first. I didn't think they were very helpful and I was kind of irritated with them, since I think education is really important and I just want what is best for my child. But I really don't want my child to have to get tutoring. I had to go and I really hated it and felt like an outsider because of it. I honestly hope that you can help me if we sit down and talk, because I really don't know what to do!"

As Kristina's teacher, you have already noticed that she has integrated herself well and gets along well with her classmates, even though she seems a little reserved. During class, Kristina speaks up a lot and answers questions. Based on her answers in class, you have the impression that she understands most of what you are teaching in your classes. On the other hand, the results of her tests, especially in Biology, were mixed. Some answers were very good and others mediocre.

Your goal as a teacher is now to have a talk with Kristina's mother and, together with her, figure out what is best for Kristina.

Table 5.4 (Continuation)

Case study and open-ended questions of the scenario-test

Perspective taking	What do you think Mrs. Schneider is feeling?
Problem definition	What problems might Kristina have?
Search for possible causes	What information would you get prior to and during the talk with her mother in order to find possible solutions after the talk?
Structuring	How do you structure the counseling talk?
Cooperative actions	How do you show Mrs. Schneider that you are interested in working with her to find a solution?
Solution & resources orientation	After you have found possible causes for Kristina's behavior: Which aspects do you talk about in order to find a good solution to Kristina's problem?
Paraphrasing; Active listening	Which talk strategies do you use in your counseling talks? Please provide examples of the strategies.
Strategy application	What learning aids or changes can you think of that you would recommend to Kristina's mother?
	Imagine that you and Kristina's mother decided on "better structuring of the homework situation" as a possible solution. Define concrete steps to implement the solution (write down each individual step).
Goal orientation	How do you end the talk with Mrs. Schneider? What do you tell her to do as the next step after the talk?
Coping with criticism	Assume that Mrs. Schneider said the following during the talk: „I have the impression that you are just defending your colleagues the whole time. But what they told me just wasn't very helpful." – How would you react to that statement?
Dealing with difficult situations	Imagine that during the talk Mrs. Schneider begins to tell you in detail about problems that she is having with her husband. – What would you do?

Table 5.5

Excerpt of the rating system for the evaluation of the scenario test data

Scale Paraphrasing – Item 7 ("Which talk strategies do you use in your counseling talk? Please provide examples of the strategies.")

The method of paraphrasing refers to the factual repetition of a message in one's own words – an important strategy for the competent and effective counseling of parents. The use of paraphrasing by a counselor both makes parents feel understood and utilizes the opportunity to correct misunderstandings. This scale assesses whether the teacher understands what paraphrasing means and remembers to apply it in counseling situations.

This category includes the following and similar answers:

- · Repeat comments in one's own words / summarize
- · Paraphrasing
- · "So you mean …"
- · "Did I understand you correctly that …?"

Participants can receive a minimum of 0 and maximum of 2 points on the paraphrasing scale. 1 point is given for naming or offering a description of the concept paraphrasing and 1 point for providing a relevant example.

Scale Searching for explanations – Item 3 ("What information would you get prior to and during the talk with Kristina`s mother in order to find possible solutions after the talk?")

In order to determine the cause of Kristina's problems, it is first necessary to collect as much information as possible on the student's personal situation. Prior to the counseling talk, the teacher should collect information on Kristina's performance and behavior both in the class as well as in her other classes. In doing so, the teacher can draw on information from his or her own class (e.g., Kristina's performance on class assignments, class participation, and homework completion), compare Kristina with her classmates, or obtain an overall picture by, for example, talking with her other teachers. During the counseling talk with Kristina's mother, the teacher can also obtain the most accurate information possible about Kristina's overall situation by asking questions about, for example, her family situation as well as her learning and free time behavior.

This category includes the following and similar answers:

- · Performance on class assignments
- · In-class behavior (e.g., inattentiveness, distraction, cooperation)
- · Kristina's learning behavior at home
- · Behavior during free time
- · Family situation
- · Talk with other teachers / school psychologists
- · Talk with Kristina

On the searching for explanations scale, participants can earn a minimum of 0 and maximum of 2 points. 1 point is given for providing one or two correct answers. 2 points are only given when participants provide at least 3 different correct answers.

Knowledge of Counseling and Learning Strategies

To measure participants' professional knowledge of counseling and learning strategies, we applied a multiple-choice test consisting of nine closed-ended questions. These nine items include four items assessing professional counseling knowledge (e.g., 'What are the advantages of the active listening technique in a counseling talk?') and five items measuring specific learning strategy knowledge (e.g., 'Which possibilities does a student have to motivate himself/herself while studying?'). Participants were requested to choose the best answer or answers (the latter in the case that multiple answers are allowed, which is noted next to the respective item). Participant responses to all items were coded as either correct or incorrect. Item-difficulties calculated in a previous study were between .35 and .89 and therefore fell within an acceptable range for inter-correlated items (Ramsey & Reynolds, 2000). The testing for scale reliability in a previous study indicated an acceptable Cronbach's alpha of $\alpha = .63$.

Professional Self-Concept as a Counselor and Counseling Experience

Participants' professional self-concept as a counselor and counseling experience were measured by means of a self-assessment questionnaire. Participants were asked to respond to items on a six-point rating scale ranging from 1 ('I completely disagree') to 6 ('I completely agree'). The scale professional self-concept consists of prospective teachers' attitude towards counseling, motivation for counseling, self-efficacy in counseling, and sense of self as a counselor. The scale experience includes items concerning prospective teachers' previous education and experiences in counseling as well as reflection on one's own counseling behavior in previous parent counseling talks. Tests of scale reliability indicated satisfactory Cronbach's alphas of $\alpha = .77$ for professional self-concept as a counselor (15 items) and $\alpha = .86$ for counseling experience (8 items).

Confidence and Self-Assessed Competence Improvement Due to Participation in the Training Program

In addition to the development of teachers' counseling competence and its related variables specified by the model of Gerich et al. (2015), we aimed to examine the effects of the interventions on prospective teachers' confidence regarding forthcoming counseling tasks in their future professional routines. To do so, the self-assessment questionnaire applied in the pre-, post-, and follow-up test additionally included corresponding items: firstly, on participants' perceived prepar-

edness for parent counseling in their future professional routines due to their university education (including the training program for the intervention groups) ('Through my university education, I feel well prepared for parent counseling in my future professional routines.') and, secondly, their emotional distress when contemplating future parent counseling talks ('I feel burdened at the thought of having to counsel parents in my future professional routines.'). Furthermore, the questionnaire in the follow-up test also measured participants' self-assessed individual competence improvement due to their participation in the training program ('I am of the opinion that my counseling abilities have improved by participating in the training program.').

Time-Series Data

The acquisition of time-series data was based on a self-assessment questionnaire included in the standardized diaries that the participants in both experimental groups completed once a week during the training period, beginning one week before the first training session and finishing one week after the last training session. It comprised several closed-ended items that were selected from the self-assessment questionnaire applied in the pre-, post-, and follow-up tests. By means of the questionnaire, we measured the following dependent variables (with one item each): participants' 1) professional self-concept as a counselor, 2) counseling experience, 3) perceived preparedness for parent counseling in future professional routines, 4) emotional distress when contemplating parent counseling talks in future professional routines, and 5) individual competence improvement due to participation in the training program. Participants were asked to respond to the items on a six-point rating scale ranging from 1 ('I completely disagree') to 6 ('I completely agree'). In order to test the reliability of the instrument, split-half reliabilities for each item were calculated, resulting in satisfactory correlation coefficients between .67 ($p < .001$) and .95 ($p < .001$).

Table 5.6 provides an overview of the outcome variables measured by means of the outlined instruments as well as the particular groups that were assessed at the respective times of measurement.

Data Analyses

Data analyses were performed using the software package SPSS Version 21. For all inferential statistics, the respective assumptions for the computed analyses were met.

Table 5.6

Measured outcome variables, applied instruments, and respective times of measurement

Variables	Instrument	Pretest	Posttest	Follow-up test	Time-series data
		CG, EG1, EG2	CG, EG1, EG2	EG1, EG2	EG1, EG2
Counseling competence		x	x	x	
Communication skills		x	x	x	
Diagnostic skills	Scenario test	x	x	x	
Problem-solving skills		x	x	x	
Coping skills		x	x	x	
Knowledge	Multiple-choice test	x	x	x	
Professional self-concept		x	x	x	x
Experience		x	x	x	x
Preparedness	Self-assessment questionnaire	x	x	x	x
Emotional distress		x	x	x	x
Individual competence improvement				x	x

Note. CG = control group; EG1 = experimental group 1 (training condition); EG2 = experimental group 2 (training + feedback condition).

In order to investigate the effects of the training program and the feedback intervention on the outlined dependent variables (hypotheses 1 and 2) as well as the stability of the intervention effects even beyond the end of the training period (hypothesis 3), we performed multivariate repeated measures MANOVAs with the between-subjects factor group (CG, EG1, EG2) and the within-subjects factor time (pretest, posttest, follow-up test). Although preliminary analyses revealed significant pretest-differences between the control group and the experimental groups regarding diagnostic-skills and counseling experience, we refrained from using Analyses of Covariance (ANCOVA) with pretest scores as a covariate, as the pretest differences were presumably not random (Jamieson, 2004), since participants assigned themselves to one of the study

groups. For the further testing of hypotheses 1 and 2, we additionally conducted cross-sectional comparisons of the two intervention groups concerning participants' concluding appraisal of their individual competence improvement due to participation in the training program inquired in the follow-up test. Although we conducted multiple analyses, we refrained from controlling type 1 error rate, as a priori hypotheses on single object comparisons, which are theoretically justified, do not require a corresponding procedure (Saville, 1990).

For the participants in the two intervention groups, we furthermore executed time-series analyses based on the self-assessment data obtained in the standardized diaries. To do so, we performed multiple regression analyses separately for the two intervention groups. In order to examine the manifestation of the pre-post-findings in specific development processes of the dependent variables over the intervention period (hypothesis 4), we tested both linear and quadratic regression models.

5.1.3   Results

Pre-Post Comparisons

A repeated measures MANOVA with the between-subjects factor group (CG, EG1, EG2) and the within-subjects factor time (pretest, posttest) revealed a significant overall interaction effect for group * time (*Wilks' lambda Λ = .114, $F(16,120) = 14.72$, $p < .001$, $\eta^2 = .66$). Pretest and posttest means, standard deviations, and results of the repeated measures MANOVA for the pre-post comparisons are illustrated in Table 5.7.

According to hypothesis 1, comparisons of the control group and the training group revealed consistently significant interactions with large effect sizes (Cohen, 1988) of group * time for all dependent variables, with the exception of emotional distress. Consequently, prospective teachers who participated in the training program showed significantly greater increases in counseling competence ($F(1,45) = 224.26$, $p < .001$, $\eta^2 = .83$) and its dimensions (communication-skills $F(1,45) = 188.56$, $p < .001$, $\eta^2 = .81$; diagnostic-skills $F(1,45) = 20.38$, $p < .001$, $\eta^2 = .31$; problem-solving-skills $F(1,45) = 75.37$, $p < .001$, $\eta^2 = .63$; coping-skills $F(1,45) = 79.47$, $p < .001$, $\eta^2 = .64$) as well as knowledge ($F(1,45) = 29.74$, $p < .001$, $\eta^2 = .40$), professional self-concept ($F(1,45) = 12.75$, $p = .001$, $\eta^2 = .22$), and experience ($F(1,45) = 32.59$, $p < .001$, $\eta^2 = .42$) than prospective teachers who did not participate in the training. Furthermore, analyses revealed a significantly greater increase for the training group than the control group concerning prospective teachers' perceived preparedness for parent counseling talks in their future professional routines due to their university education ($F(1,45) = 54.11$, $p < .001$, $\eta^2 = .55$). Regarding participants' emotional

distress when contemplating future parent counseling talks, analyses did not reveal a significant difference between the control group and the training group ($F(1,45) = 1.00$, $p = .322$, $\eta^2 = .02$).

Table 5.7

Descriptive statistics and results of the repeated measures MANOVAs for the pre-post comparison

Dependent variables	Pretest	Posttest	Interaction group * time					
			Overall		CG vs. EG1		EG1 vs. EG2	
	M (SD)	*M (SD)*	*F*	η^2	*F*	η^2	*F*	η^2
Counseling competence [a]			173.02 ***	.84	224.56 ***	.83	4.04 *	.08
CG	.72 (.25)	.68 (.29)						
TG	.83 (.21)	1.79 (.20)						
TFG	.78 (.17)	1.87 (.13)						
Communication skills [a]			151.85 ***	.82	188.56 ***	.81	5.20 *	.10
CG	.27 (.27)	.25 (.26)						
TG	.43 (.22)	1.79 (.33)						
TFG	.32 (.20)	1.92 (.21)						
Diagnostic skills [a]			21.78 ***	.39	20.38 ***	.31	2.56	.05
CG	1.21 (.27)	1.13 (.36)						
TG	1.43 (.27)	1.81 (.21)						
TFG	1.28 (.23)	1.81 (.15)						
Problem-solving skills [a]			49.79 ***	.60	75.37 ***	.63	0.08	.00
CG	.80 (.30)	.77 (.40)						
TG	.91 (.30)	1.83 (.19)						
TFG	.97 (.33)	1.87 (.16)						
Coping skills [a]			53.06 ***	.61	79.47 ***	.64	1.46	.03
CG	.60 (.62)	.57 (.55)						
TG	.56 (.52)	1.71 (.32)						
TFG	.57 (.48)	1.89 (.21)						
Knowledge [b]			18.23 ***	.35	29.74 ***	.40	0.25	.01
CG	5.00 (1.92)	4.95 (1.56)						
TG	5.19 (1.10)	7.62 (1.10)						
TFG	5.91 (1.04)	8.13 (1.25)						

Table 5.7 (Continuation)

Descriptive statistics and results of the repeated measures MANOVAs for the pre-post comparison

Dependent variables	Pretest	Posttest	Interaction group * time					
			Overall		CG vs. EG1		EG1 vs. EG2	
	M (SD)	*M (SD)*	*F*	*η²*	*F*	*η²*	*F*	*η²*
Professional self-concept [c]			9.46 ***	.22	12.75 **	.22	0.26	.01
CG	4.51 (.57)	4.51 (.48)						
TG	4.40 (.51)	4.97 (.74)						
TFG	4.70 (.33)	5.20 (.29)						
Experience [c]			24.00 ***	.42	32.59 ***	.42	0.70	.02
CG	2.75 (1.16)	2.63 (1.16)						
TG	1.95 (0.61)	3.23 (0.61)						
TFG	2.01 (0.83)	3.47 (0.44)						
Preparedness [c]			30.23 ***	.47	54.11 ***	.55	0.08	.00
CG	2.14 (1.32)	2.38 (1.32)						
TG	1.92 (0.94)	4.85 (1.05)						
TFG	2.00 (1.31)	5.04 (0.71)						
Emotional distress [c]			1.14	.03	1.00	.02	0.01	.00
CG	2.36 (1.26)	2.36 (1.18)						
TG	2.69 (1.01)	2.15 (0.78)						
TFG	2.61 (1.16)	2.04 (0.71)						

Note. CG = control group; EG1 = experimental group 1 (training); EG2 = experimental group 2 (training + feedback). [a] Range 0-2 (0 = min. parameter value; 2 = max. parameter value); [b] Range 0-9 (0 = min. parameter value; 9 = max. parameter value); [c] Range 1-6 (1 = min. parameter value; 6 = max. parameter value). * $p < .05$. ** $p < .01$. *** $p < .001$.

According to hypothesis 2, participants that received individual feedback on their pretest results showed a significantly greater increase, with moderate effect sizes, in the overall score of counseling competence ($F(1,47) = 4.04$, $p = .050$, $η² = .08$) and communication-skills ($F(1,47) = 5.20$, $p = .027$, $η² = .10$) than those who only participated in the training program. However, against our hypothesis, the pre-post comparisons for the competence dimensions diagnostic-skills, problem-solving-skills, and coping-skills showed no additional significant effects of the feedback intervention beyond the effects of the training program. Furthermore, we failed to find any significantly greater increases in the training

+ feedback group than the training group in terms of knowledge, professional self-concept, and experience as well as participants' confidence and emotional distress when contemplating parent counseling talks in future professional routines.

Post-Follow-Up Comparisons

In order to examine the stability of the intervention effects even beyond the end of the training period (hypothesis 3), we conducted a repeated measures MANOVA with the between-subjects factor group (EG1, EG2) and the within-subjects factor time (posttest, follow-up test). The control group was not included in this analysis, as only the two experimental groups completed the follow-up test. The repeated measures MANOVA revealed a significant main effect for the within-subjects factor time (*Wilks' lambda* $\Lambda = .555$, $F(9,37) = 3.29$, $p = .005$, $\eta^2 = .45$). However, this main effect turned out to be significant for value decreases from posttest to the follow-up test only for the dimension diagnostic-skills ($F(1,45) = 4.29$, $p = .044$, $\eta^2 = .09$) and knowledge of counseling and learning strategies ($F(1,45) = 4.93$, $p = .031$, $\eta^2 = .10$). All remaining measured variables, particularly the overall score of counseling competence, showed no significant decreases from the posttest to the follow-up test, indicating the stability of the intervention effects. The between-subject factor group did not have an impact on participants' values, as we did not find a significant interaction effect for group * time (*Wilks' lambda* $\Lambda = .830$, $F(9,37) = .843$, $p = .582$, $\eta^2 = .17$). Figure 5.2 displays the results of the repeated measures MANOVAs for the pre-post and the post-follow-up comparisons.

Self-Assessed Individual Benefit from Participation in the Training Program

The additional analyses based on the cross-sectional measurement of participants' final self-assessments of their individual competence improvement due to the participation in the training program (within the framework of the follow-up test) revealed the following results. The follow-up test measures illustrated that participants in both intervention groups retrospectively assessed their individual competence improvement due to the participation in the training program as being high ($M_{EG1} = 5.58$, $SD_{EG1} = .58$; $M_{EG2} = 5.95$, $SD_{EG2} = .21$; Range: 1-6), which provides additional support for hypothesis 1. Moreover, further confirming hypothesis 2, the comparison of the two intervention groups by means of a MANOVA revealed that prospective teachers who received the additional feedback rated their competence improvement higher than those who only participated in the training program ($F(1,44) = 7.92$, $p = .007$, $\eta^2 = .15$).
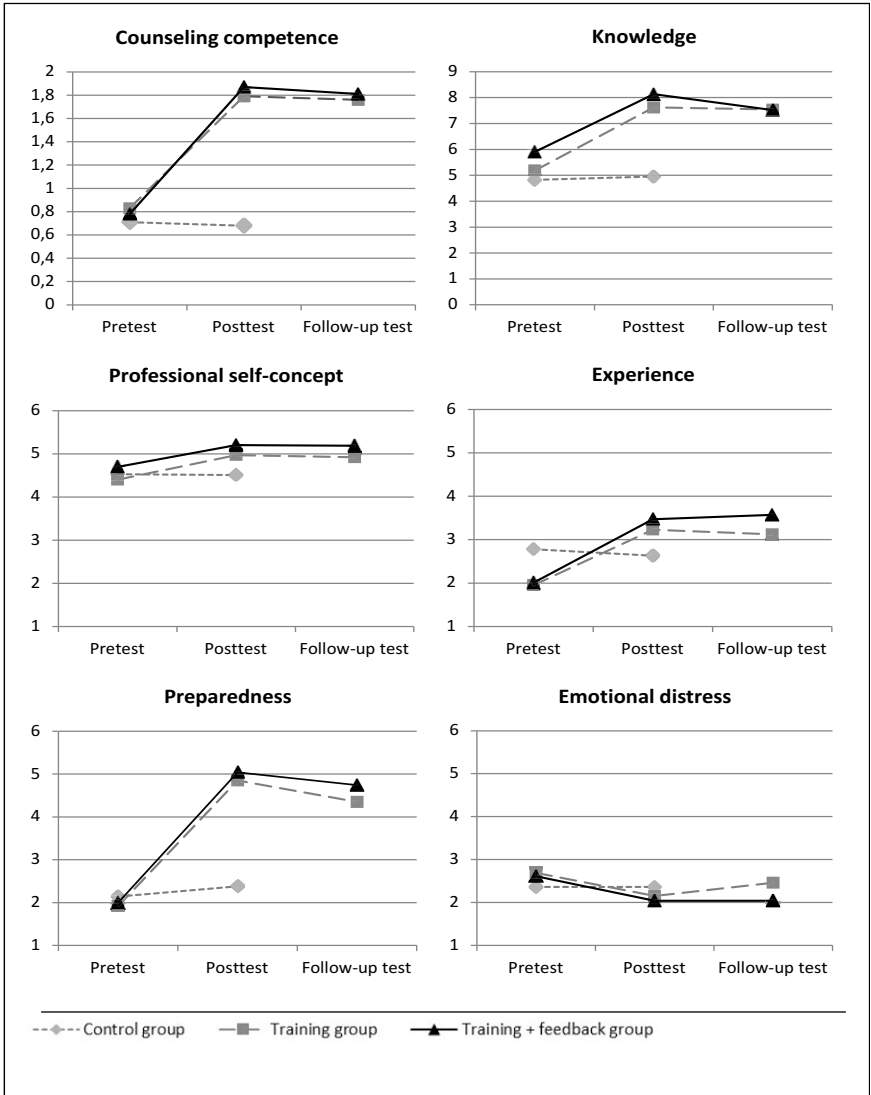
Figure 5.2. Results of the repeated measures MANOVAs for the pre-post and the post-follow-up comparisons.

Time-Series Analyses

Corresponding to hypothesis 4, most of the observed dependent variables showed significant regressions on time (see Table 5.8). For both intervention groups, the trajectories of participants' counseling experience, preparedness for future professional routines, and emotional distress when contemplating parent counseling tasks in future professional routines were best represented by a linear regression model. Here, participants' counseling experience and preparedness increased, whereas emotional distress decreased over the training period.

Concerning participants' self-assessed individual competence improvement, the regression analysis revealed differences between the two intervention groups. The trajectory for prospective teachers in experimental group 2 was best represented by a linear regression model. On the contrary, the trajectory for participants in experimental group 1 was best represented by a negative quadratic regression model. Consequently, prospective teachers who received individual feedback in addition to their participation in the training program reported a continually increasing improvement in their counseling competence until the end of the training period. Prospective teachers who only participated in the training program also reported a continually increasing competence improvement over a major portion of the training period. However, this increase leveled off towards the end of the training program.

Regarding participants' professional self-concept, we found no significant regression effects in both groups, as prospective teachers' values were rather high from the beginning (EG1: $M = 4.88$, $SD = .95$; EG2: $M = 5.15$, $SD = .61$) until the end of the training period (EG1: $M = 4.90$, $SD = 1.52$; EG2: $M = 5.33$, $SD = .69$). Figure 5.3 displays the trajectories of the observed dependent variables for both intervention groups.

5.1.4 Discussion

The central purpose of the current study was to investigate the effectiveness of a training program as well as an additional feedback intervention on prospective teachers' counseling competence in parent-teacher talks on the support of students' learning processes.

Table 5.8

Results of the hierarchical regression analyses

	EG1						
	Model 1				**Model 2**		
	B	***SE B***	**ß**		***B***	***SE B***	**ß**
Professional self-concept							
Intercept	4.99	.18			4.92	.31	
Time linear	.02	.03	.04		.06	.15	.13
Time quadratic					-.01	.02	-.10
ΔR^2		.00				.00	
F-test	$F(1, 189) = .24$				$F(1, 188) = .09$		
Experience							
Intercept	2.75	.16			2.63	.27	
Time linear	.17	.03	.39 ***		.24	.13	.55
Time quadratic					-.01	.01	-.16
ΔR^2		.15				.00	
F-test	$F(1, 189) = 34.10$ ***				$F(1, 188) = .28$		
Preparedness							
Intercept	3.89	.11			3.61	.19	
Time linear	.18	.02	.54 ***		.33	.09	1.00 ***
Time quadratic					-.02	.01	-.48
ΔR^2		.29				.01	
F-test	$F(1, 184) = 74.25$ ***				$F(1, 183) = 2.96$		
Emotional distress							
Intercept	2.80	.12			2.91	.20	
Time linear	-.05	.02	-.17 *		-.12	.10	-.37
Time quadratic					.01	.01	.21
ΔR^2		.03				.00	
F-test	$F(1, 188) = 5.36$ *				$F(1, 187) = .43$		
Self-assessed competence improvement							
Intercept	3.58	.12			2.95	.20	
Time linear	.27	.02	.64 ***		.63	.10	1.52 ***
Time quadratic					-.04	.01	-.90 ***
ΔR^2		.42				.04	
F-test	$F(1, 189) = 134.11$ ***				$F(1, 188) = 14.27$ ***		

Note. EG1 = experimental group 1 (training condition). * $p < .05$. ** $p < .01$. *** $p < .001$.

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Table 5.8 (Continuation)

Results of the hierarchical regression analyses

| | EG2 | | | | | | |
| | Model 1 | | | | Model 2 | | |
	B	**SE B**	**ß**		**B**	**SE B**	**ß**
Professional self-concept							
Intercept	5.21	.11			5.16	.19	
Time linear	.02	.02	.07		.05	.09	.17
Time quadratic					-.00	.01	-.10
ΔR^2		.01				.00	
F-test	$F(1, 229) = 1.21$				$F(1, 228) = .12$		
Experience							
Intercept	3.20	.12			3.10	.22	
Time linear	.18	.02	.46 ***		.24	.10	.61 *
Time quadratic					-.01	.01	-.15
ΔR^2		.22				.00	
F-test	$F(1, 227) = 62.16$ ***				$F(1, 226) = .33$		
Preparedness							
Intercept	3.59	.13			3.53	.23	
Time linear	.20	.02	.48 ***		.24	.11	.57 *
Time quadratic					-.00	.01	-.09
ΔR^2		.23				.00	
F-test	$F(1, 228) = 67.85$ ***				$F(1, 227) = .12$		
Emotional distress							
Intercept	3.18	.13			2.95	.23	
Time linear	-.09	.02	-.25 ***		.03	.11	.09
Time quadratic					-.01	.01	-.36
ΔR^2		.06				.01	
F-test	$F(1, 226) = 15.58$ ***				$F(1, 225) = 1.55$		
Self-assessed competence improvement							
Intercept	3.83	.13			3.68	.22	
Time linear	.22	.02	.54 ***		.31	.10	.75 **
Time quadratic					-.01	.01	-.21
ΔR^2		.29				.00	
F-test	$F(1, 225) = 91.61$ ***				$F(1, 224) = .74$		

Note. EG2 = experimental group 2 (training + feedback condition). * $p < .05$. ** $p < .01$. *** $p < .001$.
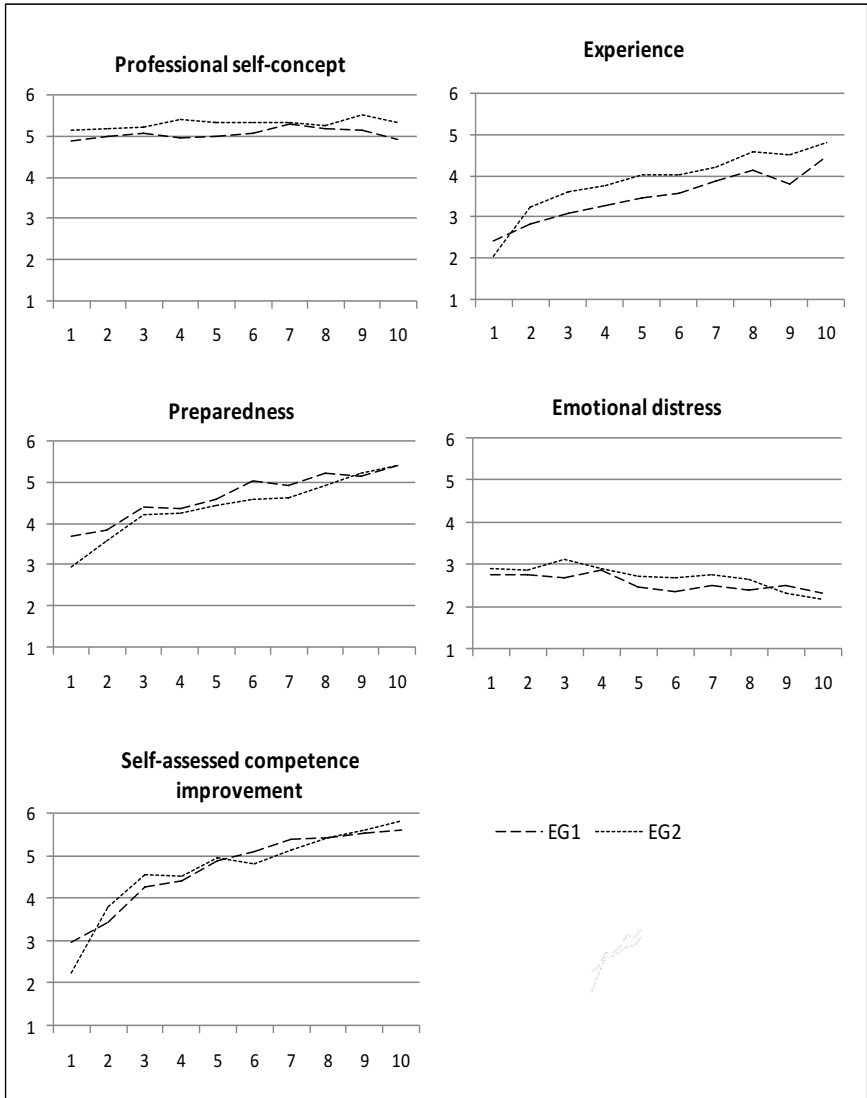
Figure 5.3. Trajectories of the observed dependent variables for both intervention groups.

Pre-Post-Follow-Up Developments

Results of the pre-post-follow-up comparisons showed that the participation in the outlined training program led to considerable improvements in prospective teachers' counseling competence, knowledge of counseling and learning strategies, professional self-concept as a counselor, counseling experience, and confidence in view of forthcoming parent counseling talks in future professional routines. In view of the feedback intervention, analyses revealed additional positive effects on participants' overall counseling competence as well as the dimension communication-skills. These results were predominantly confirmed by the cross-sectional measurements in the follow-up test regarding prospective teachers' retrospective self-assessed benefit from participating in the training program and receiving the individual feedback. Moreover, by means of the follow-up test data, we were able to verify the stability of the observed intervention effects even beyond the end of the training period for most of the assessed outcome variables. Only for diagnostic-skills and knowledge of counseling and learning strategies did we find significant decreases from the posttest to the follow-up test. However, these decreases were apparently not accompanied by a decrease in prospective teachers' overall counseling competence. The decrease in participants' knowledge in contrast to the stability of participants' overall counseling competence might have been caused by the fact, that the multiple-choice test is intended to measure theoretical knowledge, which is less stable over time than practical competences. The decrease in participants' diagnostic-skills cannot be finally explained from the current position, but might be further investigated in subsequent studies.

Time-Series Developments

The results of the time-series analyses also predominantly confirmed the effectiveness of both the training program and the feedback intervention in the form of specific development processes of the assessed outcome variables over the intervention period. However, regarding particular dependent variables, the time-series analyses yielded results different from the pre-post-follow-up comparisons. Although the pre-post comparisons revealed no significant changes in participants' emotional distress when contemplating future parent counseling talks, the process data indicated a significant negative linear regression for this dependent variable. In contrast, although the pre-post comparisons revealed significant increases in participants' professional self-concept over the training period for both intervention groups, we found only non significant linear and quadratic regressions for professional self-concept based on the process data. Upon closer

inspection of the process data, the process results for professional self-concept might be caused by the occurrence of a ceiling effect, as prospective teachers' values were already at a high baseline level at the beginning of the training period. Moreover, in comparison with the pretest data on prospective teachers' professional self-concept, participants' mean values in the first standardized diary were visibly higher than those in the pretest. On the contrary, participants' mean values for emotional distress in the first standardized diary were visibly lower than those in the pretest. These differences between the pretest and diary data might be explained by the fact that the completion of the first diary took place in the week after completing the pretest. Thus, it might be reasonable to assume that the intensive dealing with the topic of teachers' counseling competence during the completion of the pretest already encouraged participants' mental occupation with the subject and, thereby, positively influenced prospective teachers' professional self-concept and emotional distress in view of future parent counseling talks. With regard to participants' self-assessed competence improvement due to participating in the training program, the time-series analyses yielded different trajectories for the two experimental groups. The linear regression for the training + feedback group compared to the negative quadratic regression for the training group indicates that the individual feedback compensated for the flattening of prospective teachers' self-assessed competence improvement towards the end of the training period. This, in turn, prognosticates further positive developments in participants' self-assessed competence improvement even beyond the end of the intervention period and again demonstrates the additional benefit of the feedback intervention on the development of prospective teachers' counseling competence.

Characteristics of the Training Program and the Feedback Intervention

In summary, our findings showed that, with the help of appropriate interventions, prospective teachers can be supported in acquiring the knowledge and interpersonal competences they will need to counsel parents in their future professional routines, develop a professional self-concept as a counselor, and gain initial counseling experience in early teacher education. Accordingly, our findings confirm the growing demand in international educational research and practice for a better integration of specific curricular modules in early teacher preparation (e.g., Dotger, 2010; German Society for Psychology, 2008) in order to reduce the high percentage of novice teachers that do not feel well prepared for parent counseling and collaboration when they enter the profession (Epstein, 2005; Mandel, 2006).

Within the framework of conceptualizing suitable teacher training interventions, both the outlined training program and the feedback instrument, which were developed on the basis of the model of teachers' counseling competence (Gerich et al., 2015), can serve as a valuable blueprint. In the case of the training program, one of the most important instructional features consists of the large sequences of active learning (cf. Caspersen, 2013; Sullivan & Rosin, 2008; Huang, Lubin, & Ge, 2011), particularly within the framework of extensive role-play exercises based on realistic case examples. Because prospective teachers typically do not have the opportunity to hold real parent-teacher talks, these role-play exercises provide participants the opportunity to apply their theoretical knowledge in practical, realistic situations (cf. Kolodner et al., 2003). Another central instructional feature of the training program consists of the continuous stimulation of participants' reflections on their counseling behavior in the role-play exercises (cf. Sullivan & Rosin, 2008) as well as on their continuous competence development throughout the training period by the use of weekly standardized diaries. Thus, these findings of the present study are consistent with the current state of research on the impact of active and reflective learning on the professional development of teachers and counselors (Furr & Carroll, 2003; Hershfeldt et al., 2012; Jennings et al., 2003; Postholm, 2008; Watts & Lawson, 2009). In the case of the feedback intervention, the most important characteristic, which has to be considered within the framework of developing further feedback instruments for teacher education, is its process-orientation. The detailed description of participants' current level of counseling competence in terms of information on individual strengths and weaknesses as well as explicit corresponding improvement strategies (cf. Brown, 2004; Hattie & Timperley, 2007; Narciss, 2008) was beneficial in encouraging and guiding participants' learning efforts in the development of their counseling competence. Altogether, our findings concerning the beneficial effect of the outlined feedback intervention on participants' professional development also accord with the current state of research on the positive impact of feedback on teachers' and counselors' professional development (Caspar et al., 2004; Copland, 2010; Lambert et al., 2002).

The foundation of the training program and the feedback intervention on the model of teachers' counseling competence (Gerich et al., 2015) offered several advantages. This first concerns the process of selecting and arranging the specific training contents and feedback categories. The orientation on the empirical validated model ensured that the training program and the feedback contained the most important skills and abilities a teacher should possess in the context of counseling parents to support their children's educational progress. Secondly, due to the specified relation of knowledge, professional self-concept, and experience to counseling competence in the model, not only the improvement of the subcomponents of the four competence dimensions but also the advancement of

those important variables related to counseling competence could be focused within the development and implementation of the outlined interventions. Thirdly, the shared theoretical basis of the training program and the feedback intervention permitted an optimal match of the two examined interventions. Finally, in addition to the outlined comprehensive training program on the development of prospective teachers' abilities in all four dimensions of counseling competence, the multi-dimensionality of the model allows for the conception of modularized training programs on the advancement of specific subsidiary skills.

Assessment of Counseling Competence and its Related Variables

In order to design precisely tailored interventions for specific target groups, the scenario test used in the current study might be applied for the differential assessment of individuals' and groups' specific needs, the creation of individual competence profiles as well as the provision of detailed individual feedback on (prospective) teachers' counseling competence, such as in the current study. Given that prospective teachers typically do not have the opportunity to counsel parents and, therefore, observation in real counseling sessions is not possible, one major advantage of the scenario test is that it allows for the valid measurement of (prospective) teachers' counseling competence even outside the actual application situation (Gerich et al., 2016). In addition to its suitability for the cross-sectional ascertainment of participants' initial state of counseling competence at the beginning of the intervention period, the scenario test was also suitable for the systematic longitudinal evaluation of the training program and feedback intervention in the current study. This also applies to the multiple-choice test for the assessments of participants' knowledge of counseling and learning strategies as well as the self-assessment questionnaire for measuring participants' professional self-concept as a counselor and counseling experience. The additional items in the self-assessment questionnaire for the measurement of prospective teachers' confidence in view of forthcoming parent counseling talks in their future professional routines and their self-assessed competence improvement also proved helpful for the evaluation of the interventions. By means of these items, we were able to examine the intervention effects not only on an objective level. Rather, we could also show that the effects of the training program and feedback intervention were manifested in participants' subjective appraisal of their individual benefit from participating in the training program. Beyond the outcome-oriented comparisons of participants' pre-, post-, and follow-up test measures, the self-assessment items included in the weekly completed standardized diaries allowed for the evaluation of the interventions from a process-analytic perspective. In this context, the time-series data provided additional

information concerning the kind of trajectory of participants' values over the training period and enabled the comparison of the two experimental groups in this regard.

Limitations and Outlook

Although the findings of the current study already provide many important implications for teacher education, additional research is still necessary.

With regard to the procedure of the study, the design proved to be appropriate for the investigation of our research questions. By means of the pre-, post-, and follow-up tests, we were able to examine the effectiveness of the training program and feedback intervention as well as the stability of the intervention effects even beyond the end of the training period. However, beyond the follow-up test realized in the current study (eight weeks after the posttest), further investigations should strive for an additional, considerably later date of measurement – for example, when prospective teachers enter the profession – in order to further validate the long-term intervention effects. Moreover, subsequent studies should also examine intervention effects on additional measures, which are not included in the model of teachers' counseling competence (Gerich et al., 2015), such as prospective teachers' confidence in view of forthcoming parent counseling talks in their future professional routines, which was considered in the current study.

Concerning the quasi-experimental design of our study, we have to consider the possibility that our results were influenced by self-selection. Whereas the training program on counseling competence was carried out with students who attended an optional course on educational psychology (experimental groups), prospective teachers in the control group participated in an alternative compulsory course. Thus, prospective teachers who took part in the optional course may have been more motivated to increase their counseling competence than those who did not, which might have had an influence on the results. In this context, the lower average number of semesters of the control group compared to the experimental groups (see Table 5.1) must be critically reviewed as well. This difference between the observed treatment groups might also be a reason for the pretest-differences between the control group and the experimental groups regarding diagnostic-skills and counseling experience, as participants in the experimental groups might already have had more opportunities in their studies to train their skills in these areas. Regarding the exclusion of participants from analyses it is not to be assumed that this had an influence on the results as the excluded prospective teachers did not differ from those included in the analyses regarding their demographic data, except for their subjects of study. As a conse-

quence, future research should test whether the outlined results can be reproduced in a study with random assignment to the experimental groups and control group, preferably on the basis of larger sample sizes.

Consideration should also be given to the implementation of an additional experimental group, in which participants receive individual feedback but do not participate in the training program, in order to examine the effects of the feedback intervention independent of the training program. Although the pre-post comparisons provided evidence for the beneficial effects of the individual feedback intervention on prospective teachers' overall counseling competence as well as the dimension communication-skills, it did not cause additional increases in the remaining dimensions nor in participants' knowledge, professional self-concept, and experience. Analyses also failed to reveal additional improvements in participants' confidence and emotional distress in view of forthcoming parent counseling talks in future professional routines due to the feedback. A possible reason for these results might be that the additional effects of the feedback intervention have been overshadowed by the large effects of the training program. In fact, as participants who received the feedback intervention reported significantly higher competence improvements in the cross-sectional posttest self-assessments than prospective teachers who participated only in the training program, there is a strong indication for this explanation and, therefore, for the additional benefit of the feedback intervention as it has already been applied in the current study.

But also the feedback intervention itself might be further optimized with regard to its effectiveness, as the lack of additional improvements might also have been caused by certain insufficiencies of the feedback intervention. Here, a particular weakness of the feedback intervention might consist in the fact, that feedback was only provided on two occasions, namely after the pre- and posttest. In this context the beneficial effects of providing more frequent and repeated feedback throughout the intervention period should be investigated in subsequent studies. Moreover, a specific reflection assignment following the feedback may increase its effectiveness, as several studies have shown the positive impact of supporting feedback recipient's reflections on the information provided in the feedback (e.g., Anseel, Lievens, & Schollaert, 2009). Another modification of the feedback intervention may consist in a subsequent goal setting instruction, as several studies demonstrate the positive effect of the interplay between receiving feedback and setting learning goals on competence development (e.g., Rakoczy, Harks, Klieme, Blum, & Hochweber, 2013). Empirical evidence has shown that setting learning goals entails deeper, more self-regulated and persistent learning strategies as well as greater intrinsic motivation and performance (Grant & Dweck, 2003; Harackiewicz, Barron, Pintrich, Elliot, & Trash, 2002; Locke & Latham, 2002; Nicol & Macfarlane-Dick, 2006).

Conclusion

The findings of the current study demonstrate that prospective teachers' counseling competence can be successfully fostered by means of appropriate teacher education programs. Given the current insufficient consideration of counseling competence in the context of teacher education, correspondent curricula on this important topic should become a fixed component in early teacher preparation as well as continuing education. In this context, the outlined training program could serve as a first blueprint for appropriate programs all around the world. Such programs should particularly include large sequences of active and reflective learning, as this has been shown to have a positive effect on participants' actual and perceived competence improvement within the current study. Moreover, our findings indicate an additional beneficial impact of providing individual process-oriented feedback on participants' competence development. However, in order to reliably determine the effectiveness of this intervention, further investigations are necessary. With regard to the current state of research (Epstein, 2005; Mandel, 2006), prospective teachers' increased perceived preparedness for their future professional routines due to participating in the training program presumably reduces the reality shock when prospective teachers enter the profession. This, in turn, could lead to greater job satisfaction and reduced occupational stress for teachers (Darling-Hammond, 2000; Pas et al., 2012) as well as the more frequent offering of counseling (Wild, 2003) from which both students and parents can benefit.

6 Study 3

6.1 Manuscript C: Using Simulated Parent-Teacher Talks to Assess and Improve Prospective Teachers' Counseling Competence [3]

Abstract

In research on parental involvement and teacher professionalization, counseling parents on the support of their children's learning processes is considered to be an increasingly important competence area of teachers. However, to date little research has been conducted on the development of appropriate approaches to the assessment of teachers' counseling competence. The current study describes the validation of a behavior-based instrument for the assessment of teachers' counseling competence including counseling talk simulations with standardized parents as well as the examination of its suitability as an intervention for the improvement of participants' counseling competence. The validation was carried out within the framework of a longitudinal quasi-experimental study with 51 prospective teachers. Multivariate repeated measures MANOVAs revealed the suitability of the counseling talk simulations both as an assessment instrument and an intervention. Results provide numerous implications for teacher preparation and continuing education, for example, the use of the counseling talk simulations as a didactical tool within the framework of teacher training programs.

6.1.1 Introduction

Counseling students and their parents is considered to be an increasingly important task for teachers (Guli, 2005; Valli & Rennert-Ariev, 2000). Consequent-

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ly, it has even been specified as a key aspect in recent concepts of teachers' professional competences (e.g., Baumert & Kunter, 2006) as well as world-wide government recommendations and standards for teacher education (e.g., National Commission on Teaching and America's Future, 1997; Standing Conference of the Ministers of Education and Cultural Affairs of the States in the Federal Republic of Germany, 2004). In particular, counseling parents concerning the support of their children's learning activities plays an increasingly important role (Whiston, Tai, Rahardja, & Eder, 2011), as research on parental involvement has frequently demonstrated its beneficial effects on students' academic development as well as their social, emotional, and behavioral adjustment (Cox, 2005; Hill & Tyson, 2009; Pomerantz, Moorman, & Litwack, 2007). Especially home-based involvement practices, such as providing assistance with homework, enhancing motivation, and structuring time for homework and leisure, have been shown to improve academic achievement (Fan & Chen, 2001; Henderson & Mapp, 2002). Consequently, parents increasingly request guidance from teachers concerning the support of their children in homework and learning activities (Hoover-Dempsey, Walker, Jones, & Reed, 2002). Consequently, in order to meet these high demands and capitalize on the full potential of involving parents in their children's learning processes, teachers have to possess essential counseling competences.

Assessment of Teachers' Counseling Competence

Although the current state of research clearly emphasizes the prominent role of teachers' counseling competence in parent-teacher talks in the development of high-quality educational processes, there has been little research on this important teacher competence. Approaches to the measurement of teachers' counseling competence in parent-teacher talks, in particular, are still rare. To date, there are only a few instruments for its standardized assessment, which are primarily based on self-reports. For example, Hertel (2009) developed a self-assessment questionnaire for the measurement of teachers' counseling competence including the scales personal resources, social cooperation competence, counseling skills and pedagogical knowledge, process competence, and coping. However, instead of capturing a person's real competences in specific situations, self-reports are more likely to record an individual's general self-concept (Spencer & Spencer, 1993) or the importance assigned to a specific behavior (Constantine & Ladany, 2000). On this account, approaches to the more objective and contextual assessment of teachers' counseling competence in parent-teacher talks are necessary.

To this, Bruder (2011) developed and validated a Situational Judgement Test (SJT) for the assessment of teachers' counseling competence in parent-teacher talks. As SJTs have been shown to have substantial criterion-related validities for the criterion of job performance (McDaniel, Morgeson, Finnegan, Campion, & Braverman, 2001), the author considered the SJT approach to be a promising method for measuring teachers' counseling competence in a behavior-based manner. The author developed 13 items measuring the scales counseling skills, diagnostic and pedagogical knowledge, collaboration and perspective taking, and coping. Each of the 13 items describes a short, realistic parent counseling situation in which a specific behavior is requested followed by four multiple-choice answer options presenting a range of possible activities. The participant is asked to choose the best and worst possible activities. In a subsequent study, Bruder, Keller, Klug, and Schmitz (2011) additionally established a short test form of the SJT including 6 of the original 13 items.

Scenario Test for the Assessment of Teachers' Counseling Competence

To date, one of the best validated instruments for the assessment of teachers' counseling competence in parent-teacher talks on the support of students' educational processes is a scenario test established by Bruder (2011) and Gerich, Bruder, Hertel, Trittel, and Schmitz (2015). The scenario test is based on the model of teachers' counseling competence in parent-teacher talks on the support of students' learning processes (in the following, we use the abbreviated term 'counseling competence') by Gerich et al. (2015; see Figure 6.1). This four-dimensional model was developed on the basis of literature on general counseling competence, counseling in schools, parent counseling, and counseling on learning strategies (e.g., Guli, 2005; McLeod, 2003; Sheridan, Kratochwill, & Bergan, 1996) as well as preliminary approaches to modeling teachers' counseling competence for the subsample of higher track secondary school teachers (Bruder, 2011; Hertel, 2009). The proposed model structure was empirically validated conducting structural equation modeling on the basis of 357 primary and secondary school teachers' data. The model includes the most important skills and abilities that a teacher should possess in the context of counseling parents in how to support their children's educational progress: (1) *communication skills*, containing general counseling practices such as 'active listening', 'paraphrasing', and 'structuring' the talk; (2) *diagnostic skills*, including aspects necessary to analyze existing problems and identify potential causes such as 'problem definition', 'search for possible causes', and 'perspective taking'; (3) *problem-solving skills*, comprising aspects necessary to develop and initiate appropriate and customized solutions for learning difficulties such as 'applica-

tion of learning strategies', 'goal orientation', 'solution and resource orientation', and 'cooperative actions'; and (4) *coping skills*, including strategies for 'coping with criticism' and 'dealing with difficult situations' in the course of the counseling talk. In addition to these four dimensions, the authors identified several specific variables that are positively related to the level of teachers' counseling competence: *knowledge of counseling and learning strategies*, *professional self-concept as a counselor*, and *counseling experience* (in the following, these terms are used interchangeably with the abbreviations 'knowledge', 'professional self-concept', and 'experience').
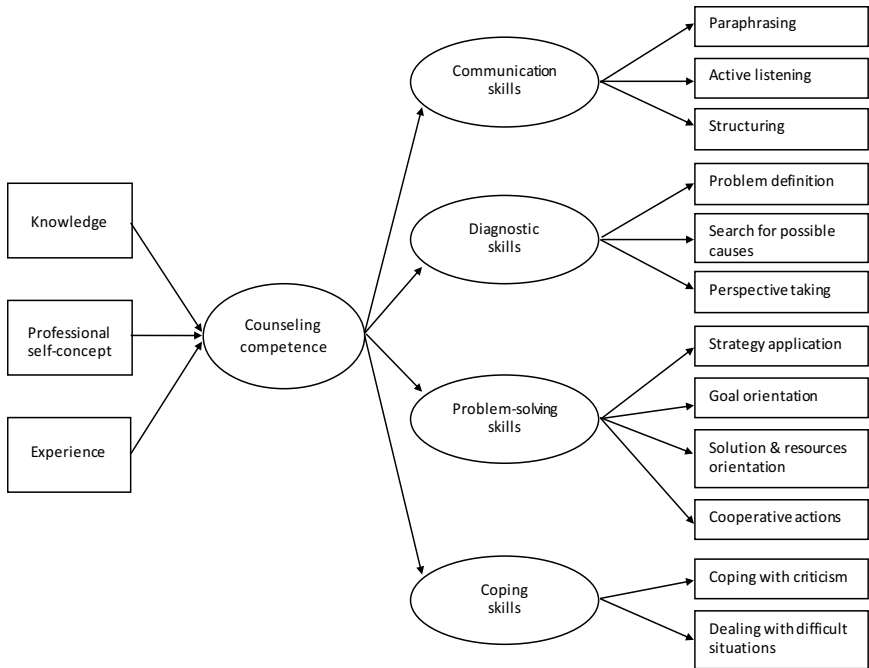

Figure 6.1. Model of teachers' counseling competence (Gerich et al., 2015).

The scenario test was developed for the assessment of teachers' counseling competence both overall as well as subdivided into the four competence dimensions. As scenario tests have been shown to be appropriate to measure competences in a standardized and economical manner that is context specific and closely related to behavior (Hedlund, Witt, Nebel, Ashford, & Sternberg, 2006), they have often been used in research on professional competences, even in the field of teacher competences (e.g., Klug, Bruder, Kelava, Spiel, & Schmitz, 2013). The scenario test for the assessment of teachers' counseling competence contains a case study of a student with learning difficulties whose mother is seeking advice and thus requests a counseling talk. Participants are requested to respond to 12 open-ended questions referring to the information given in the case study. These questions represent the 12 content variables of the four dimensions of teachers' counseling competence (e.g., "What information would you collect prior to and during the talk with Kristina's mother in order to find possible solutions to implement after the talk?" for the variable search for possible causes). In the evaluation of participants' responses, the qualitative statements are converted into quantitative scores by means of a detailed rating system (for a comprehensive description of the scenario test, its development and validation, see Bruder (2011) and Gerich et al. (2015)).

Behavior-Based Instruments for the Assessment of Teachers' Counseling Competence

In the studies by Bruder (2011) and Gerich et al. (2015), the scenario test has been shown to be an objective and economic strategy for the itemized measurement of teachers' counseling competence. Nevertheless, behavior-based instruments for the assessment of teachers' counseling competence, for example, direct performance observation in concrete and realistic application situations (Kane, 1992), have yet to be developed.

In this context, a promising alternative is the performance observation in videotaped simulated parent-teacher talks involving role-playings with standardized parents. This approach appears to be suitable, as the level of counseling competence measured in role-play situations has already been shown to largely correspond to the level of counseling competence demonstrated in real counseling talks in a study with counseling students (Gallagher & Hargie, 1989). Moreover, because video recording has been shown to be an appropriate and valid strategy for the simultaneous assessment of multifaceted pedagogical skills, especially in the field of counseling (e.g., Admiraal, Hoeksma, van de Kamp, & van Duin, 2011), this method also appears appropriate for measuring teachers'

counseling competence in simulated parent-teacher talks on the support of students' learning processes.

One of the first approaches of applying simulated parent-teacher talks in the field of teacher education was established by Dotger and colleagues (Dotger, Dotger, & Maher, 2010; Dotger, Harris, & Hansel, 2008). In the Simulated Interaction Model (SIM), prospective teachers participate in a series of one-on-one interactions with standardized parents within the framework of a teacher training course. These standardized parents are carefully trained actors who are scripted to present specific statements, questions, or concerns - known as "verbal triggers" - during the parent-teacher talk simulations in accordance with a carefully designed case profile. In contrast, the teacher candidate taking part in the simulation is given an "appropriate" amount of background knowledge regarding the hypothetical student in terms of a general academic profile, but is not scripted in any way concerning his or her behavior during the interaction with the standardized parent. The simulated parent-teacher talks are videotaped in order to subsequently provide participants extensive feedback on their performance during the simulations. Furthermore, participants conduct detailed self-evaluations, supported by their careful review of the video recordings of their simulated interactions as well as individual and whole-group debriefing sessions.

In the first instance, the SIM was developed as an intervention for enhancing prospective teachers' communication skills in parent-teacher talks. In a subsequent study, Walker and Dotger (2012) utilized the videotaped simulations to measure prospective teachers' readiness for parent-teacher interactions. In this context, the videotaped simulations functioned as models of effective and less-effective teacher-parent communication. After reading the related background information of the hypothetical student and before viewing the respective videotaped simulation, participants were asked what they would do to make the talk successful, what strategies they would use, and what else they would like to know, if they were the teacher in this situation. Subsequently, candidates watched two videos that involved two different teacher models interacting with the same standardized parent and evaluated the teachers' performance along several dimensions derived from expert opinion. Moreover, candidates chose which of the two models performed better. Although Walker and Dotger (2012) used simulated parent-teacher talks, participants' conversation competences were not assessed via participants' own behavior in the specific situation. Instead, they were measured by means of participants' theoretical descriptions of how they would act in the given situation as well as their rating of the demonstrated conversational skills of specified teacher models.

A first attempt to measure prospective teachers' own behavior in simulated parent-teacher talks was introduced by Wiesbeck, Bauer, Gartmeier, and Prenzel (2013). By means of videotaped simulations with standardized parents,

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the authors aimed to assess prospective teachers' communicative competence in parent-teacher talks - a construct related to teachers' counseling competence. For the evaluation of the videotaped conversations, the authors applied a detailed rating system based on the study's underlying Munich model of teachers' communicative competence in parent-teacher talks (Gartmeier, Bauer, Fischer, Karsten, & Prenzel, 2011) comprising the three facets interpersonal relationship, problem-solving, and structuring the conversation.

Purpose of the Current Study

Even though Dotger et al. (2008, 2010) as well as Wiesbeck et al. (2013) already developed behavior-based simulation approaches to the assessment of teachers' communication skills, there are still no instruments for the behavior-based assessment of teachers' counseling competence in parent-teacher talks on the support of students' learning processes. Therefore, the superior aim of the current study was to develop and validate a behavior-based instrument based on the four-dimensional model of teachers' counseling competence (Gerich et al., 2015) involving counseling talk simulations with standardized parents in the same style of the SIM approach by Dotger et al. (2008, 2010) as well as the assessment approach by Wiesbeck et al. (2013). Here, in order to particularly utilize the instrument for the evaluation of specific teacher training programs on counseling, we strove for an instrument for the longitudinal assessment of changes in teachers' counseling competence due to specific interventions. For validation purposes, we aspired to compare longitudinal data acquired by means of the counseling talk simulations with longitudinal data gathered by means of the already established scenario test by Bruder (2011) and Gerich et al. (2015) described above.

In addition to its utilization as a measurement instrument, we aimed to examine whether participation in the counseling talk simulations could serve as an intervention for the improvement of prospective teachers' counseling competence within the context of teacher preparation. In the studies carried out by Dotger et al. (2008, 2010), participation in simulated parent-teacher talks provided prospective teachers an opportunity to practice their abilities to effectively partner with parents and, subsequently, led to an enhancement of participants' communication skills. The beneficial effects of practicing professional skills in concrete case-based application situations on the development of competences have also been demonstrated in other studies on teacher education (e.g., Grossmann, 2005). By means of active learning, learners are given the possibility to apply their theoretical knowledge in practical, realistic situations in order to acquire practical competences, gain experience, and facilitate the transfer of

training content to future professional routines. Based on this, active learning by the use of videotaped simulated parent-teacher talks appears to be a promising opportunity even in the context of enhancing prospective teachers' counseling competence in parent-teacher talks on the support of students' learning processes.

In summary, the present study addressed the following hypotheses:

1. The counseling talk simulations serve as an appropriate instrument for the assessment of changes in prospective teachers' counseling competence due to specific interventions. It is expected that intervention effects on teachers' counseling competence measured by means of the counseling talk simulations are consistent with measurements determined by means of the scenario test (Bruder, 2011; Gerich et al., 2015).

2. The counseling talk simulations serve as an effective intervention for the improvement of prospective teachers' counseling competence. It is expected that participation in the counseling talk simulations leads to an increase in teachers' counseling competence as well as the related variables (knowledge of counseling and learning strategies, professional self-concept as a counselor, counseling experience) identified by Gerich et al. (2015).

6.1.2 Method

Sample

The study took place at a university in the German federal state of Hesse within the scope of an optional training module on educational psychology for prospective teachers. The total sample consisted of 51 prospective teachers (66.7% women) ranging in age from 21 to 34 years ($M = 23.06$, $SD = 2.20$) who were currently in semester 2 through 10 of their studies ($M = 6.65$, $SD = 1.66$). 23 (45.1%) prospective teachers studied mathematics, 25 (49.0%) natural sciences, 8 (15.7%) languages, 20 (39.2%) social sciences, and 12 (23.5%) art, music, and/or physical education. None of the participants had previously gathered initial experiences in counseling parents; six students (11.8%) had previously participated in courses on counseling.

Procedure

The longitudinal study was carried out within the framework of a quasi-experimental study on the evaluation of a training program on counseling com-

petence for prospective teachers (for a detailed description of the training program and its evaluation, see Gerich, Trittel, & Schmitz, in press). In order to examine our research questions, we observed two experimental groups. The design was quasi-experimental, because the participants could not be randomly assigned to the intervention groups. Instead, the groups established themselves by the students' optional enrollment in one of two training courses. However, participants did not know about the different experimental conditions. The experimental groups did not significantly differ with regard to their demographic data.

Both experimental groups (experimental group 1 [EG1]: $N = 25$; experimental group 2 [EG2]: $N = 26$) participated in the training program as separate groups. The training program consisted of nine weekly sessions of 100 minutes each. Prior to and after receiving the training intervention, participants completed an extensive paper-pencil survey (paper-pencil pretest and posttest) for the assessment of participants' counseling competence, knowledge, professional self-concept, and experience, based on the four-dimensional model of teachers' counseling competence (Gerich et al., 2015). Experimental group 1 additionally participated in the simulated parent-teacher counseling talks at two different points in time (simulation pretest and posttest). The simulation pretest took place one week after the paper-pencil pretest and the simulation posttest was carried out one week before the paper-pencil posttest.

Measures

Paper-Pencil Tests

Within the framework of the paper-pencil pretest and posttest, participants' counseling competence was measured by means of the aforementioned scenario test established by Bruder (2011) and Gerich et al. (2015) (see section Introduction). Participants' responses to the 12 open-ended questions following the case scenario - which represent the content variables of the four-dimensional model of teachers' counseling competence (Gerich et al., 2015) - were converted into scores from 0 to 2 for each item using a detailed standardized rating system. The rating system includes an extensive set of potential answers to each question as well as detailed specifications on the respective scores to be awarded. The coding was carried out by well-trained raters with sufficient content knowledge on parent counseling and learning strategies. In order to test the objectivity of the rating system, and thus its robustness against any personal biases or predispositions of the raters, inter-rater reliabilities for each question were calculated in a

previous study (Gerich et al., 2015), resulting in satisfactory intra-class-correlations (ICC; McGraw & Wong, 1996) between ICC = .72 and ICC = 1.00.

Moreover, within the paper-pencil pretest and posttest, we measured the three variables, which are positively related to the level of teachers' counseling competence (Gerich et al., 2015): knowledge of counseling and learning strategies, professional self-concept as a counselor, and counseling experience. Participants' knowledge of counseling and learning strategies was measured by means of a multiple-choice test composed of nine closed-ended questions with four possible answers each. The knowledge test includes four multiple-choice items on professional knowledge of counseling (e.g., "What are the advantages of the active listening technique in a counseling talk?") and five items on knowledge of learning strategies (e.g., "Which possibilities does a student have to motivate himself/herself while studying?"). Participants are asked to choose the best answer or answers (the latter in cases where multiple answers were allowed, which is clearly marked next to the respective item). Participants' responses to all items are coded as either correct or incorrect. Item difficulties determined in a previous study ranged between .35 and .89 and thus fell within an acceptable range for inter-correlated items (Ramsey & Reynolds, 2000). The examination of scale reliability in a previous study revealed an acceptable Cronbach's alpha of α = .63.

The self-assessment questionnaire on professional self-concept as a counselor and counseling experience consists of 23 closed-ended items. Participants are asked to respond to each item on a six-point rating scale ranging from 1 (*I completely disagree*) to 6 (*I completely agree*). The scale professional self-concept includes 15 items concerning prospective teachers' attitudes towards counseling, motivation for counseling, self-efficacy in counseling, and sense of self as a counselor (e.g., "I believe that, as a teacher, part of my job is to counsel parents."). The experience scale consists of 8 items on prospective teachers' previous education and experiences in counseling as well as reflection on one's own counseling behavior in previous counseling talks (e.g., "After finishing a counseling talk, I think about whether I am satisfied with my performance as a counselor."). The examination of scale reliability in a previous study indicated satisfactory Cronbach's alphas of α = .77 for professional self-concept as a counselor and α = .86 for counseling experience.

Counseling Talk Simulations

The development of the materials for the simulated parent-teacher counseling talks was also based on the model of teachers' counseling competence (Gerich et al., 2015). We constructed two specific case examples of hypothetical students

(*Manuel* for the simulation pretest and *Marie* for the simulation posttest) with certain difficulties in learning that are supposedly causing a decline in their achievement, which formed the basis for the preparation of the written instructional materials for the participating teacher as well as the actor portraying the simulated parent.

Similar to the scenario test, the materials for the participating teacher each include a detailed profile of the respective student providing general demographics (name, age, grade level), information on the student's social and personal characteristics, and, most importantly, current academic and behavioral conspicuities. Moreover, the profile outlines certain educational initiatives already taken by the teacher, previous communication with the student's parents, and the occasion of the upcoming teacher-initiated parent-teacher talk with the student's mother. The profile does not in any way specify exactly the teacher's actions, decisions, or verbalizations within the simulated counseling talk. The instruction materials additionally include the request of the participants to carefully read the profile, empathize with the teacher's character, and prepare for the upcoming counseling talk. In addition, participants are informed about the time limit of 15 minutes for the counseling talk.

For the role of the hypothetical students' parents, we also constructed detailed instructional materials that allowed for the careful preparatory training of the actors portraying the simulated parents within the counseling talk simulations. For both of the developed cases, those materials each include a detailed profile of the respective hypothetical student. In contrast to the student's profile presented to the participating teachers, the profile given to the simulated parents provides home-based background context as well as a detailed interaction protocol for the simulated parent-teacher talk. By means of this interaction protocol, the standardized parents are instructed to present exact predetermined questions, information, and statements - according to the verbal triggers in the studies by Dotger et al. (2008, 2010) - at specified times during the course of the parent-teacher talk. For instance, after the teacher addresses the hypothetical student's unsatisfactory homework completion, the simulated parent is instructed to signalize a certain helplessness concerning the corresponding causes by stating "I am completely at a loss as to what could be the problem with his/her homework completion". This statement is intended to examine whether the participating teacher is able to take into account potential causes for students' learning difficulties from different contexts (e.g., insufficient learning strategies, motivational or emotional problems) and ask appropriate and purposeful questions. At a later stage in the counseling talk, the simulated parent is instructed to suddenly criticize the teachers' professional practice by stating "I have had a look at your latest class test and it is my opinion that the exam questions were much too difficult", in order to examine the teacher's ability to professionally deal with paren-

tal criticism. Even though the standardized parents are instructed to closely adhere to the interaction protocol during the counseling talk simulations, they must also adapt to the individual conversational actions of the respective participating teacher. Thus, the training of the simulated parents particularly focused on additional contingency responses that they may employ during the simulation depending of the specific actions of the teacher. Excerpts of the instructional materials for the teacher and simulated parent concerning the case example *Manuel* are shown in Table 6.1.

Table 6.1

Excerpts of the instructional materials for the teacher and the standardized parent concerning the case example Manuel

Materials for the teacher

Instruction

Your task: In a role-play counseling situation, you will conduct a counseling talk with a student's parent. In order to successfully complete the task, it is important that you can identify with your role in the counseling talk. Please take your time reading the following scenario description. In the role-play situation, act just as you would in a real counseling talk with a parent. The role of the parent will be played by a trained role-player using a standardized script. You now have 10 minutes to prepare yourself for the counseling talk. Feel free to make notes to help you during the counseling talk. The role-play will last about 15 minutes and will be videotaped.

Scenario

You teach seventh grade math at a Gymnasium. Today you have a counseling talk planed with the mother of 12 year old Manuel. Since the beginning of the school year, you have noticed that Manuel's math grades are continually getting worse. He seldom does his math homework. When he does, it is often incomplete and sloppy. Because you often teach math during the first period of the day, you have noticed that Manuel is often late to school. Otherwise, Manuel is a rather quiet and nice student. You don't believe that he has any cognitive problems; and he seems to understand what you teach in class. During independent work times, Manuel is able to concentrate on his work. He also has good social ties to his peers. Based on conversations with other students, you know that he is interested in movies, computer games, and soccer. You have never met Manuel's parents, since they have never attended parent-teacher conferences. Manuel's mother cancelled an appointment that you had with her two weeks ago because she did not have time to attend. You asked his mother to participate in a counseling talk with you so that you can obtain an impression of Manuel's learning and homework situation at home. You also want to work with her to find ways to improve Manuel's learning and homework habits.

Table 6.1 (Continuation)

Excerpts of the instructional materials for the teacher and the standardized parent concerning the case example Manuel

Materials for the standardized parent

Scenario

You are the mother of 12 year old Manuel. He is in the seventh grade at a Gymnasium. You have always had the impression that he is a relatively good student. However, lately his grades have not been as good. You don't know why that is, since he is an intelligent child. He is constantly demonstrating his ability to quickly learn new things when he plays computer games on the weekends with his friends and always ends up the winner. He also often watches sophisticated movies and really enjoys thinking up new strategies for his soccer team. You promised him that you would finally make it to one of his games to cheer him on, but for the last year you have been working so much that you are usually grateful just to make it home in time for a family dinner. Your partner is also often away on business, so you are very proud that Manuel is such an independent child. In the mornings, Manuel has to get ready for school on his own, since you leave the house before he does. Still, you always take the time to make breakfast for him and pack his lunch, even though you think he is too old for that. However, you do regret the fact that you are so busy at work. For example, you would really like to be able to attend a parent-teacher conference so that you can talk with Manuel's teachers and other parents. Two weeks ago you even had to cancel an appointment with Manuel's math teacher because you just didn't have the time to go. Because of that, you are really glad that his teacher has made another appointment with you. You are truly interested in learning about how Manuel behaves at school and what type of student he is. Unfortunately, you don't have the opportunity at home to see how and when he studies and does his homework; and there must be some reason why his grades have gone down… So now you are on your way to the appointment with Manual's math teacher and are really curious to hear what he/she has to say!

Examples of the predetermined questions, information, and statements

• After Manuel's problems have been mentioned, ask at some point during the talk what you could do to improve Manuel's performance (if the teacher does not mention this without you asking): „What can we do to help Manuel do better again at school?"

• After the teacher has suggested possible interventions, ask him/her to describe them in detail and ask what exactly you can do as a parent (if the teacher does not mention this without you asking): „Unfortunately, I don't know anything about this method. Can you tell me more about it, especially what exactly I should do?"

• Express critique regarding the teacher's ability to control the class: "Manuel told me that he can't concentrate in class because it is often so loud. So it's not surprising that he isn't performing up to his usual standard. I'm starting to think that you don't have your class under control. After all, it's your job to make sure that the students can concentrate on their work!"

The simulations took place in a conference room of the research institution equipped with a table, two chairs, and a video camera. Each simulation began with a preparation phase in which the written case profile of the hypothetical student as well as additional written instructions were presented to the participants. Participants were given ten minutes to read the profile, prepare for the upcoming parent-teacher talk, and ask potential comprehension questions to the test administrator. The preparation phase was followed by the actual counseling talk phase. The video camera was activated, the simulated parent entered the room, and the conversation took place. After the teacher finished the talk, the simulated parent left the room and the video camera was switched off. In the case that the teacher did not bring the counseling talk to an end after a maximum of 15 minutes, the simulated parent terminated the conversation.

To analyze the participants' professional performance during the counseling talk simulations, we developed a detailed standardized rating system also based on the model of teachers' counseling competence (Gerich et al., 2015). By means of this rating system, participants' qualitative statements were converted into quantitative scores from 0 to 2 for each of the competence aspects outlined in the model (except perspective taking, as this aspect could not be adequately observed).

With reference to the evaluation system of the already well-established scenario test for the assessment of teachers' counseling competence (Bruder, 2011; Gerich et al., 2015), we defined precise encoding rules specifying which criteria need to be fulfilled to achieve one or two points as well as appropriate verbalization examples for the teacher. The coding was carried out by well-trained raters with sufficient content knowledge on parent counseling and learning strategies. Excerpts of the rating system are displayed in Table 6.2.

To verify the content validity of the applied case examples, we carried out an expert survey among a sample of 41 practicing teachers, as expert opinion is considered to be a standard method of establishing content validity (Carmines & Zeller, 1991). The sample consisted of 25 (61%) female and 16 (39%) male teachers ranging in age from 30 to 60 years ($M = 42.05$, $SD = 11.00$), with $M = 12.76$ ($SD = 9.55$) years of teaching experience. The respondents were asked to conscientiously read the two case profiles of the hypothetical students and, for each case, answer two questions on a six-point rating scale ranging from 1 (*I completely disagree*) to 6 (*I completely agree*): (1) "As a whole, I judge the depicted case example to be realistic"; (2) "The depicted case example describes a typical parent-teacher talk situation with a focus on learning guidance". Results indicated that the experts viewed the case examples to be realistic (*Manuel: M = 5.17, SD = .80; Marie: M = 4.63, SD = 1.14*) and typical examples of parent-teacher talk situations with a focus on learning guidance (*Manuel: M = 5.02, SD = 1.04; Marie: M = 4.53, SD = .85*), indicating a high degree of content validity

for the applied case profiles. In order to test the objectivity of the rating system, a random selection of 18 videotaped simulations was scored by two independent raters. Inter-rater reliabilities for each variable resulted in satisfactory intra-class-correlations (ICC; McGraw & Wong, 1996) between ICC = .76 and ICC = 1.00.

Table 6.2

Excerpts of the rating system for the analysis of the counseling talk simulations

Dependent Variable	Score	Criteria	Exemplary statements or questions
Paraphrasing	1	Use of conversation techniques; Paraphrasing (repeating in your own words what the parent has said) at an appropriate point in the talk	*"If I understand you correctly, you think…";* *"In other words…."*
	2	Use of conversation techniques; Paraphrasing at at least two appropriate points in the talk	*"If I understand you correctly, you think…";* *"In other words…."*
Search for possible causes	1	Naming possible causes; asking about possible causes	*"I think your child's grades have gone down because he is no longer motivated.";* *"What do you think has caused your child's grades to go down?"*
	2	Detailed inquiries concerning learning and homework situation	*"Does your child have his own desk at home?";* *"When does your child do his homework?";* *"Does your child make a learning plan when he is studying for a test?"*
Strategy application	1	Suggest an appropriate solution (e.g., homework journal, learning plan, checklists, learning contract, reward system, mistake analysis, etc.) + explanation of practical implementation	*"I would suggest that your child keep a homework journal in the next few weeks.";* *"It might help to make a weekly plan.";* *"With other students who had similar problems, I have had good experiences with reward systems."*

Table 6.2 (Continuation)

Excerpts of the rating system for the analysis of the counseling talk simulations

Dependent Variable	Score	Criteria	Exemplary statements or questions
Strategy application	2	Suggest several appropriate solutions (e.g., homework journal, learning plan, checklists, learning contract, reward system, mistake analysis, etc.) + explanation of practical implementation	*"I would suggest that your child keep a homework journal in the next few weeks.";* *"It might help to make a weekly plan.";* *"With other students who had similar problems, I have had good experiences with reward systems."*
Cooperative actions	1	Show understanding; Emphasize willingness to cooperate; Signal availability for future questions and comments	*"I completely understand how you feel.";* *"Together we will manage that.";* *"If you have any questions, you can always contact me."*
	2	Show understanding; Emphasize willingness to cooperate; Signal availability for future questions and comments + Actively include parent in problem definition as well as search for causes and solutions; offer support in implementing solutions or take on task yourself	*"I completely understand how you feel.";* *"Together we will manage that.";* *"If you have any questions, you can always contact me."* + *"Which of the possible solutions that I mentioned do you think would work best with your child?";* *"I'd be happy to fill out the weekly plan with your child."*

Analyses

Data analyses were performed using the software package SPSS Statistics Version 22. For all inferential statistics, the respective assumptions for the computed analyses were met. To examine the appropriateness of the counseling talk simulations to assess changes in prospective teachers' counseling competence due to

specific interventions (hypothesis 1), we performed multivariate repeated measures MANOVAs with the within-subjects factor time (pretest, posttest) for the simulation and scenario test data of the experimental group 1. Subsequently, we compared the results received from the counseling talk simulations with the results received from the scenario test. To investigate the suitability of the counseling talk simulations as an effective intervention for the improvement of prospective teachers' counseling competence, knowledge, professional self-concept, and experience (hypothesis 2), we performed an additional multivariate repeated measures MANOVA for the experimental groups 1 and 2 with the between-subjects factor group (EG1, EG2) and the within-subjects factor time (pretest, posttest) on the basis of the paper-pencil data.

Table 6.3

Results of the multivariate repeated measures MANOVAs for the examination of intervention effects on the basis of the scenario test data and the counseling talk simulation data

Dependent variables	Pretest	Posttest	Main effect time	
	M (SD)	*M (SD)*	*F*	η^2
Scenario test				
Counseling competence [a]	.83 (.20)	1.81 (.16)	396.42 ***	.94
Communication skills [a]	.44 (.21)	1.81 (.32)	316.88 ***	.93
Diagnostic skills [a]	1.42 (.27)	1.83 (.19)	29.23 ***	.55
Problem-solving skills [a]	.91 (.29)	1.84 (.16)	167.74 ***	.88
Coping skills [a]	.54 (.48)	1.74 (.29)	157.09 ***	.87
Counseling talk simulations				
Counseling competence [a]	.99 (.22)	1.39 (.18)	52.96 ***	.69
Communication skills [a]	.70 (.26)	1.10 (.32)	22.68 ***	.49
Diagnostic skills [a]	1.16 (.37)	1.58 (.34)	18.12 ***	.43
Problem-solving skills [a]	1.05 (.32)	1.65 (.27)	61.71 ***	.72
Coping skills [a]	1.04 (.43)	1.22 (.50)	2.45	.09

Note. [a] Range 0-2 (0 = min. parameter value; 2 = max. parameter value). * $p < .05$. ** $p < .01$. *** $p < .001$.

6.1.3 Results

Appropriateness of the Counseling Talk Simulations for the Assessment of Changes in Prospective Teachers' Counseling Competence due to Specific Interventions

The repeated measures MANOVAs for the experimental group 1 revealed a significant overall main effect of the within-subjects factor time (pretest, posttest) for the simulation data (*Wilks' lambda* $\Lambda = .246$, $F(4,21) = 16.05$, $p < .001$, $\eta^2 = .75$) as well as the scenario test data (*Wilks' lambda* $\Lambda = .043$, $F(4,21) = 116.28$, $p < .001$, $\eta^2 = .96$). As hypothesized (hypothesis 1), we found significant positive main effects with large effect sizes (Cohen, 1988) measured by means of both instruments with regard to prospective teachers' overall counseling competence as well as the dimensions communication skills, diagnostic skills, and problem-solving skills. Against our hypothesis, analyses revealed different results concerning the coping skills dimension. Table 6.3 displays the comparison of the results of the repeated measures MANOVAs for the examination of intervention effects on the basis of the counseling talk simulation data and the scenario test data, including pretest and posttest means as well as standard deviations.

Appropriateness of the Counseling Talk Simulations as an Intervention

The multivariate repeated measures MANOVA for the experimental groups 1 and 2 with the between-subjects factor group (EG1, EG2) and the within-subjects factor time (pretest, posttest) on the basis of the paper-pencil data resulted in a significant overall interaction effect for group * time (*Wilks' lambda* $\Lambda = .487$, $F(7,43) = 6.46$, $p < .001$, $\eta^2 = .513$). In accordance with our hypothesis (hypothesis 2), closer inspection revealed significant effects with large to medium effect sizes (Cohen, 1988) of participation in the counseling talk simulations on prospective teachers' overall counseling competence, the dimensions problem-solving skills and coping skills, as well as knowledge and professional self-concept. For the dimensions communication skills and diagnostic skills as well as counseling experience analyses did not reveal significant intervention effects. Pretest and posttest means, standard deviations, and results of the repeated measures MANOVA are displayed in Table 6.4.

Table 6.4

Results of the multivariate repeated measures MANOVA for the examination of intervention effects of participation in the counseling talk simulations

Dependent variables	Pretest	Posttest	Interaction group * time	
	M (SD)	*M (SD)*	*F*	η²
Counseling competence [a]			14.11***	.22
EG1	.86 (.19)	1.81 (.15)		
EG2	.87 (.15)	1.58 (.25)		
Communication skills [a]			3.54#	.07
EG1	.44 (.21)	1.81 (.32)		
EG2	.49 (.22)	1.64 (.40)		
Diagnostic skills [a]			2.32	.05
EG1	1.42 (.27)	1.83 (.19)		
EG2	1.30 (.31)	1.55 (.34)		
Problem-solving skills [a]			6.76*	.12
EG1	.91 (.29)	1.84 (.16)		
EG2	1.05 (.27)	1.71 (.26)		
Coping skills [a]			6.79*	.12
EG1	.54 (.48)	1.74 (.29)		
EG2	.46 (.40)	1.25 (.62)		
Knowledge [b]			24.65***	.34
EG1	5.20 (1.12)	7.72 (.98)		
EG2	6.38 (1.02)	7.19 (1.13)		
Professional self-concept [c]			6.65*	.12
EG1	4.50 (.41)	5.15 (.44)		
EG2	4.48 (.39)	4.83 (.37)		
Experience [c]			1.02	.02
EG1	1.95 (.63)	3.28 (.65)		
EG2	2.13 (.75)	3.24 (.63)		

Note. [a] Range 0-2 (0 = min. parameter value; 2 = max. parameter value); [b] Range 0-9 (0 = min. parameter value; 9 = max. parameter value); [c] Range 1-6 (1 = min. parameter value; 6 = max. parameter value). * $p <$ .05. ** $p <$ .01. *** $p <$ .001.

6.1.4 Discussion

The central purpose of the current study was to develop and validate a behavior-based instrument for the assessment and improvement of teachers' counseling competence involving counseling talk simulations with standardized parents.

The simulated parent-teacher talks turned out to be an appropriate instrument for the measurement of changes in prospective teachers' counseling competence due to specific interventions. This conclusion is drawn in view of the consistencies of the intervention effects of the training program measured by means of the counseling talk simulations and the already established scenario test for the assessment of teachers' counseling competence (Bruder, 2011; Gerich et al., 2015) for almost all examined variables. Here, following the approaches established by Dotger et al. (2008, 2010) and Wiesbeck et al. (2013) proved to be expedient. The fact that the counseling talk simulations were developed on the basis of the four-dimensional model of teachers' counseling competence (Gerich et al., 2015) allows for the behavior-based assessment of teachers' counseling competence on an overall level as well as subdivided into the single dimensions. This, in turn, enables the differential assessment of individuals' and groups' specific needs, the creation of individual competence profiles, and the subsequent design of precisely tailored interventions for specific target groups. Moreover, as the results of the current study revealed, the counseling talk simulations can be used for the systematic evaluation of the according interventions.

The results of the current study also highlight the effectiveness of the counseling talk simulations as an intervention within the framework of teacher education programs on counseling. The exposure to realistic and complex application situations allowed prospective teachers to practice and refine their professional counseling competences, acquire professional knowledge of counseling and learning strategies, and develop a professional self-concept as a counselor. Moreover, by means of the simulated parent-teacher talks, prospective teachers were enabled to engage in and address common problems of the professional counseling practice while they were still under the care and guidance of the teacher training course. Consequently, the outlined simulation approach might serve as an inspiration for the design of future teacher education programs on parent or student counseling. In this context, the video recording of the simulated counseling talks could be used for the subsequent joint analysis of participants' counseling behavior, in order to provide prospective teachers the opportunity to conduct detailed self-evaluations and reflect on multiple aspects of their professional performance, which is considered to be a key element in the context of integrating theoretical knowledge and practical skills (Ericsson, Krampe, & Tesch-Römer, 1993; Parsons & Stephenson, 2005). Particularly in research on teacher education, the importance of reflection following active learning for the

long-term development of practical competences is consistently highlighted (Admiraal et al., 2011; Watts & Lawson, 2009). As reflections induced by watching video recordings of one's own professional practice have been shown to be beneficial in the context of acquiring professional competences in teacher education programs worldwide (Bryan & Recesso, 2006; Rich, Recesso, Allexsaht-Snider, & Hannafin, 2007), even the analysis of the videotaped simulated counseling talks might support prospective teachers in developing their professional counseling competences. Here, the focus of the self-reflections should be on the identification of potential differences between participants' beliefs regarding good counseling and their actual practices (Bryan & Recesso, 2006; Rich & Hannafin, 2008) as well as the recognition of individual strengths and weaknesses of their counseling behaviors (Rich et al., 2007; Wu & Kao, 2008). This might lead to the setting of specific individual learning goals, a heightened motivation to improve one's own counseling competence, and an increased personal responsibility for one's own learning processes (Andrade & Valtcheva, 2009). Finally, this might result in a long-term increase in participants' counseling competence (Rich et al., 2007; Taras, 2010) and professional self-concept (Beijaard, Meijer, & Verloop, 2004).

In addition to the one-time recording and watching of a simulated parent-teacher talk for the determination of prospective teachers' current counseling competence, the viewing of videotaped simulations recorded at different times could provide participants the opportunity to observe their individual progress over the course of the specific teacher training program (Tripp & Rich, 2012). In addition to individually watching and reflecting on the videotapes, prospective teachers should be provided the opportunity to collaboratively watch and discuss their videos with peers in a learning group (Harford, MacRuairc, & McCartan, 2010), as evidence-based feedback and suggestions for improvement from a discussion group might also encourage efforts for continuing professional development (Tripp & Rich, 2012). In this connection, prospective teachers should be given feedback not only by peers but also by educators. In this case, the feedback should provide prospective teachers with information on their individual strengths and areas for improvement as well as encourage reflections on their counseling behavior in the past simulation and, on that basis, support the preparation for the next simulation. However, not only the individual participant but also the entire learning group could benefit from the collaborative analysis of the simulation videos, as the viewing of video cases represents a powerful instructional tool in developing teacher competences (Brophy, 2004) and professional identities (Maclean & White, 2007). In terms of model learning, prospective teachers can learn about effective professional practice by observing the successes and struggles of others taking part in the simulations and the subsequent self-evaluation of their own practice (Masingila & Doerr, 2002). This has been

demonstrated for skills relevant to communicating with parents, in particular (Walker & Dotger, 2012). Activities involving video analysis, moreover, have the potential to meaningfully guide the acquisition, activation, and application of prospective teachers' knowledge (Seago, 2004) and help them to relate their university learning to their later professional practice (Marsh & Mitchell, 2014). Furthermore, the introduction of video models contributes to prospective teachers' understanding of the expectations regarding their later professional performance (Baecher, Kung, Jewkes, & Rosalia, 2013).

Limitations and Outlook

Although the current study yielded important new findings for the assessment and improvement of prospective teachers' counseling competence, the results must be viewed in light of several limitations that may be addressed in future studies.

Firstly, it has to be mentioned that the application of the counseling talk simulations as an assessment instrument as well as an intervention requires an extensive amount of resources. Consequently, for the assessment of teachers' counseling competence in the context of studies with large sample sizes, the utilized scenario test (Bruder, 2011; Gerich et al., 2015) still appears to be the method of choice, as it allows for the context specific and standardized measurement of teachers' counseling competence in a highly economical manner (cf., Hedlund et al., 2006). Nevertheless, the counseling talk simulations turned out to be appropriate within the framework of teacher education programs on counseling with smaller numbers of participants such as in the current study. However, as our results are based on a relatively small sample, they may not necessarily be generalizable to the entire population of prospective teachers. Therefore, additional studies should focus on the replication of the outlined findings on the basis of a larger set of participants.

Another limitation concerns the inconsistent assessments determined by means of the simulations and the scenario test regarding the intervention effects of the training program on prospective teachers' coping skills. A possible reason for this may consists in certain weaknesses of the applied rating system for the analysis of participants' coping skills within the simulations. On this account, future research should focus on the continuing optimization of the rating system, particularly regarding the competence dimension coping skills. However, the divergent results delivered by the two instruments may also be caused by the different requirements of the simulation context and the scenario test completion context. Within the simulations, participants must react immediately to the simulated parent's questions and statements, whereas they have the possibility to

carefully consider their responses while completing the paper-pencil scenario test. This difference might become particularly apparent when participants are challenged to cope with difficult situations in the course of the counseling talk. In this context, consideration could also be given to the differing extent of evoking socially desirable behavior. It is conceivable that the social observation context and the direct interaction with a conversational partner within the simulations lead to more socially desirable responses (e.g., refrain from criticism) than the completion context of the scenario test. Consequently, additional possible reasons for the divergent results of the two instruments concerning the dimension coping skills are specific weaknesses of the scenario test, namely an insufficient suitability for the representation of difficult situations in a parent-teacher talk. Therefore, future research should also focus on the further validation of the scenario test regarding the assessment of participants' coping skills. However, it should be noted that even the counseling talk simulations have a certain laboratory character. Although the implementation of simulated parent-teacher talks allows for the observation of actual behavior in concrete, realistic application contexts, the simulations are still based on role-playing with standardized parents. Thus, with special regard to validation in the field, data collected by means of the counseling talk simulations may be compared with video recordings of real parent-teacher talks in teachers' professional routines.

An additional limitation of the current study concerns the missing intervention effects of participation in the counseling talk simulations on the development of prospective teachers' communication skills, diagnostic skills, and experience. A possible explanation may be that prospective teachers participated in the simulations only on two occasions. In this context, the beneficial effects of providing participants more frequent and repeated opportunities to practice their professional counseling competences and, consequently, gain essential experience should be investigated in subsequent studies. As already mentioned above, continuing research might also address the examination of additional beneficial effects of standardized individual feedback concerning prospective teachers' counseling performance during the counseling talk simulations on their competence improvement.

Within the framework of the continuing improvement of the counseling talk simulations, continued efforts should also focus on the development of additional case scenarios with varying levels of complexity and various types of students' and parents' demands. This will allow for the coordination of the selected case scenarios' degree of difficulty with participants' individual competence level as well as provide prospective teachers the opportunity to demonstrate and develop their counseling competences in increasingly demanding counseling situations.

Finally, the simulated parent-teacher talks and subsequent feedback by peers and teacher educators could also be implemented in the continuing education of practicing teachers. As the videotaping of real-life parent-teacher talks is permitted by parents only in a very small minority of cases, the videotaping of the simulations could provide in-service teachers the opportunity to discuss and reflect on their professional performance in parent-teacher talks even in later stages of their professional career.

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