Social-Emotional Intelligence, Competences and Skills

Defining, Identifying and Fostering Social-Emotionally Intelligent, Competent and Skilled People

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Abstract

The original theme of this dissertation was the analysis of general social competences. However, during the theoretical investigation, it became clear that the concept had no explicit boundaries. This led to expanding the topic to social-emotional intelligence, competences and skills (SEICS).

In three main papers, a synthesis-chapter and an additional annexed paper, different issues have been treated, starting with an attempt to define SEICS in general. The most important findings of the first study were, (i) that SEICS require a pluridimensional approach and, (ii) that it is essential to consider the diverse social contexts an individual is part of, when defining her, his SEICS.

In the second paper, we explicitly took into account this context-dependency by selecting an occupation specific approach to the subject. Medical assistants‘ workday life provided our contextual framework with clear rules, demands and expectations in regard to SEICS’ behavioral outcomes. Based on these, we identified and validated a job-specific and multidimensional model of SEICS for the profession of medical assistants in Germany and derived a simulation-based Situational Judgment Test from it. After checking its reliability aspects, we found important results concerning the participant’s levels of SEICS, indicating that there is a lot to be taught and fostered in that domain.

Concerning the pluridimensionality of SEICS (also supported by the model for medical assistants), the third paper closely examines one of these dimensions, namely emotion regulation more deeply.

These three papers build the core of this thesis. They illustrate the significance of general and job-specific SEICS and the important problems concerning their concrete identification and measurement. In addition, they show the urgent need for teaching methods that reinforce SEICS in professional life, an aspect that has often been neglected in the curricula up to now.

Consequently, the synthesis-chapter addresses possible antecedents and causes for SEICS to arise, and the mechanisms that strengthen them. A generalized process model, indicating where development and fostering approaches could start and operate is proposed. This is followed by an extra-paper addressing the topic of fostering and teaching occupation specific SEICS, showing preexisting trainings and their transfer into the apprenticeship of medical assistants.

Résumé

Initialement, le but de cette thèse était de fournir une analyse de ce que l'on appelle en général les compétences sociales. En cours d'étude, il s'est avéré que ce concept n'a pas de cadre précis, ce qui nous a conduit à redéfinir le sujet en considérant l'intelligence socio-émotionnelle et les compétences et aptitudes associées (ISECA).

Dans trois articles principaux, un chapitre de synthèse et un quatrième article en annexe, différentes questions ont été traitées, à commencer par un essai de définition générale des ISECA. La première étude a démontré que pour comprendre les ISECA, une approche pluridimensionnelle s'impose, et qu'il est essentiel de prendre en compte les différents contextes sociaux auxquels un individu est soumis lors de la définition de ses ISECA.

Dans le second article, nous avons explicitement tenu compte de cette dépendance en choisissant une approche basée sur le type d'occupation qu'exercent les individus étudiés. Plus explicitement, le métier d'assistant(e) médical(e), avec ses règles et exigences bien établies en ce qui concerne les résultats comportementaux reliés aux ISECA a fourni le cadre conceptuel à notre analyse. Ceci nous a permis d'identifier et de valider un modèle multidimensionnel des ISECA pour la profession d'assistant(e) médical(e) en Allemagne, dont nous avons pu dériver un « Situational Judgment Test » basé sur des simulations de situations typiquement rencontrées dans le cadre de leur activité professionnelle. Après avoir vérifié sa fiabilité, nous avons obtenu des résultats importants sur le niveau d'ISECA des participants, qui indiquent en particulier qu'il y a beaucoup de progrès possibles dans ce domaine.

La pluridimensionnalité des ISECA ayant été confirmée par notre modèle, nous avons étudié en détail une dimension importante dans le troisième article, à savoir la régulation émotionnelle.

Les trois articles précités forment la partie essentielle de cette thèse. Ils illustrent la signification des ISECA aussi bien en général que dans le cadre d'un emploi spécifique, tout en démontrant les difficultés dans leur identification et leur quantification. Ils mettent également l'accent sur le besoin urgent de développer des méthodes d'enseignement qui renforcent les ISECA dans la vie professionnelle, une composante souvent négligée dans les curricula actuels.

Dans le chapitre de synthèse nous examinons les causes possibles de l'émergence des ISECA et les mécanismes susceptibles de renforcer ces derniers, et nous proposons un

modèle de processus généralisé indiquant les mesures à prendre pour atteindre ce renforcement.

L'article en annexe approfondit la question de l'encouragement et de l'enseignement des ISECA dans le cadre d'un emploi spécifique en démontrant comment, pour le cas particulier des assistant(e)s médical(e)s des formations existantes peuvent être intégrées dans l'apprentissage.

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I dedicate this work to the next generation, my son Cem.

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Constitution of Dissertation and Regulatory Framework

Form

This dissertation is paper based, containing three journal articles, a manuscript in preparation for submission and an additional synthesis chapter in the form of a theoretical manuscript. Three of the papers are published and one is in preparation for submission.

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Disclaimer

Since the first article contains a theoretical analysis of the research field, repetitions can be found in the following background chapter and the introduction chapters of the other articles. Furthermore, some sentences and formulations may be similar.

Origin of Research Intention and Background

Social-emotional intelligence, competences and skills

The present dissertation is concerned with the definition, the identification and the teaching of social-emotional intelligence, competences and skills (SEICS). In his work on social competences, Brohm (2009) calls attention to the fact that the intention of integrating them into the educational curriculum is strongly (culturally, politically and legally) anchored in our society. For example, the second paragraph of the 26th article of the UN Universal Declaration of Human Rights states: "Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace." (General Assembly of the United Nations, 1948). Unfortunately, despite of the universal recognition of this holistic perspective on human development its actual implementation is far from effective. While many concrete programs for classical school and vocational contents (e.g. mathematics) can be found within the scholarly framework, approaches to foster social-emotional contents only appear within therapeutic contexts or as optional add-ons and continuous education (Tschöpe and Monnier, 2016). An example of such an optional add-on is the Social-Emotional-Learning (SEL) approach by the Collaborative for Academic, Social, and Emotional Learning (CASEL) (2017). They define SEL as "the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions" ("What is SEL?", n.d., para. 1, CASEL, 2019). Their mission is to "help make evidence-based SEL an integral part of education from preschool through high school" ("About", "Our Work", n.d., para. 1, CASEL, 2019). They collaborate with districts and promote the integration of SEL in their schools. De facto, Durlak, Weissberg, Dymnicki, Taylor and Schellinger (2011) show that apart from better social and emotional skills, attitudes and behavior, pupils who went through the SEL-approach achieve better academic results in the long-term. However, even though research evidence highlights the importance and impact of fostering SEICS, they are still only rarely included in obligatory curricula at all levels of education.

In this dissertation, we investigate the reasons for this phenomenon. An important problem appears to be that there is no consensus as to the precise meaning of SEICS. Major differences between popular and scientific understandings of the topic can be found (see synthesis-chapter). Yet more disturbing is the fact that even within the scientific community no homogenous definition exists (Kanning, 2005). So, in a first step, we address this issue by a systematic analysis of the literature on the subject.

Problems with the definition of SEICS

During our investigation, we discovered two important sources of difficulties in defining SEICS. Firstly, while classical views of psychology differentiate between Cognition, Emotion and Motivation (Funke and Frensch, 2006), SEICS stand at the crossroad of cognitive and affective approaches. Through the integration of determining conditions from both perspectives, affective tasks are solved by cognition and vice-versa. Secondly, multidisciplinary approaches make the differentiation between the elements of intelligence, competence and skills difficult and limitations "fuzzy" (Weinert, 2001a, p.62).

The problem with the simultaneous occurrence of cognition and affect

While affective sciences study emotions, their elicitation, their experience and their identification (Funke and Frensch, 2006), science of cognition investigates processes ranging from "detection and discrimination", to "perception by judging and classifying properties", to "memory by recognition and recall" and finally to "thinking by inductive reasoning and rationality" (Gigerenzer and Murray, 2015, p.14). In reference to intensive discussions on dependencies and commonalities of affect and cognition during the last 40 years (Forgas, 2008), we consider affect and cognition as two separate but strongly interdependent elements in our work. For example, especially in social situations, affective and cognitive activities consume an important amount of the subject's available resources and energy, and therefore their simultaneous occurrence can lead to complications. Blair et al. (2007) show that while solving cognitional tasks, the effect of distraction by a negative or a positive emotion is stronger that the effect of an emotionally neutral distraction. On the other hand, the same authors show that while solving goal-directed cognitive tasks, the ventrolateral prefrontal cortex (playing an important role in regulating emotions and generating negative emotions (Hiser and Koenigs, 2018)), and the bilateral amygdala (responsible for emotion recognition and elicitation (Anderson, 2007)) seem to have lower blood oxygen levels, in comparison to

not solving goal-directed cognitive tasks. DeFraine (2016) supports these findings by showing that solving mathematical problems reduces passively felt emotions.

However, the amount of the described influences strongly depends on the amount of individual affect (meaning that a stimulus will not arouse the same strength of emotions in everyone) and on the difficulty of the cognitive task (depending on personal capacities and necessary efforts to solve the tasks).

The problem with the overlap of notions in a multidisciplinary approach

In this thesis, we chose a multidisciplinary approach by combing educational and psychological perspectives. While psychology has a long history of differentiating between fluid and crystallized intelligence (Cattell, 1971), educational sciences, however, seem to ponder on competences.

Fluid intelligence refers to the ability to solve problems and to reason in new unknown situations, independently of the previously acquired knowledge (Jaeggi, Buschkuel, Jonides and Perrig, 2008). Research reveals that it appears to be "robust against influences of education and socialization, and it is commonly seen as having a strong hereditary component" (Jaeggi et al., 2008, p. 1; Gray and Thompson, 2004; Cattell (1963); Baltes et al. (1999)). Crystallized intelligence, on the other hand, relies on the use of learned knowledge and experience (Cattell, 1963). In regard to competence, the definition used within the Organization for Economic Cooperation and Development (OECD) sees "'competence' as referring to a combination of those cognitive, motivational, moral, and social skills available to (or potentially learnable by) a person or a social group that underlie the successful mastery through appropriate understanding and actions of a range of demands, tasks, problems, and goals" (Weinert, 2001b, p. 2433). One quickly recognizes that crystallized intelligence and competence have a lot in common (Wilhelm and Nickolaus, 2013), as they are both improvable through learning.

As far as skills are concerned, it appears that both scientific perspectives (psychological and educational) have a consensus on their definition as action based abilities (Wirtz, 2017). Yet again, the same author defining competence (Weinert) states: "the boundary between skill and competencies is fuzzy" (2001a, p.62).

Establishing clarity and order by subdividing and rearranging the elements of SEICS

The interference between affective and cognitive influences, as well as the different perspectives on the content of intelligence, competences and skills are making a shared and globally applicable definition of SEICS very difficult. As a result, the construction of the

desired developmental models and trainings is hampered by this ambiguity, and the concomitant lack of a common ground. In this thesis, we show a possible solution to the problem by "cleaning up" some of the concepts found in the literature by subdividing and rearranging their elements and dimensions and focusing on actual SEICS-processes. For this, we investigate existing definitions and measurements (first paper), leading us to the necessity of context-specific definitions and measurements (second paper), containing context-dependent sub-dimensions (third paper). These sub-dimensions can then be transferred into context-specific SEICS trainings by using classical theories of learning and action (synthesis and annexed fourth paper).

Status quo in SEICS research

The first article of this Dissertation concentrates on illustrating the actual state of research. We show overlapping definitions between SEICS-subgroups (e.g. social competences and emotional intelligence) or contradicting definitions within a specific sub-group. To give an example, Bayer, Ditton and Wohlkinger (2012) note that there is still no generally accepted definition and delimitation of the concepts of social skills, interactional skills, assertiveness, self-esteem, social or interpersonal competence in the many published studies (Döpfner et al., 1981; Rose Krasnor, 1997; Arnold et al., 2012).

Based on the existing definitions we reorganize their sub-dimensions in the form of a vast catalogue. We then argue that, although all elements of the catalogue belong to SEICS, only a selection of them is applicable to a particular situation or context. More precisely, in each context, specific SEICS-dimensions (taken from the extended SEICS-catalogue) are essential while others are optional or even negligible (e.g. while working in managerial contexts, assertiveness is seen as an important SEICS. In contrast, in hierarchically lower positions, as e.g. secretaries, assertiveness can be seen as disturbing).

This perspective on the topic makes context-dependent contradictory definitions of SEICS acceptable without questioning the super-ordinate catalogue of SEICS. As a consequence, one could imagine that people show extraordinary SEICS in their professional context, while having difficulties in other contexts. Hence, an individual's level of SEICS will rise with his capability of using context-adjusted strategies (Kanning, 2005). Ideally, our task is to find effective assessment tools with high fidelity to the representing context for every possible context. For this purpose, we propose to use Situational Judgment Tests (SJT).

Context specific SEICS and their measurement by Situational Judgment Tests (SJT)

In the second article, we describe a concrete application of a context specific definition of SEICS and its transfer into an assessment tool (SJT). By taking an occupational perspective, we present possibilities to define and identify social-emotionally intelligent, competent and skilled people in the context of medical assistants in Germany. Each step in the development of the corresponding SJT is explained in detail.

Defining SJT

SJT are by definition simulation-oriented assessments (Kanning and Schuler, 2014) measuring personal aptitudes in a definite environment. They show rather strong criterion-related validity, especially in regard to SEICS, as for example team orientation ($r \geq .35$) (Christian, Edwards and Bradley, 2010). These findings and the SJT' high face validity have made them very popular in the last 30 years (Ployhart and MacKenzie, 2011). Furthermore, Ployhart and MacKenzie underline the SJT' capacities to measure multiple dimensions at the same time (2011). All above attributes make SJT very favorable to the topic of SEICS (Lievens and Chan, 2010).

Developing SJT

The challenge in constructing a SJT is to keep the balance between authentic representations of the simulated environment including usual conducts and manners (normative approach, looking for established social structures) and the evaluation of the individuals' behavior within the environment that is in line with theoretical expectancies and methodological criteria (scientific approach, looking for theoretically objective structures). For example, all interviewed medical assistants have reported that it is essential to always be friendly with the patients, while it is scientifically proven that forcing oneself to maintain a certain emotional display at any costs is harmful in the long run. So, if the test takes a purely theoretical perspective and evaluates how often the medical assistants' emotional display is in line with their feelings, the participants will fail. Therefore, the difficulty lays in constructing simulations and items that reflect the medical assistants environment authentically, yet take into account theoretical standards. For that, the test's evaluation will have to include the usual habits of the cohort, besides the purely theoretical criteria.

This is achieved by fulfilling the following tasks:

- Collecting and analyzing all the requirements an individual has to fulfill within the given context

- Drafting a theory-based model of aptitudes (intelligence, competences and skills) that are necessary to fulfill the requirements, which takes into account established social structures
- Deriving concrete work-situations that can be simulated, from the model of requirements
- Deriving concrete items depending on the simulated work-situations from the aptitudes-model
- Evaluating the test in accordance with scientific quality criteria for aptitude tests

Analysis of context specific requirements

The first step in developing a SJT for a specific context is the analysis of the social-emotional requirements in this context. In the present case, these requirements were determined by the tasks, interactions, tools, general demands, etc. in the work-environment of medical assistants.

To collect the relevant information, two main approaches are found in the Meta-Analysis on SJT by Campion, Ployhart and MacKenzie (2014):

The first approach is "inductive and involves developing SJT from critical incidents" (p.292), e.g. leaning on the Critical Incident Technique by Flanagan (1954). During interviews, professionals are asked to outline situations that are difficult to handle and how they usually react to them, respectively how they think one should or shouldn't react to them. In comparison to "normal" situations that are overly represented in the population's everyday (work-)life, these critical situations, and the individual's behavior when faced with them, represent the ones that can mainly differentiate between high and low levels of SEICS.

"The second approach is deductive and uses a theoretical framework to define the nature of the SJT" (Campion, Ployhart & MacKenzie, 2014, p.292).

By using these "rational, empirical, theory-based, and hybrid" (Campion, Ployhart & MacKenzie, 2014, p.292) approaches, a requirements model can be designed, which contains an extensive understanding of the context's demands.

A model of SEICS-dimensions necessary to fulfill the context-specific demands

The core step in developing a valid SJT, consists in identifying which attributes are necessary to fulfill the demands and requirements sketched in the previous step. These attributes will represent our definition of the context-specific SEICS, composed of sub-dimensions of the SEICS-catalogue presented in the first article. These sub-dimensions can then be translated into concrete abilities during critical situations (e.g. ranging from the knowledge and understanding about how to communicate in an escalating situation to the

application of an actual communicative strategy). Miners, Côté and Lievens (2018) have recently emphasized the importance of defining concrete abilities when constructing emotional intelligence assessments, which supports our procedure.

Developing situation-based simulations (stimuli) and items

A SJT confronts the participants with an actual work situation and evaluates their "judgment" of it by asking questions like: "what would/should you do in this situation?" (Ployhart and Ehrhart, 2003).

Motowildo, Dunette and Carter (1990) find that simulations, which put the participants into the heart of the situation, provide a higher fidelity to reality than written descriptions from which the participant has to imagine the actual scenario. Video-vignettes, where interlocutors speak into the camera, establishing a social situation with the participant, should therefore be very reliable. These situations being almost "natural", the participants' judgments will be multi-dimensional from a theoretical point of view. The difficulty is to develop items that differentiate between these dimensions. On top of that, for each of the dimensions, the most appropriate answer format has to be found. Kanning and Schuler show that open answer formats with a standardized rating have a higher fidelity than multiple-choice questions (2014). However, in regard to topics that are only exceptionally consciously analyzed, multiple-choice item-formats can support the participants' answering-process by lending them words they would not usually use, and therefore show high validity scores (e.g. Emotion Recognition Ability, from the Geneva Emotion Recognition Test; Schlegel, Fontain and Scherer, 2017).

Multi-dimensional Approaches: the Example of the Sub-Dimension of Emotion Regulation

During the development of the SJT-based SEICS-assessment, one of the dimensions, namely emotion regulation (ER), turned out to be more difficult in its operationalization than expected. Although we followed the standard development procedures for SJT and general test-construction, problems in terms of validity occurred, which led us to question the functioning of the SJT (e.g. was it to difficult?). Also, participants exhibited unexpected response behavior, so that we had to reassess generally accepted measurement methods of highly unconscious psychological processes like ER (e.g. are quantitative open format and multiple-choice questions suitable or should one rather use qualitative interviews?).

More precisely, ER can be defined as a set of processes, so called strategies that redirect emotions (Koole, 2009) or influence their strength, duration or expression. We started from the premise that, in client-oriented work, the professional is expected to keep an approachable emotional display that allows fulfilling work tasks in collaboration with the patient and the team members, independently of her/his internal emotional state. The difficulty therefore lies in the handling of situations that lead to a discrepancy between the professional's feelings and the demanded display. In this kind of situation, the expected emotional expression can theoretically be achieved in two ways: surface acting, i.e. not showing the inner feeling, pretending to have the expected one, and deep acting, i.e. working on the inner feeling to bring it into accordance with the expected one (Hochchild, 1983). For each of the two approaches, different strategies can be applied (e.g. changing one's thoughts, by mentally visualizing oneself in a situation with similar feelings as the expected ones for deep acting).

Classical ER assessments often present situations as short written vignettes and let the participants rank their agreement with how strongly they use different strategies in the given situation. While Gross (2009) differentiates between five families of strategies (situation selection, situation modification, attentional deployment, cognitive change and response modulation), the choice of strategies that is presented during the assessment, again, depends on the context. In the case of medical assistants, the "environmental affordance" i.e. the number of strategies which they can use within their professional role (Suri et. al, 2018), is strongly reduced. For example, they cannot walk away and distract themselves with a more agreeable activity, when they are in the middle of a medical procedure.

Research shows that deep acting strategies, as e.g. positive reappraisal, where participants try to reinterpret the situation by focusing on its positive aspects, are better in regard to satisfaction and psychological well-being in the long term (Zapf, 2002). In the short term though, they seem to be highly energy-consuming. Surface-acting on the other hand is directly linked to long-term emotional exhaustion (Song and Liu, 2010), but is more easily applied. In the fast changing environment with short interpersonal contacts experienced by medical assistants, the repeated and rapid of use difficult deep-acting strategies would turn into overstrain, making surface acting strategies almost compulsory. In other words, in this situation surface acting is quasi the lesser of two evils (Alabak, Hülsheger, Zijlstra and Verduyn, 2019).

The third article of this dissertation describes in detail all steps of the test development process for the SEICS dimension ER. It illustrates how problems were detected and how they can be interpreted for future research.

Leading the way for SEICS trainings during educational pathways

The final results presented in the second and third paper show that SEICS are still underrepresented in educational pathways and therefore often underdeveloped, despite their positive impact on well-being and academic success (Durlak et. al, 2011). As described above, an important reason for SEICS' underrepresentation is the lack of an accepted and shared definition, meaning that one just doesn't know what to train.

Having shown in papers one and two that the definition of SEICS should be seen as an extended catalogue from which dimensions can be retrieved for a certain context, the goal of the synthesis chapter is to develop a process model of SEICS. So, in addition to telling us what SEICS are, this model will also tell us how they function. To do so, we again integrate the psychological and the educational approach.

The overlapping definitions of intelligence, competences and skills between disciplines

Multidisciplinary approaches long for establishing a shared vocabulary. In the combination of psychological and educational approaches the search for a common ground is hampered by the necessity of educational sciences to work hand in hand with politics and their demands. For instance, politics challenged classical educational curricula in the last 30 years and introduced terms like "21st century skills" (Ananiadou and Claro, 2009), asking for a so called "competence orientation" in teaching. The point of introducing the term "competence" was, that they seem to be more applicable, allowing students a faster start in post-scholar life (Gessler, 2017). To live up to the expectations of enabling a maximal applicability of what is taught during educational pathways, while sticking to scientific standards, educational sciences had to define these competences in a very wide-ranging way (see definition by Weinert, 2001b presented above). However, extending the competence-definition led to an overlap with the definition of crystalline intelligence used in psychology.

In order to facilitate the dialogue with politics, we chose to integrate crystalline intelligence into the class of competences in our final model of the SEICS-process, so that intelligence now stands for fluid intelligence. More precisely, we differentiate between intelligence, referring to the ability to solve problems and to reason in new unknown situations, independently of the previously acquired knowledge (Jaeggi et al., 2008),

competences, referring to the ability to solve problems and to reason in new unknown situations, based on the previously acquired knowledge and skills, referring to action based abilities (e.g. saying good bye at the end of an interaction).

Developing SEICS trainings based on SEICS-processes and context-specific SEICS-definitions

The fourth and annexed paper treats the implementation of concrete SEICS trainings. Considering our findings emphasizing the importance of a context specificity to make clear definitions possible, this result may also count for the development of practicable trainings. Thus, one could imagine using a procedure in developing trainings that is comparable to the above-described construction of a SJT for a specific context: After detecting the social-emotional requirements for the context the training is build for, one can deduce context-specific SEICS-dimensions (taken from the SICS-catalogue, as done for medical assistants in this thesis) necessary to fulfill these requirements. Training units can then be developed, treating each one of the SEICS-dimensions separately. Within these units knowledge and problem-solving tasks to foster social-emotional competences and clear behavioral alternatives to foster social-emotional skills should then be treated.

This training-development-procedure seems especially suitable for VET (vocational education and training) contexts, since occupations represent frames within which the social-emotional requirements are ascertainable.

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1st Paper: Difficulties in Defining Social-Emotional Intelligence, Competences and Skills - a Theoretical Analysis and Structural Suggestion

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Social Competence, Emotional Intelligence, Social Skills, Educational Curricula, Action Regulation

Abstract

When it comes to qualifying a person's ability to interact with others, two prototypical concepts often come up: social competences and emotional intelligence. These are seen as the main contributors to successful interactions next to, for example, social intelligence, social skills and emotional competences. In connection to discussions about curriculum standards, these are viewed as important attributes that should be taught, supported and if possible assessed in educational pathways toward an occupation (KMK, 2007). However, in looking for a generally approved and widely used definition, many problems arise on the inter-conceptual and intra-conceptual level, triggering difficulties in scientific communication and the implementation in educational curricula.

This article highlights these difficulties by selecting five well-established key theories and comparing their communalities and differences. Analyzing definitions of intelligence, competences and skills, taking an action regulation perspective and highlighting the interdependence of social and emotional aspects, a structural system to facilitate communication and finally the transfer into the educational context is proposed. For that purpose, underlying components by which these concepts are defined were analyzed. As a result it will be shown that although they are often seen as different concepts, they can all be derived from a common theoretical basis.

Introduction

Demands in modern occupations are continuously growing. In parallel, there is also increasing recognition of the significance of the ability to facilitate positive social interaction as a component of occupational professionalism. This demands adaptation of classical educational curricula and causes interdisciplinary debates regarding the teaching and assessing of individual skills, competences and intelligence in the present and future. In particular, these debates introduce terms like "21st century skills" (Ananiadou and Claro, 2009), the underlying purpose of which is to enhance success in "work, citizenship, and self-actualization" (Dede, 2007, p. 4) and therefore to foster capabilities adapted to the continuously growing demands emerging as a result of globalization and rapid development of information and communication technologies. The core competencies presented by the Organization for Economic Cooperation and Development (OECD) are one example. They encompass a large portfolio of attributes and characteristics including both "interpersonal core competencies" as well as "delivery-related" and "strategic" ones (OECD, 2013, p. 4).

When it comes to qualifying a person's ability to interact with others, prototypical concepts such as social competence or emotional intelligence are often used. These are seen as important contributors to successful interactions, along with such factors as emotional competence, social skills and social intelligence. Nevertheless, the theoretical foundation has incongruities and overlaps in the definitions and meanings of these concepts. And these significantly impede transfer to educational curricula.

This paper presents a theoretical investigation of the types of intelligence, competences and skills necessary to cope with the growing scope of social interactions at work and everyday life. Furthermore, it pinpoints the causes of difficulties in application and transfer to syllabi and assessments. Finally, a workable solution for facilitating implementation through a systematic structure is proposed.

Inter-conceptual confusion in defining social-emotional intelligence, competences and skills

Interdisciplinary research activity on the subject of social interactions and the competences they require has increased enormously in recent years (Kanning, 2002). In parallel with this development, one can observe consistent confusion arising from the use of concepts such as social competence, social intelligence, social skills, soft skills, emotional intelligence, etc. In a study for the National Educational Panel Study (NEPS) in Germany, Bayer, Ditton and Wohlkinger (2012) note that there is no generally accepted definition and delimitation of the concepts of social skills, interactional skills, assertiveness, self-esteem, social or interpersonal competence in the many published studies (Döpfner et al., 1981; Rose Krasnor, 1997; Arnold et al., 2012). These concepts are sometimes used synonymously, sometimes as components of one other and sometimes as entirely separate properties. Beelmann et al. (1994), for example, regard social competences as the "more general term" (p. 1) for social skills. Yet the same two concepts are viewed as components of one another in Baron and Markman's (2003) definition of social competences as the "ability to interact effectively with others as based on discrete social skills" (p. 1). And finally, Warnes et al. (2005) postulate them as two different concepts, with social skills seen as behavior that facilitates effective interaction and social competences as a person's interactional quality as perceived by others. Another point of inter-conceptual confusion is that theories considered to be very different from one another actually share many common components. Mayer and Salovey (1997), for example, define emotional intelligence as "the ability to perceive emotion, use emotion to facilitate thought, understand emotions, and manage emotion" (p. 3).

This is not unlike Kanning (2002), who regards social competence as containing the behavioral control of emotions, meaning the ability to control one's feelings both internally and externally.

These incongruities and overlaps necessitate a great deal of effort to find a shared vocabulary. They are a sign that these constructs derive from a common theoretical basis of underlying skill, competence and intelligence dimensions that need to be precisely defined. A "concept clean-up" (Organ, 1997) is needed.

Intra-conceptual confusion, as exemplified by social competence definitions

The confusion caused by unclear attribution of the underlying skill, competence or intelligence dimensions described above continues at the intra-conceptual level. The example of social competences highlights this confusion. There are still many disagreements on the definition of social competences (Kanning, 2005). The multitude of different attempted definitions and systematizations is largely based on plausibility assumptions, and these are usually not empirically derived (Kanning 2003). Accordingly, the term can be used as an all-embracing construct that permits wide-ranging interpretations, and can be concretized in diverse and to some extent arbitrary ways (Euler and Bauer-Klebl 2008). On top of that, Seyfried (1995) points out the difficulties in measuring social competences because of the unclear nature of the theoretical construct. The necessity of identifying the obstacles that lead to these heterogeneous definitions of social competence is obvious. Firstly, it is apparent that as a result of the endless variety of social situations and social partners, a specific behavior can be good in one situation yet lead to escalation in another. This contradictory normative foundation necessitates highly abstract definitions that are not oriented to application. Secondly, there is still no explicit internationally accepted and valid definition of the meaning of competence and consequently of competence assessment. In its background paper on DeSeCo (Definition and Selection of Competencies) (2001), the OECD summarizes Weinert's analyses (2001a) on the subject of competences by stating that there is "no single concept" (p.6) and describe his recommendations to competences as "a pragmatic approach in which competencies should be conceptualized as the necessary prerequisites for meeting complex demands" (p.6). These prerequisites are trainable for specific requirements (Hartig and Klieme, 2006), giving them a concrete nature in comparison to intelligence concepts that are valid "for a large variety of situations" (Klieme et al., 2007, p.6). However, the performance aspect of competence remains unclear. According to Weinert, "those prerequisites that can in principle be fully automatized can also be characterized as skills. The

boundary between skill and competencies is fuzzy" (2001a, p.62). This causes considerable difficulties, not only in defining a specific competence or skill dimension, but also in the educational implementation demanding objective predications of people's competence level through impartial assessments of their performance.

In summary, it is obvious that reducing the number of contradictory definitions of social competence and similar concepts will require more than just a clearly defined framework of social situations in which these definitions are valid (Schuler and Barthelme, 1995). In order to obtain an objective assessment, it is also important to consider skills indicating a person's "competence" level. From a VET perspective, a job-specific approach defining clear situational demands with regard to the professional role and associated behaviors for the performance aspect could serve as a definition framework. A new field of research covering the transmission and thus concretization of generalized personal and social competence models into job-specific personal and social competence models is therefore emerging. Recent examples include the study on bankers by Tschöpe (2012, (unpublished manuscript)) and on medical assistants by Dietzen et al. (2012).

Theoretical background

Although many authors are aware of the problems mentioned above (for example there is critique of the one-dimensionality of social intelligence, demanding that it be described as a composition of multiple capabilities (Boyatzis et al., 2004; Bar-On, 1992 (unpublished manuscript); Goleman, 1998; Saarni, 1990)), there have been no proposals for structuring the entire field of research. Instead, there have been individual adaptations that only add to the confusion. In this section, we present five theories, their definitions and exemplary measurements. We compare them and identify the source of possible ambiguities.

Social competences

Theoretical approaches to social competence

As described above, there are still many disagreements on the definition of social competences (Kanning, 2005). Nevertheless, some uncontested generalized models do exist. Arnold et al. (2012), for example, define social competences as attributes of people who are able to interact with others in such a way that their behavior has a maximum positive and minimum negative outcome for the interactional partners. However, from an educational perspective, the fundamental nature of this definition is highly problematic since there is no application-oriented translation. The consequences are numerous "sub-definitions" containing

concrete capacities needed in specific situations. These definitions and systematizations are largely based on plausibility assumptions (Kanning 2003) and can be concretized in diverse and to some extent arbitrary ways (Euler and Bauer-Klebl 2008). The all- embracing and integrative nature of the concept is thus lost (Waters and Sroufe, 1983). This gives rise to the essential question: If a model of social competences must be highly abstract in order to be generally accepted, what needs to be fostered and assessed in the concrete educational context? Two solutions can be found in the literature.

On the one hand, all possible sub-dimensions of social competences can be gathered and groups of associated components can be formed. One example of this is Kanning's development of the first German inventory for measuring general social competences (Inventar Sozialer Kompetenzen, ISK, 2009). He statistically identifies four factors that summarize general social competences: 1. Social-openness 2. Being offensive 3. Self-regulation 4. Reflexivity. Unfortunately, the ISK is based on self-evaluation, therefore compromising its objectivity in educational contexts.

On the other hand, for the VET context, one can look at complete representations of (future) occupational contents, boundary conditions, normal duties and activities (also known as the domain model (Winther, 2010)). Necessary social competences for meeting these demands can be directly deduced. There are only a handful of examples of this approach, such as the study by Tschöpe (2012, (unpublished manuscript) on bankers or by Dietzen et al. (2012) on medical assistants. Both of them developed a job-specific assessment for social competences at the end of the apprenticeship in Germany. The latter found three competence dimensions defining the concept, namely emotion regulation, perspective coordination and perspective-taking, and communication (encompassing listening, communication strategies and comprehensible language). Both approaches are promising and could conceivably be combined. The ideal way to do so would be to create a generally valid "catalogue" containing all possible attributes of social competence. From this catalog, one could then select the necessary components for a specific environment. This would pave the way for a general definition that permitted contradictory competences in different environments or occupations without the entire concept of social competences being called into question. A possible structure for such a reference catalogue is presented below.

Existing measurements of social competence

There are three different approaches for measuring social competences (Arnold et al., 2012). They differ considerably in their implementation possibilities. Firstly, there are self-

reports based on questionnaires or interviews. They compose the majority of the existing assessments. Secondly, there are reports on a person's qualities by peers or experts, such as 360° (multi-source) assessments. These represent a more complex and less economical method of collecting individual information. And finally there is behavioral monitoring. If evaluated by strictly objective criteria, it is the most significant method of assessing social competences. Its realization is very complex, however. The new ability-based tests alluded to earlier (Tschöpe, 2012 (unpublished manuscript), Dietzen et al., 2012) are not described here due to their specific nature. As examples, we present three validated assessments of general social competences and their underlying scales.

Inventar Sozialer Kompetenzen (ISK, Inventory of Social Competences) (Kanning, 2009):

- Questionnaire based on self-reports
- First application 2009, reliability coefficients between .69 and .90
- 17 scales grouped into four primary scales:
    - Social orientation (pro-sociality, perspective-taking, pluralism of values, willingness to compromise, listening)
    - Being offensive (assertiveness, conflict readiness, extraversion, decisiveness)
    - Self-regulation (self-control, emotional stability, flexibility in acting and internality)
    - Reflexivity (self-expression, direct self-attention, indirect self-attention, person perception)

Social Competence Scale (SCS) as in (Gouley, et al., 2008):

- Questionnaire based on self-reports or reports by parents or peers
- First application 1995, reliability coefficients between .84 and .89
- Only for children
- Two scales:
    - Emotion regulation
    - Pro-social behavior or communication skills

Social Competence and Behavior Evaluation Scale (SCBE-30) as in (LaFreniere et al., 1996, 2002):

• Questionnaire based on self-reports or reports by teachers

• Only for children

First application 1995, reliability coefficients between .78 and .92

• Three scales:

- Social competence (being joyful, confident, tolerant, socially integrated, calm, pro-social, cooperative and autonomous)
- Trouble, aggression (demonstrating behavior of this nature)
- Fear, withdrawal (demonstrating behavior of this nature)

These three assessment methods exemplify the content of social competence assessment. No standardized measures for behavioral monitoring have been found. Yet such standardization would be important considering the necessity to evaluate social competence levels in VET through practical exams and role playing.

Emotional intelligence

Theoretical approaches to emotional intelligence

In comparison to social competences, intra-conceptual confusion in regard to the definition of emotional intelligence (EI) seems negligible at first. EI also appears to be less abstract, which would permit concrete stimulation of EI components in the educational context. However, in looking at significant definitions, one finds overlaps or at least dependencies on other concepts that contribute to the inter-conceptual confusion. Bar-On (2006), for example, shows that social and emotional intelligence concepts have much in common and argues in favor of a joint concept of emotional-social intelligence. To make things more complicated, even though Mayer et al. (1999) demonstrate that EI complies with traditional standards of intelligence, there is no explicit differentiation between the concepts of emotional intelligence and emotional competence. Instead, they are viewed as nested concepts or used to some extent as interchangeable. There are EI definitions composed of descriptions of human disposition, illustrations of personality with links to theories of action (Goleman, 1995) or based on competence (Boyatzis et al., 2000) or ability (Conte, 2005). Consequently, many EI assessments (self-report, see 2.1.2 for differentiation) seem to measure personality characteristics or indeed emotional competence (Conte, 2005) instead of intelligence (Mayer et al., 1999). Bar-On (2006) illustrates this phenomenon by describing the EI competences assessed by each scale of the Emotional Quotient Inventory (EQ-i) (Bar-On, 1997a, 1997b) described below.

On the intra-conceptual level, the definitions nevertheless seem to be congruent. The definition of EI as being "a form of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and action" (Salovey and Mayer, 1990, p. 5) forms the basis for the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) (2002b), an important EI assessment tool. According to Boyatzis et al. (2000), "emotional intelligence is observed when a person demonstrates the competencies that constitute self-awareness, self-management, social awareness, and social skills at appropriate times and ways in sufficient frequency to be effective in the situation" (p. 3). This led to the construction of the above-mentioned Bar-On Emotional Quotient Inventory (EQ-i) (1997a, 1997b). When these two are compared, many similarities become apparent: Self-awareness can be seen as monitoring one's own feelings, self-management as using the information to guide one's thoughts (and action), social awareness as monitoring others' feelings and emotions and finally social skills as using the information to guide one's (thoughts) and action. Unfortunately, research shows that, empirically speaking, the different measures don't converge in a common construct (Conte, 2005).

Existing measurements of emotional intelligence

Three generally accepted and validated EI assessments are presented below. Due to the structure of this paper, the Emotional Competence Inventory (ECI) (Boyatzis et al., 2004) is described in the chapter on emotional competence even though

it is used in EI assessments.

The Emotional Quotient Inventory (EQ-i) (Bar-On, 1997a, 1997b):

- Questionnaire based on self-reports
- First application 1996, reliability coefficients between .69 and .86
- Five composite scales:
  - Intrapersonal (self-regard, emotional self-awareness, assertiveness, independence, self-actualization)
  - Interpersonal (empathy, social responsibility, interpersonal relationships)
  - Stress management (stress tolerance, impulse control)
  - Adaptability (reality testing, flexibility, problem-solving)
  - General mood (optimism, happiness)

Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) (Mayer et al., 2002a, 2002b):

- Ability test
- Evaluated by expert or consensus scoring
- First application 2000, reliability coefficients between .73 and .93
- Four composite scales:
  - Perception of emotion
  - Integration and assimilation of emotion
  - Knowledge about emotions
  - Management of emotions

Emotional Intelligence Scale (EIS) (Schutte et al., 1998):

- Questionnaire based on self-reports
- 33 items, very short
- Conceptual foundations based on Salovey and Mayer (1990)
- First application 1998, reliability = .90
- Three composite scales:
  - Appraisal and expression of emotion
  - Regulation of emotion
  - Utilization of emotions in solving problems.

Emotional competences

Theoretical approaches to emotional competence

Emotional competences have been overshadowed by social competences and emotional intelligence, and accordingly less research has been conducted on them (Weis, 2008). Similar to other concepts, an all-embracing definition is lacking but a general consensus as to the nature of emotional competence is recognizable. Even though emotional competences stand for themselves, independent definitions clearly detached from emotional intelligence are difficult to find. Goleman (1998), for example, describes emotional competence as the "learned capability based on emotional intelligence that results in outstanding performance (at work)" (p. 24), meaning that emotional competence is the application of emotional intelligence in to something applied. Scherer (2007) even goes so far as to criticize use of the term "intelligence" in "emotional intelligence," suggesting instead that model of emotional

intelligence be converted into a model of emotional competence based on his Componential Emotion Theory (Scherer, 2001). He differentiates between perceiving and producing competences. Perception competence encompasses accurate perception, recognition and interpretation of signals, while production competence is broken down into three sub-competences: 1. Appraisal competence as "appropriate emotion elicitation and differentiation", 2. Regulation competences as the ability to "correct inappropriate emotional responses produced by unrealistic appraisals" and 3. Communication competences being the "production of emotional expressions optimally suited to a purpose and the accurate signal perception and receiving ability" (Weis 2008, p. 74; Scherer 2007).

In addition to the natural commonalities with emotional intelligence, we observe that the capability of regulating one's emotional response also appears in the definition of social competence.

A new aspect, namely the dimension of time, is brought in by Lerner (2007), who defines emotional competence as "the ability to identify and manage one's emotions. This includes knowing how to nourish your emotional state, take turns, delay gratification, and cope with failure and loss" (p. 51). Few long-term strategies are found in existing assessments. Lerner adds "It also involves knowing how to control impulses, use good judgment and adapt emotions in response to others' emotions and reactions" and thus converges towards the definitions of social competence and emotional intelligence outlined above. In summary, one can see that emotional competence and its connection to emotional intelligence and sometimes even to social competence contribute to the inter-conceptual confusion. They nevertheless appear to represent a pathway to the behavioral output arising from emotional intelligence.

Existing measurements of emotional competence

Two generally accepted and validated emotional competence assessments are presented below. Despite its name, the Emotional Competence Inventory (ECI) (Boyatzis et al., 2004) is often used in emotional intelligence assessments. The clusters in its underlying competence dimensions are very detailed and based on Goleman's definition of emotional intelligence from 1998.

Emotional Competence Inventory (ECI) (Boyatzis et al., 2004):

- Questionnaire based on self-reports or reports by others (360°)
- First application 1999, reliability coefficients between .68 and .87

• Five scales , clusters:

- Self-awareness cluster (emotional awareness, accurate self-assessment and self-confidence)

- Self-regulation cluster (self-control, trustworthiness, conscientiousness, adaptability and innovation)

- Motivation cluster (achievement drive, commitment, initiative and optimism)

- Empathy cluster (understanding others, developing others, service orientation, leveraging diversity and political awareness)

- Social skills cluster (influence, communication, conflict management, leadership, change catalyst, building bonds, collaboration and cooperation and team capabilities.)

Emotionaler-Kompetez-Fragebogen (EKF, Emotional Competence Questionnaire) (Rindermann, 2009):

• Questionnaire based on self-reports or reports by others

• First application 2009, reliability coefficients between .89 and .93

• Four scales:

- Recognizing one's own emotion (perceiving and understanding proper emotions)

- Recognizing others' emotions (being able to perceive and understand others' emotion by their behavior, their spoken communication, their facial expression and their gestures depending on the situation)

- Regulation and control of one's own emotions

- Emotional expressivity (being able and willing to express one's feelings)

Social skills

Theoretical approaches to social skills

In comparison to the other concepts, social skills clearly are behavior based. They contain firstly an understanding of and then secondly an adaption to social situations (Steedly et al., 2008). Yet independent definitions clearly detached from social competences are difficult to find, and the two terms are used interchangeably. According to a frequently cited definition from Walker (1983, p. 27), social skills are "a set of competencies that allow an individual to initiate and maintain positive social relationships, contribute to peer acceptance

and to a satisfactory adjustment, and allow an individual to cope effectively with the larger social environment." They form the base of many training activities and educational entities, such as in the context of Social Emotional Learning (SEL) through which people learn how to "to generate and coordinate flexible, adaptive responses to demands and to generate and capitalize on opportunities in the environment" (Waters and Sroufe, 1983, p. 80). In concrete terms, this means people learn how to recognize and manage emotions, showing and feeling concern toward others, initializing and maintaining positive relationships, making responsible decisions and acting ethically and constructively in difficult situations (Zins, et al., 2004). On the basis of these definitions, social skills, similar to the emotional competences, seem to represent the pathway to the behavioral output arising from social competences.

Existing measurements of social skills

Since social skills are evaluated primarily in school contexts, the measurements presented here have been adapted to school situations. The dimensionality is transferable nonetheless.

Social Skills Improvement System (SSIS) (Gresham and Elliott, 2008):

- Questionnaire based on self-reports or reports by parents or teachers
- First application 1990, reliability coefficients between .81 and .94 for scales as a whole
- Seven scales:
  - Communication
  - Cooperation
  - Assertion
  - Responsibility
  - Empathy
  - Engagement
  - Self-control

Matson Evaluation of Social Skills with Youngsters (MESSY) (Matson et al. 1983):

- Questionnaire based on self-reports or reports by parents or teachers
- First application 1983, reliability coefficients between .85 and .89
- Five scales:
  - Assertion

- Cooperation
- Self Control
- Empathy
- Responsibility

Social intelligence

Theoretical approaches to social intelligence

The original definition of social intelligence dates back to 1920 when it was described by Thorndike as "the ability to understand and manage men and women, boys and girls, to act wisely in human relations" (p. 228). Vernon (1933, p. 40) defines it more precisely as the "ability to get along with people in general, social technique or ease in society, knowledge of social matters, susceptibility to stimuli from other members of a group, as well as insight into the temporary moods or underlying personality traits of strangers." This encompasses a new dimension appears in addition to the direct detection of one's own and the interactional partner's condition. The concept of social intelligence is completed by knowledge of social norms common to the group with which one is affiliated as well as the social norms of the interactional partner's affiliation group. It appears to be an all-embracing construct containing all the others. Yet while the number of articles on emotional intelligence and social competences has exploded in recent years, especially since the official introduction of the term "emotional intelligence" in the 1980s (Weis, 2008), articles on social intelligence have taken a backseat.

Existing measurements of social intelligence

Assessments of social intelligence are difficult to find. Two will are presented below.

Tromso Social Intelligence Scale (TSIS) (Silvera et al. 2001):

- Questionnaire based on self-reports
- First application 2001, reliability = .79
- Three scales:
  - Social information processing
  - Social skills
  - Social awareness

George Washington Social Intelligence Test (GWSIT) (Hunt et al., 1955):

- Ability test
- First application 1928
- Five scales:
    - Judgment in social situations
    - Recognition of the mental state of the speaker
    - Memory for names and faces
    - Observation of human behavior
    - Sense of humor

Conclusion

Let us first turn our attention to measurement methods. These were selected by looking for assessments that claim to measure the described concepts. Since there is a pronounced prominence of theories on social competence and emotional intelligence, it was very difficult to find instruments that included all concepts. As a result, only local measurements have been found for some. It should also be noted that many of them are for children. Assessments of social-emotional intelligence, competence and skill assessments are lacking for adults. Ten of twelve methods are based on self-evaluations or evaluations by parents or peers, and are thus very difficult to use for ability based and objective measurements of intelligence, competence or skill levels, necessary for the educational context. Secondly, in light of this sample of prototypical definitions, the main source of the confusion alluded to in the introductory sections is quickly apparent, namely the lack of a clear demarcation between the concepts of intelligence, competence and skills. In some cases they are used as synonyms, while in others they are leveled from behavior to human disposition. In addition, some concepts are described in a generalized way while others tend to be application-driven and are referenced to a concrete environment. Clear action regulation levels (Hacker, 2003), structuring the contents by differentiating the extent to which conscious cognitive thought is required for the composing elements to be activated, are not described. Furthermore, many sub-components appear in several of these concepts, making demarcation of the concepts very fuzzy.

In summary, we can see that there are problems on many levels and we want to propose some solutions to them. Problems caused by the nature of the evaluation technique, for example, could be solved through use of situational judgment tests (Dietzen et al., in press) that enable measurement of a person's reaction to a stereotypical situation. The idea is that a person's acting in a certain situation is a good predictor of future performance in similar situations (Havighurst et al., 2003). The bias of self-evaluations could thus be

avoided. Concerning the problems arising from the fuzzy demarcations of contents, we propose the fallowing: We summarized the presented theories to an all englobing field of social-emotional intelligence, competence and skills. For this, we looked at the differences and communalities of the presented theories and gathered all together. We then extracted six attributes covering all the contents found in the field. These attributes set the base for our proposed structural system for the field of social-emotional intelligence, competence and skills:

i. Attributes that enable awareness of one's inner state (emotions, cognitions, perception, consciousness, social rules)
ii. Attributes that enable control, management of one's inner state (emotions, cognitions, perception)
iii. Attributes that improve one's wellbeing
iv. Attributes that identify the state of others (emotions, people, groups, society)
v. Attributes that enable the control, management of others' inner state (emotions, cognitions, perception)
vi. Attributes that improve social interactions

These six attributes compose the field of social-emotional intelligence, competence and skills. They allow the collocation of sub-components helping the understanding and transition into application. They will serve as categories for the structure presented in the next chapter.

Proposed clean-up

A scientifically sound and unambiguous integration of the dimensions of social-emotional intelligence, competences and skills in educational and VET curricula, as exemplified by the OECD's Interpersonal Core Competencies, is highly desirable, even if only to facilitate the search for those components which should be taught, enhanced and stimulated. With this goal in mind, we identify a structure behind the theories outlined in the previous sections and touch on the causes of the latent unease in the field. As a proposition to facilitate understanding and communication, as well as transfer into educational contexts, we present an all-embracing approach to social-emotional intelligence, competences and skills.

Intelligence, competence and skills

Although the concept of intelligence as "the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his

environment" Wechsler (1944, p. 7) is generally accepted, its division into fluid and crystallized intelligence (Cattell, 1971) causes delimitation problems with other concepts such as competence (Wilhelm and Nickolaus, 2013). Fluid intelligence refers to the ability to solve problems and reason in new unknown situations, independent of the previously acquired knowledge (Jaeggi et al., 2008). Research reveals that it appears to be "robust against influences of education and socialization, and it is commonly seen as having a strong hereditary component" (Jaeggi et al., 2008, p. 1; Gray and Thompson, 2004; Cattell (1963); Baltes et al. (1999)). Crystallized intelligence, on the other hand, relies on the use of learned knowledge and experience (Cattell, 1963).

In contrast to intelligence, there is no internationally valid definition of competences. To complicate things even further, similar wording (i.e. competency) is also present in the educational context. Le Deist and Winterton point out that "'competence' generally refers to the functional areas and 'competency' to behavioral areas but usage is inconsistent" (2005, p.1). For this paper, we use the definition from Weinert, who takes a cognitive approach, since his expertise laid the groundwork for the understanding of competence within the OECD. He defines "'competence' as referring to combinations of those cognitive, motivational, moral, and social skills available to (or potentially learnable by) a person or a social group that underlie the successful mastery through appropriate understanding and actions of a range of demands, tasks, problems, and goals" (Weinert, 2001b, p. 2433). One can see that competence is very similar to crystallized intelligence in a specific domain (Wilhelm and Nickolaus, 2013). Neither is robust against influences of education and socialization. On the contrary, they mostly result from them. One could imagine that (crystallized) intelligence represents the development of abilities into competences (Sternberg, 2005). This would explain why acquiring certain competences can increase success in intelligence tests (Sternberg, 2005).

Finally, in the literature and in dictionaries, skills are defined as the abilities that enable an action to be performed. As discussed in Chapter 1.2, performance is included in some views of competence and, as previously mentioned, "the boundary between skill and competencies is fuzzy" (Weinert, 2001a, p.62).

Action regulation modes of control

In the educational context, performance through action is the scale on which statements regarding people's abilities are based. Since we are looking for structure in (educational) research approaches, it is important to combine the theoretical side with the applied or

empirical one. According to Goleman (1995), emotional intelligence is a description of human dispositions or illustrations of personality with links to theories of action. To conduct the action-driven analysis, we use the action regulation theory by Hacker (2003). It describes three levels of modes of control. On the first level, action can take place in an automated, unconscious mode of regulation containing implicit automatisms and, if the situation allows, can be externalized through "prefabricated, motor programs" (p. 108). The second level is "knowledge-based" (p. 108), partly consciously controlled. It arises in cases in which situational cues are perceived and externalizes itself through pre-existing action schemes. Finally, the third level is the "strictly conscious intellectual mode" (p. 108) that arises when an intellectual analysis of the situation is necessary and action-based strategies must be found. One could conjecture that the three action regulation modes are linked to intelligence, competence and skills as shown in the following figure. The intellectual level, not based on any pre-existing schemes, would then only be deduced from fluid intelligence demanding new problem-solving aspects and pure reasoning without any dependencies on preexisting knowledge. The routine or automated level would only be derived from competences and skills since they are strictly automated and unconscious. And finally, the knowledge-based level would combine reasoning aspects of fluid intelligent nature with experiences, knowledge and skills in the meaning of crystallized intelligence. Figure 1 below shows these possible links. In a social situation, all three action regulation levels are likely to occur. In artificial situations, however, one could imagine that these are controllable, which would permit a new approach to measurement that could be considered in the future.

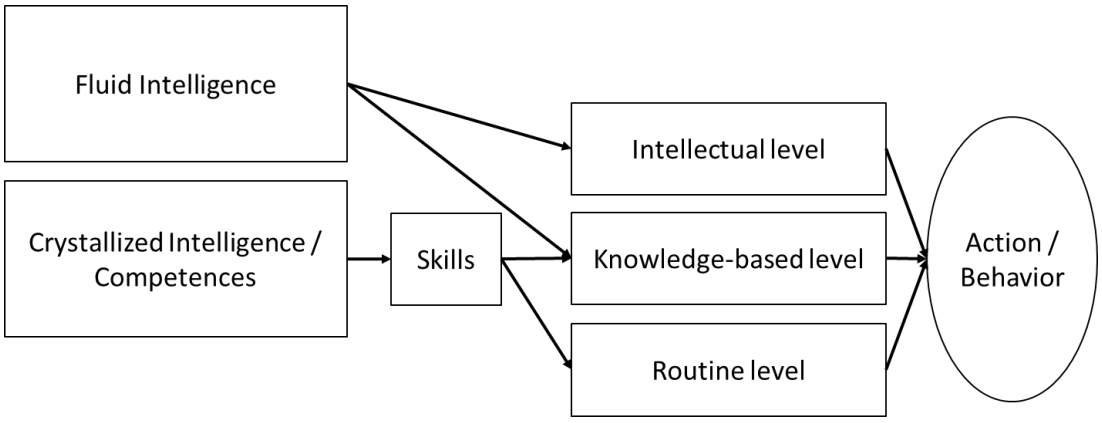

Figure 1: A possible link between intelligence, competence and skills with modes of action regulation.

For the structure proposed by this paper, it would be important to combine the attributes presented in Chapter 2.6 (attributes that allow the awareness of one's inner state, attributes that allow the control, management of one's inner state, attributes that improve one's wellbeing, attributes that identify the state of others, attributes that allow the control, management of others' inner state and attributes that improve social interactions) with Hacker's action regulation levels presented above. Each of the attributes could be divided into the three levels. But in looking at the assessments above, one can see that the components of the tests are broken down in accordance with other rules, making it quasi impossible to "clean-up" the elements using this logic. Because of this, and still keeping it in mind for further analyzes and structuring exceeding the scope of this article, we concentrated on the presented six overall attributes and their division into intelligence, competence and skill elements in this paper.

Social versus emotional?

The final premise for the conceptual clean-up is the clarification of the difference between social and emotional. In looking at the definition of social intelligence, social competence and social skills, we see that emotions play a major role. But social components can be found in definitions of emotional competence as well (Saarni, 1990). As already mentioned, Bar-On (2006) emphasizes this point by using the term "emotional-social intelligence." Emotional components are found in almost every theory of social intelligence, social competence and social skills. In comparison to this, social aspects as "the knowledge of social matters" as defined by Vernon (1933, p. 40) almost never appear in emotional intelligence or emotional competence theories. For our approach, we first sought to differentiate these two components. After looking at the preexisting theories and measurement elements presented in Chapter 2, however, we found that this was not possible. As previously described, emotional components are the main components of both social and emotional intelligence competence and skill theories and are therefore almost inseparable. Differentiation is only possible in social aspects, where we can find intelligence, competence and skill components related solely to knowledge and application of social rules, and therefore not of an emotional nature.

Social-emotional intelligence, competences and skills structure

In concluding this paper, we present a proposition for structuring social-emotional intelligence, competences and skills based on the information in Chapter 2. Due to space constraints, this has been done by way of example, allowing insight into what an extensive,

all-embracing structure might look like. We used the six attributes presented in Chapter 2.6 (attributes that allow the awareness of one's inner state, attributes that allow the control, management of one's inner state, attributes that improve one's wellbeing, attributes that identify the state of others, attributes that allow the control, management of others' inner state and attributes that improve social interactions) to organize the elements of the above-presented validated assessments of social competence, emotional intelligence, emotional competence, social skills and social intelligence and to illustrate the proposed structure. Each one of the six attributes is presented in a table that can be found in the annexes. We then categorized each component of the presented measurements as either an intelligence, skill or competence element. This turned out to be very complicated, with some elements being allocated to more than one category. Difficulties in differentiating these components from personality traits and mood factors also arose.

Tables 1-6 show how our theoretical analysis could be translated into a generalized structural model for social-emotional intelligence, competences and skills.

Table 1: Social-Emotional Intelligence, Competences and Skills, proposition of a structure: Awareness of one's inner state

		Awareness of one's inner state
Social-Emotional	Intelligence	Utilization of emotions in solving problems *(EIS, Schutte et al., 1998)*
	Competence	Assertiveness *(ISK, Kanning, 2009; EQ-I, Bar-On, 1997a,1997b)*
		Direct self-attention *(ISK, Kanning, 2009)*
		Indirect self-attention *(ISK, Kanning, 2009)*
		Self-regard *(EQ-I, Bar-On, 1997a, 1997b)*
		Emotional self-awareness *(EQ-I, Bar-On, 1997a, 1997b; ECI, Boyatzis et al., 2004)*
		Independence *(EQ-I, Bar-On, 1997a, 1997b)*
		Knowledge about emotions *(MSCEIT, Mayer et al., 2002)*
		Perceiving and understanding proper emotions *(EKF, Rindermann, 2009)*
	Skill	Accurate self-assessment *(ECI, Boyatzis et al., 2004)*
		Perceiving proper emotions *(EKF, Rindermann, 2009)*

Table 2: Social-Emotional Intelligence, Competences and Skills, proposition of a structure: Management of one's inner state

		Management of one's inner state
Social-Emotional	Intelligence	Utilization of emotions in solving problems *(EIS, Schutte et al., 1998)*
	Competence	Decisiveness *(ISK, Kanning, 2009)* Self-control *(ISK, Kanning, 2009; ECI, Boyatzis et al., 2004; SSIS, Gresham & Elliott, 2008; MESSY, Matson et al. 1983)* Flexibility in acting and internality *(ISK, Kanning, 2009)* Self-expression *(ISK, Kanning, 2009)* Emotion-Regulation *(SCS, Gouley et al. 2008; CoSMed, Dietzen et al., 2012; Monnier et al., 2014; EIS, Schutte et al., 1998; EKF, Rindermann, 2009)* Self-actualization *(EQ-I, Bar-On, 1997a, 1997b)* Impulse control *(EQ-I, Bar-On, 1997a, 1997b)* Management of emotions *(MSCEIT, Mayer et al., 2002)* Expression of emotion *(EIS, Schutte et al., 1998)* Achievement drive *(ECI, Boyatzis et al., 2004)*
	Skill	Self-control *(ISK, Kanning, 2009)* Flexibility in acting and internality *(ISK, Kanning, 2009)* Self-expression *(ISK, Kanning, 2009)* Emotion-Regulation *(SCS, Gouley et al. 2008; CoSMed, Dietzen et al., 2012; Monnier et al., 2014; EIS, Schutte et al., 1998; EKF, Rindermann, 2009)*

Table 3: Social-Emotional Intelligence, Competences and Skills, proposition of a structure: Properties improving one's well-being

		Properties improving one's well-being
Social-Emotional	Intelligence	Utilization of emotions in solving problems *(EIS, Schutte et al., 1998)*
	Competence	Self-control *(ISK, Kanning, 2009)* Flexibility in acting and internality *(ISK, Kanning, 2009; EQ-I, Bar-On, 1997a, 1997b)* Emotion-Regulation *(SCS, Gouley et al. 2008; CoSMed, Dietzen et al., 2012; Monnier et al., 2014; EIS, Schutte et al., 1998; EKF, Rindermann, 2009)*
	Skill	Self-control *(ISK, Kanning, 2009)* Flexibility in acting and internality *(ISK, Kanning, 2009; EQ-I, Bar-On, 1997a, 1997b)* Emotion-Regulation *(SCS, Gouley et al. 2008;CoSMed, Dietzen et al., 2012; Monnier et al., 2014; EIS, Schutte et al., 1998; EKF, Rindermann, 2009)*

Table 4: Social-Emotional Intelligence, Competences and Skills, proposition of a structure: Identification of the state of others

		Identification of the state of others
Social-Emotional	Intelligence	Perception of emotion *(MSCEIT, Mayer et al., 2002)*
		Utilization of emotions in solving problems *(EIS, Schutte et al., 1998)*
		Understanding others *(ECI, Boyatzis et al., 2004)*
	Competence	Perspective-taking *(ISK, Kanning, 2009; CoSMed, Dietzen et al., 2012; Monnier et al., 2014)*
		Listening *(ISK, Kanning, 2009)*
		Perspective-coordination *(CoSMed, Dietzen et al., 2012; Monnier et al., 2014)*
		Person perception *(ISK, Kanning, 2009)*
		Empathy *(EQ-I, Bar-On, 1997a, 1997b; ; SSIS, Gresham & Elliott, 2008; MESSY, Matson et al. 1983)*
		Perception of emotion *(MSCEIT, Mayer et al., 2002)*
		Knowledge about emotions *(MSCEIT, Mayer et al., 2002)*
		Understanding others *(ECI, Boyatzis et al., 2004)*
	Skill	Listening *(ISK, Kanning, 2009)*
		Reality-testing *(EQ-I, Bar-On, 1997a, 1997b)*
		Perceive and understand emotion by behavior *(EKF, Rindermann, 2009)*
		Perceive and understand emotion by spoken communication *(EKF, Rindermann, 2009)*
		Perceive and understand emotion by facial expression *(EKF, Rindermann, 2009)*
		Perceive and understand emotion by gestures *(EKF, Rindermann, 2009)*
		Observation of human behavior *(GWSIT, Hunt et al., 1955)*

Table 5: Social-Emotional Intelligence, Competences and Skills, proposition of a structure: Management of others' state

		Management of others' state
Social	Competence	Pluralism of values *(ISK, Kanning, 2009)* Political awareness *(ECI, Boyatzis et al., 2004)*
Social-Emotional	Int.	Problem-solving *(EQ-I, Bar-On, 1997a, 1997b)* Utilization of emotions in solving problems *(EIS, Schutte et al., 1998)*
	Competence	Decisiveness *(ISK, Kanning, 2009)* Self-control *(ISK, Kanning, 2009)* Flexibility in acting and internality *(ISK, Kanning, 2009; EQ-I, Bar-On, 1997a, 1997b)* Self-expression *(ISK, Kanning, 2009)* Management of emotions *(MSCEIT, Mayer et al., 2002)* Expression of emotion *(EIS, Schutte et al., 1998)*
	Skill	Self-control *(ISK, Kanning, 2009)* Flexibility in acting and internality *(ISK, Kanning, 2009; EQ-I, Bar-On, 1997a, 1997b)* Self-expression *(ISK, Kanning, 2009)* Influence *(ECI, Boyatzis et al., 2004)*

Table 6: Social-Emotional Intelligence, Competences and Skills, proposition of a structure: Properties improving social interactions

		Properties improving social interactions
Social	Intelligence	Utilization of emotions in solving problems *(EIS, Schutte et al., 1998)* Social information processing *(TSIS, Silvera et al. 2001)*
	Competence	Prosociality *(ISK, Kanning, 2009; SCBE-30, LaFreniere et al., 1996, 2002)* Pluralism of values *(ISK, Kanning, 2009)* Cooperation (*SCBE-30, LaFreniere et al., 1996, 2002)* Social responsibility *(EQ-I, Bar-On, 1997a, 1997b)* Political awareness *(ECI, Boyatzis et al., 2004)*
	Skill	Pro-social behavior *(SCS, Gouley et al. 2008)* Communication-skills *(SCS, Gouley et al. 2008;* CoSMed, Dietzen et al., 2012; Monnier et al., 2014; *ECI, Boyatzis et al., 2004; SSIS, Gresham & Elliott, 2008)* Cooperation (*SCBE-30, LaFreniere et al., 1996, 2002; ECI, Boyatzis et al., 2004; SSIS, Gresham & Elliott, 2008)* Memory for names and faces *(GWSIT, Hunt et al., 1955)*
Social-Emotional	Int.	Problem-solving *(EQ-I, Bar-On, 1997a, 1997b)* Adaptability and Innovation *(ECI, Boyatzis et al., 2004)*
	Competence	Willingness to compromise *(ISK, Kanning, 2009)* Conflict readiness *(ISK, Kanning, 2009)* Interpersonal relationship *(EQ-I, Bar-On, 1997a, 1997b)* Conflict management *(ECI, Boyatzis et al., 2004)* Emotional expressivity *(EKF, Rindermann, 2009)*
	Skill	Conflict management *(ECI, Boyatzis et al., 2004)*

Conclusion

Personal and interpersonal intelligence, competences and skills are seen as important attributes and should be taught, supported and if possible assessed in educational pathways toward an occupation (KMK, 2007). Although research in this field has enormously grown in recent years, various problems have arisen. Firstly, theories of a different nature have many overlaps and secondly, there are major differences in definitions of supposedly identical concepts, resulting in confusion. These problems are primarily caused by the unclear nature and delimitations of intelligence, competence and skill concepts. Although there does seem to be awareness of these problems in the field, no effort has been made to structure the vast amount of information. On the contrary, even more individual "sub"-definitions are being created.

For educational purposes the difficulties this causes are enormous as there is no clear description of which intelligence component should be stimulated or which competence or skill dimension should be enhanced or taught, let alone assessed and evaluated.

Looking at preexisting and validated measurements of general social-emotional intelligence, competence and skills, we see that they are mostly based on self-evaluations. However, educational contexts need to reduce or eliminate subjectivity and to be as objective as possible, making self-evaluations less than ideal.

In this paper, we proposed a clean-up (Organ, 1997) and structuration of the entire field that could serve as an all-embracing reference, enabling research to become more consistent and facilitating identification of clear levels of intelligence, competences and skills. For this, we looked at social-emotional intelligence, competence and skill theories and measurements as an entire field instead of as independent theories. We looked at the similarities and differences between each of the components and deduced six main attributes: attributes that allow the awareness of one's inner state, attributes that allow the control, management of one's inner state, attributes that improve one's wellbeing, attributes that identify the state of others, attributes that allow the control, management of others' inner state and attributes that improve social interactions. We then tried to find an underlying structure, which led us to the action regulation theory and its link to the definitions of intelligence, competence and skills. Because of the extent of this paper, we chose to keep the subdivision of the six attributes into intelligence, competence and skills, not differentiating between action regulation levels and combined it with a possible differentiation between social and social-emotional elements. The result is presented in six exemplary tables above.

We think that this representation facilitates communication in research as well as transfer to the educational context. It allows identification of concrete entities that could be integrated into educational syllabi and adapted to post-educational demands.

In future research, two approaches should be combined in order to achieve the proposed structure. Firstly, a profound meta-analysis is needed to confirm, enlarge or reduce the proposed structure and fill up the categories with concrete and applicable examples. Secondly, an assemblage of social-emotional intelligence, competence and skill components, detached from preexisting measurements and structured by the six presented attributes and action regulation level, is also needed. Personality and mood should be examined in connection with the intelligence, competence and skill components as well to reduce additional confusion.

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Transition from first to second paper

As we have shown, commonly used concepts of social competences, social intelligence, social skills, soft skills, emotional intelligence, etc. should be seen as interdependent, not always separable and belonging to the super-ordinate concept of SEICS. Faced with this unsatisfactory state of affairs, we set out to disentangle their underlying dimensions in an attempt to classify them according to their nature of being rather social or emotional and their attribution to intelligence, competences or skills. A final catalogue could then be established, from which a context specific definition could be retrieved. However, by taking a closer look, we quickly recognize that this intention is not that easy to implement. Not only is it rather difficult to find social aspects that are independent of emotions, but the categorization of the sub-dimensions into intelligence, competences and skills is even more problematic, especially in a multidisciplinary approach like ours: While psychology has a long history of differentiating between fluid (robust against influences of education and socialization) and crystallized (based on learned knowledge and experience) intelligence (Cattell, 1971), educational sciences, emphasize competences ("cognitive, motivational, moral, and social skills available to or potentially learnable by a person" (Weinert, 2001a, p. 2433)), admitting at the same time that "the boundary between skill and competencies is fuzzy" (Weinert, 2001b, p.62). The different approaches seem to have many things in common, making their differentiation difficult but not impossible, as shown in the last chapter of this thesis (see synthesis). Yet, the following and second paper only uses the accepted term of social competences in the title. It arose from a project called CoSMed (Competence Measurement based on Simulations and adaptive Testing in Medical Settings) realized by the Federal Institute for Vocational Education and Training (BIBB) in Germany. Although it has a strong anchor in educational sciences it still should be understood within the multi-disciplinary framework of SEICS.

In it, we propose an implementation of the ideas developed above, emphasizing the necessity of taking context specific perspectives to define SEICS. For this, we chose an occupation-specific approach, since describing professional environments make the task of framing contexts easier.

We have taken that route for the case of medical assistants, which is particularly interesting because a large fraction of their activity consists of social interactions with people from various social backgrounds and different hierarchical levels.

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2nd Paper: Occupation-Specific Social Competences in Vocational Education and Training (VET): The Example of a Technology-Based Assessment

Reference

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Keywords

Social Competences, Vocational Education and Training, Situational Judgment Test, Medical Setting, Communicative Strategies, Communication, Perspective-Coordination, Emotion Regulation

Abstract

The difficulties regarding the definition and measurement of social competences, crucial to the research in vocational education and training are well known. In this paper, we show, based on the example of medical assistants in Germany, that these competences have to be assessed in an occupation specific way, and develop an appropriate simulation-based Situational Judgment Test. Competence modeling, the translation into the test format and results of a data collection are discussed in detail for the dimension of communicative strategies.

Introduction

In recent years, competence research and diagnostics in VET (vocational education and training) have made great progress in providing an empirical foundation for occupation-related competence models and their assessment. Empirically verified competence models have been introduced for many occupations in the industrial-technical and commercial sector (Nickolaus and Seeber, 2013). These models can be converted into technically high standard assessment procedures. This makes the evaluation of detailed competence levels possible on a big scale, validating the underlying structural models empirically. Still, the occupations' dimensions of social competences are not, just partially or only superficially treated. This is due to the nature of the concept: Although the amount of research on social competences has increased considerably in the past decades (Kanning, 2003), a congruent understanding is still lacking, which makes objective comparisons between different measurements of these essential aptitudes virtually impossible (Monnier, 2015). Already in 1995 Seyfried described "stumbling blocks" causing the fundamental difficulties on the way to measuring social competences that still apply to today's research on the matter. One fundamental difficulty lies in the vagueness of the terminological construct of "social competence". In the field of psychological research for example, Kanning (2005) points out that definitions and systematizations are frequently based on assumptions of plausibility, which furthermore are not sufficiently supported by empirical data. In addition, the attempts at definitions vary, depending on the theoretical approach: In the context of developmental psychological theories, for example, emphasis is placed on adjusting social competences to social standards and rules, while the assertion of one's own interests is more strongly stressed within the framework of clinical psychological approaches (Kanning, 2005). This disagreement is further enforced by the existence of various related concepts such as "emotional intelligence",

"social skills" or "social intelligence" which make a sensible and content-based differentiation from the concept of social competence nearly impossible (Monnier, 2015). Bayer, Ditton and Wohlkinger (2012) for example point out that the definition problem also exists for the concepts of social skills, interactional skills, being assertive, self-esteem, social- or interpersonal competence, where no clear delimitation of the concepts is possible (Döpfner et al., 1981; Rose Krasnor, 1997; Arnold et al., 2012). These difficulties are also found in VET research (Euler and Bauer-Klebl, 2009; Euler, 2012; Nickolaus and Seeber, 2013). Different dimensions and aspects with reference to social competences have been addressed, for example in studies dealing with moral judgment in commercial occupations (Beck et al., 1996; 1998), communicative abilities (van Buer and Matthäus, 1994; Wittmann, 2001) and teamwork skills (Gomez, 2009). In comparison to these individual dimensions, studies on the relationship between these facets working together as the composite factor of social competences, or overlapping and differing contents in different occupations are missing so far (Monnier, 2015).

The aim of this paper is to identify how definition problems can be solved by restricting the framework to a controllable set of requirements given by the occupation and by allowing a clear scope of validity of the findings and characterizations. We will show how these occupational requirements are identified and how competence dimensions can be derived from them by using the example of medical assistants in Germany. We will then present how the competence model can be translated into an adequate test format. Due to the limited space available, this will only be done in detail for the dimension of communication. Finally results and their meaning for practice and the scientific community will we presented.

From competences to social competences

The discussion on competences has become more important since the intent to make them a foundation of educational qualification frameworks has arisen in order to enhance success in “work, citizenship, and self-actualization” (Dede, 2007). A widespread definition of competences by Weinert (2001) says that competences are “cognitive abilities and skills which are available or trainable for individuals to solve specific problems as well as associated motivational, volitional and social willingness and skills to use problem solving strategies successfully and responsibly in variable situations”. The first part of Weinert’s definition implies that competences are a dynamic (trainable) cognitive concept, representing an essential prerequisite to competent behavior. Transferring this presumption onto social competences, modeling and measuring them could only be possible if the focus is set on the

underlying "social- and emotional-cognitive dispositions", and not the final (social) behavior (Tschöpe et al., 2016). The awareness of social competences' nature is important for the following discussion on the actual state of research.

Stumbling Block: Definition and dimensionality of social competences

Beyond all intra-disciplinary and trans-disciplinary definitions there is agreement within scholarly analysis that social competences are determined through an interplay of several competences and thus, are a multi-dimensional construct (Schuler and Barthelme, 1995; Kanning, 2005; Euler and Bauer-Klebl, 2009). Which competences these are specifically and what terminology should be used to differentiate them from each other is still an open question (Kanning, 2005). The available lists and catalogues of terms like communicative ability, assertive ability, ability to accept criticism etc. are still just hypothetical constructs. Also, because of their dependence on the values and attitudes of the individuals involved and on the rules, standards and professional behavior expectations shaping the setting in question, their influence on social interactions can only be empirically determined in specific situations and contexts (Kanning, 2005). Although social competences usually have a positive association, such an assessment can vary greatly against the background of different and possibly incompatible values and standards (Kanning, 2005). As a consequence, one has to consider that social competent behavior can mean very different things depending on context and situation: What is considered as demonstrating assertive ability in one field may appear as uncooperative or even overstepping the boundaries in another area. At the same time, some facets of social competence may be negligible in certain contexts or occupations but central in others. Descriptive and evaluative statements on social competences can therefore only be made and empirically substantiated in defined areas and situations with clear reference to values and standards, which differentiate socially adequate from socially inadequate behavior.

Stumbling Block: Measuring social competences

Considering the foregoing paragraph, the fact that the majority of social competence measurements aspire to enlighten general social competences makes their assessment very difficult, if not impossible. They often overlook the specific requirements on social competences in particular situations or occupations, so they seem hardly suitable for use in occupational diagnostics (see more details on this in Dietzen et al., 2012; Dietzen et al., in press). Also, established methods, such as Kanning's (2009) Social Skills Inventory (ISK), are mostly based on self-assessment questionnaires. Usually, they have only relatively low

correlations with external assessments and test-based data (Nickolaus and Seeber, 2013). Because of their possibilities of corruption, they are rated as problematic in terms of a valid diagnosis in competence measurement (Bühner, 2011). There are only few studies that relate to social competences in a particular occupational field, one example being the work of Gartmeier et al., (2011) on teachers and physicians and, there is clearly a need for a systematic approach to the problem.

Situational Judgment Tests

As said before, established methods are mostly based on self-assessment questionnaires. They can be combined with standardized role-plays as done by Gartenmeier et al. (2011) to gain information about the actual performance level. But in the long-term and large-scale perspective this would represent an enormous time and work investment, making it uneconomic or even impossible to implement. Also, having in mind the competence definition by Weinert (2009), we recall that competences are "cognitive abilities and skills which are available or trainable for individuals to solve specific problems". They do not necessarily arise in performance in every situation. The difficulty in identifying these "underlying" cognitive dimensions becomes clear.

In aptitude diagnostic practice, simulation-based testing is used, in which people are supposed to describe their fictional behavior in certain typical situations, so-called Situational Judgment Tests (SJT) (Ployhart and MacKenzie (2011)). In comparison to role-plays, questions can be focused in detail on different competence dimensions, allowing the identification of structures and levels, while the observation of the act itself would only show the resulting conglomerate of the dimensions working together (Lane and Rollnick, 2007). SJTs are mostly used in the selection of executives and designed to fit specific professional positions, which is why specific procedures need to be developed for each context of requirements. One such context is the occupation itself. Based on a requirements analysis to determine the work tasks, interactions and tools composing the occupation one could imagine defining tasks that can display the participants social competences in the specific context of their work. Tschöpe (unpublished manuscript, 2012) for example has developed an SJT for the measurement of counseling skills among bankers, containing social competences as a major pluri-factoral component. In this paper we want to present an SJT related to the work of Tschöpe (unpublished manuscript, 2012) in the medical field, more specifically for medical assistants in Germany. The project, called CoSMed (Competence Measurement based on Simulations and adaptive Testing in Medical Settings), was funded through the

ASCOT (technology orientated competence measurement in vocational education and training) research initiative by the Federal Ministry of Education and Research (BMBF). The overall CoSMed project develops computer-based test procedures on a collaborative basis for measuring the occupational competences of medical assistants. In this paper, only the aspect of social competences will be treated but compared with the other findings in the end.

Method

Creating a SJT for medical assistants' social competences

As described above, past research on the matter of social competences has shown that they are strongly context-dependent, making it quasi impossible to find an all embracing definition (Monnier, 2015) and thereby precluding the transition to objective competence assessments. Reducing the context to a manageable amount of influencing factors, i.e. those resulting from a well-defined professional role, opens the road to a quantitative analysis.

Medical assistants

The vocational education program to become a medical assistant in Germany is a three-year dual education. They must quickly appraise a sick person's situation and emotional state, calm down agitated patients and stabilize them in difficult situations, and carry out certain procedures that patients find unpleasant. At the same time, the occupation calls for good coordination within the practice team. So alongside healthcare and business competences, social competences are fundamental to the occupational profile of the Medical Assistant. Germany's training regulation for the recognized occupation, dating from April 26, 2006, enumerates various tasks in patient care and consultation, which especially underscore the importance of social competences when working in this occupation.

Key steps toward the SJT

SJTs start with a variety of situations, which are typical for the occupation. The subject group then assesses how they would behave in reality or evaluate behavioral options in terms of their quality. The situations can be presented using various methods (e.g. in writing, audio recording, video). They should be selected to represent the occupational field for which the test was devised as closely as possible. Some important requirements must form the basis of this testing approach to the modeling and measurement of occupation-specific and social competences. The following therefore explains the key steps in the generation of the competence model and its implementation into a test format by means of the project CoSMed.

Occupational domains and requirements analysis

A requirements analysis to determine the work tasks, interactions and tools, etc. of the environment for which the test is designed should always form the basis of an SJT. The Critical Incident Technique (Flanagan, 1954) is often applied in this case. This method is particularly suited to determining success-critical situations as this involves questioning experts about challenging situations in which major differences between competent and less competent employees become apparent. Questions might also be asked about which types of behavior might be shown by competent and less competent employees in the respective situations. The situations and behaviors determined in this way serve as the basis for the situation descriptions and the alternative answers in the SJT. This was the approach we adopted in the CosMed project. A qualitative study was initially completed in order to analyze the occupational requirements. Besides a comprehensive analysis of documentation covering training regulations, the framework curriculum, examination regulations, training material, etc., the study was based primarily on group discussion with practicing experts and medical assistant trainees in the third year of training as well as on semi-structured interviews with doctors, medical assistants with vocational experience and trainees (N=13). In the interviews we used the Critical Incident Technique (Flanagan, 1954) to identify challenging situations. These situations were used for the test construction later on. A dual approach was selected for the job and requirements analysis (Krumm et al., 2012): Following a “bottom up” approach, respondents were asked to describe specific favorable and less favorable behavior in certain situations and, in the following evaluation, we concluded on the underlying competences on which these behaviors were based. Respondents were also asked which social competences are important for their work and to then relate these competences to situations and behaviors. Since the understanding of social competences remains controversial, answers of different nature were given and, once again, we concluded on the underlying competences, based on the understanding that they are a dynamic (trainable) cognitive concept, representing an essential prerequisite to competent behavior (Weinert, 2009). The combination of these approaches resulted in a comprehensive practice based picture of work-related requirements for medical assistants’ social competences.

In addition to this study an explorative analysis was conducted of approx. 1800 job adverts for medical assistants. By word counts we looked at the number of mentioned demands related to social interactions. This clarified the requirements which exist in terms of social and communicative competences of medical assistants from the perspective of

personnel managers in hospitals and practices in different specialized medical fields. The most frequent demands were abilities like “being friendly”, that are strongly composite and of unclear expectations. Finally, behavioral observations in physicians’ offices would also have been helpful; however it was not possible to implement these due to the very strict regulations regarding data protection in the area of health.

Deriving the competence model from empirical and theoretical analysis

Systematization of authentic situations

The data and results of the empirical exploration were evaluated in order to derive prototypical situations with distinctions made for interaction partners, situational references and types of conflict. This was approached as follows. A range of situations which presented particular challenges in terms of social capabilities were compiled from the empirical preparatory work and these were summarized by type (for more information see Dietzen et al. 2016). In order to guarantee authenticity, it was ensured that these represented prototypical interactional situations in the occupational fields of medical assistants by using an online survey in which 28 practitioners were asked if they thought that the scenes were in step with the actual practice, authentic and frequent. In these situations three types of distinctions could be made: The first distinction was made between internal and external types of conflict (Theuerkauf, 2005). External conflicts describe those situations, which involve an actual dispute with another person, e.g. complaints from a patient. Internal conflicts were also represented. These describe situations in which the medical assistant is in conflict with “himself or herself” while being confronted to another person, e.g. if she, he has to deliberate between several urgent jobs and becomes insecure as a result. Since we used the Critical Incident Technique (Flanagan, 1954) during the interviews and workshops, situations could easily be attributed to the two groups of conflicts. The second distinction was made between the different locations in a prototypical medical practice. The scenarios could be attributed to three main areas, which proved to be key for social situations in the domain analysis: the reception area, the treatment room and the practice team's break room. Finally, with respect to interaction partners, a distinction was made between patients and their relatives and team members. The reason for this is that patients and their relatives must be confronted by adopting a much more professional role, while relationships with team members are in most cases more casual, but may involve potential conflict due to hierarchical differences. Many

participants reported explicitly that they were feeling and behaving differently with their colleagues in comparison to their patients (for more details see Srbeny et al. (2015)).

In the end, six types of situations could be defined:

Reception area with patients or their relatives and either an internal or an external conflict
Treatment room with patients or their relatives and either an internal or an external conflict
Practice team's break room with colleagues and either an internal or an external conflict

Systematization of social and communicative competence dimensions

The social and communicative behaviors cited by the respondents as being necessary to successfully pass the above described critical situations were systematized, standardized and "translated" into theory based competence terms or concepts which could be distinguished from one another. This proved to be particularly difficult because personality characteristics, capabilities, skills or socialization requirements were generally subsumed under the concept of social competences without any distinctions being made by the respondents. An example and its handling is given in the next paragraph. In the end, the categorized information was analyzed once more; both "top down" and "bottom up". This was then processed and supplemented, and the overall outcome for the key competence areas in the occupation of medical assistant was determined using a rating procedure by psychologists and sociologists.

In the next step that was partly done in parallel, psychological, pedagogic, work-based sociological and communication theories and models were used for the final implementation of the occupation-specific models of social and communicative competences of medical assistants. These models and theories were integrated into the empirically developed competence dimensions in order to clearly distinguish between the individual sub-dimensions of social competence. Also, missing elements from a scientific point of view that were not usual in the field of practice were added by using theoretical approaches for the requirements of interactive activities (Greene and Burleson, 2003; Hacker, 2009; Nerdinger, 2011). The following example shows how the translation into theoretical competence facets and the addition of theoretically meaningful but empirically not named dimensions were made: many of the practical experts mentioned "being empathic and compassionate" as a "competence" that medical assistants should have in social interactions. This means that the person would have to feel what the patient is feeling too. But, a strong emotional state could have major impact on the parallel execution of "non-interactional" occupational tasks. Therefore, instead of integrating empathy or compassion as an element of our model, we used the theory of perspective-coordination by Selman (2003). It represents a cognitive analysis of all present

perspectives (the medical assistant's, the patient's but also the super-ordinate medical practice's one) and detecting their connections and dependencies.

This combination of practical-empirical and scientific-theoretical elements was the next step towards the competence model. The reference to theoretically established concepts was also used to derive the criteria for the grading of the final test responses later on. In the end, normative aspects contained in the theories for distinguishing between favorable and less favorable behaviors were extracted for this purpose and were compared to and supplemented by the results of the dialogue with experts in practice and diagnostic experts. On this basis, it was finally possible to derive a competence model of social and communicative competences for medical assistants, which is presented graphically in figure 1.

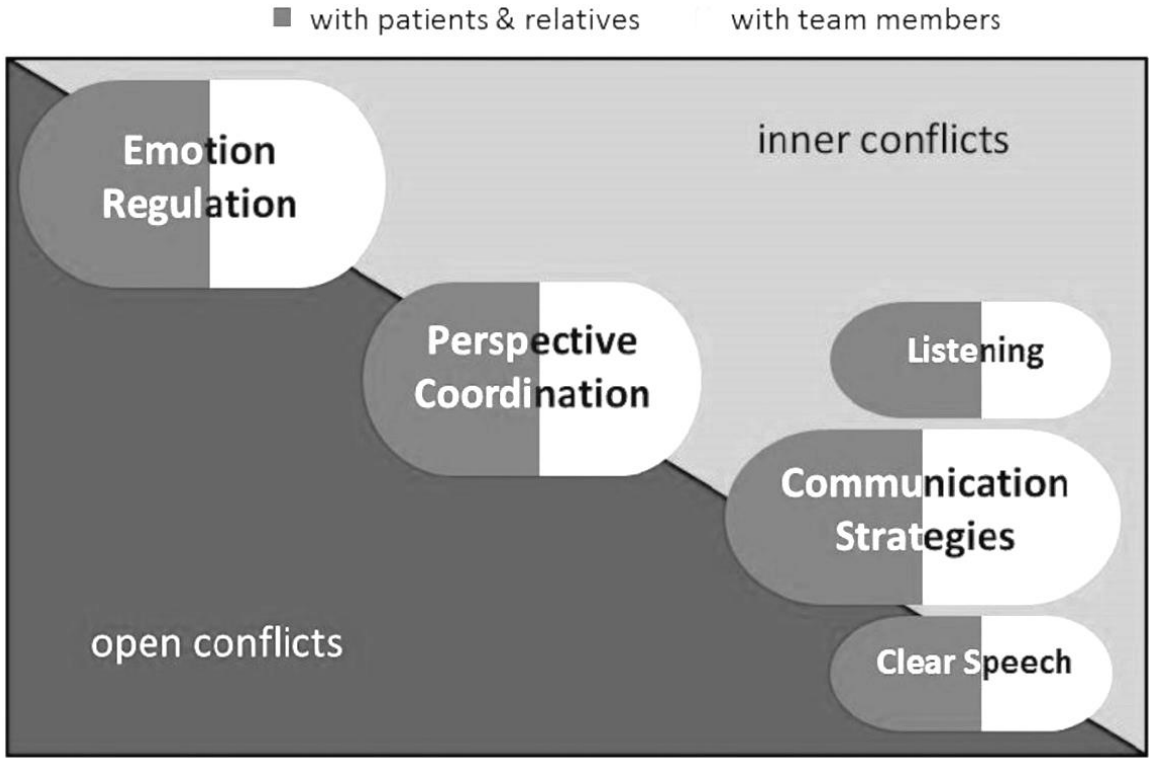

Figure 1: Medical assistants' social competences model in CoSMed

The visible division of competences in the model into a light grey and dark grey triangle area indicates the distinction between the above-described internal and external conflict in the situations. Each competence is also shown as half white and half grey, differentiating between the interactional partners (patients and their relatives and colleagues). The initial core competence of a medical assistant is emotion regulation. This involves

controlling one's own emotions internally, even in difficult social situations and, in doing so, being able to respond appropriately externally. For this dimension we used theories on emotion regulation strategies (Gross, 2009) containing for example strategies as "acting out" (meaning that one does not regulate emotions but display them "rawly" instead), "inhibition of emotion expression" (meaning that one does not display the feeling that is on the "inside"), "distraction" (meaning that one tries to change the attention focus away from the source of emotion, to change one's inner emotional state), etc.. Also, we looked at the differentiation between „deep acting" and „surface acting" (Hochschild, 1983; Giardini and Frese, 2006) meaning that there is a difference if I just display adequate feelings while the felt emotion is different or if I also try to change my inner state.

The second core competence is described as perspective coordination based on the developmental theory by Selman (2003). For this to be implemented adequately, the medical assistant must be able to understand her, his own and the conversation partner's perspective, emotions and needs, even in difficult situations, and , at the same time, to maintain an overview of the practice requirements and also to relate all aspects to one another as constructively as possible.

Communication strategies come into the model as the third core competence. Competent communication strategies are evident in the way the medical assistant guides the communication towards a good solution for both parties, even in difficult situations, and can make the conversation partner feel they are being taken seriously and are understood. We will use this competence dimension to describe the implementation process of practical-empirical and scientific-theoretical into a normative model in more detail.

Empirically we repetitively found "being nice" and "friendly" as an important behavior for practice experts. During interviews we were told that some practical applications of being "friendly", usual in the field, could be to always start an answer by saying "I understand you". From a theoretical point of view, we looked at traditional communication models as for example Schulz von Thun's communication square (2004) or Rosenberg's nonviolent communication (2006). These theories say that there are diverse ways of understanding and sending a message and that for example establishing a clear common ground (Clark and Schaefer, 1989) by repeating what happened and which possibilities exist (sharing one's knowledge) can clarify potential misunderstandings. Finally we integrated these various concrete elements into a normative category system of communicative strategies that will be described in the next chapter. The two sub dimensions of listening and clear speech were, in

fact, also identified as important social competences of a medical assistant. However, due to a lack of operational options in a written format, these were not included in the test.

Development of the measurement instrument

Due to the criteria of economy and time, we used a video-simulation based SJT-format: Participants are confronted to situations in a first-person perspective giving a more realistic impression, lessening identification effects (Folkes, 1982) and increasing the level of emotional involvement, as they automatically become one of the interactional partners. For the identification with the workspace they were shown a filmed introduction of a fictitious practice in which the following video scenarios took place.

Precisely, two prototypical scenarios for each of the above-described six situational types were transformed into a video of 15 to 56 seconds. Each of the video blocks starts with a short text-based introduction. The introductory text in block 1, for example, reads as follows (translated from German): “An emergency patient has come into the practice. He has been given priority over the other patients.” The participants then see a video in which the respective interaction partners talk directly to the camera. In the example of block 1, the patient steps towards the reception desk and shouts that he has been waiting for over an hour, that he has a meeting and has to go to the doctor’s room immediately. After each video, participants are asked questions for each one of the core competence dimensions. In order to cater for the requirements of each of the dimensions, different answer formats were tried in the test pilots. Text-based questions with open answer categories (e.g. “What would you answer Mister Fischer?” for the dimension of communication strategies) and with responses in multiple-choice format (e.g. “How would you deal with your emotions in this situation?” and then selecting one of four possible answers for the dimension of emotion regulation) were selected for the final version. The evaluation of the open questions was done by standardized criteria derived from our normative theoretical-empirical model. For the dimension of communication strategies for example, we constructed a checklist, where important elements named in the empirical study were integrated with communication-theoretical elements. In many validation loops, the elements were processed. For example theoretical elements were tested for their practicability, the identification of individual elements was tested by repeated interrater-reliabilities for three raters on n=80 (with over 98% of agreement, varying in both dimensions with open question format between r = .7 and r = .9 and, even in the case of external individuals without rating-training between r = .6 and r = .9) and insecurities were reported back for a group-rating. Also, the importance of the

elements was identified by comparing their impact on the general impression of the quality of the answer (Sust et al., 2009) and then operationalized. Finally an individual checklist for each of the twelve scenes was defined. For block 1, the scene with the angry patient presented above, the checklist contains two criteria of exclusion that will automatically set the participants points to zero. The first one concerns the "tone", for example giving a sarcastic answer and the second one is in respect to the occupational possibilities, in this example "giving in": The medical assistant cannot give in to the patient's demand, since there is an emergency in the practice; she has to find another solution. Furthermore, the checklist contains positive elements as for example giving an explanation of the situation, in this case explaining that there was an emergency and, by that creating a common ground (Clark and Schaefer, 1989). But also negatively rated elements as for example taking it personally (e.g. "It's not my fault!") are found in the checklist. The final score for communication strategies is calculated by taking the sum of points for each block. No differentiation of negative sums is made and hence, all set to zero. For a cross-scene standardization, the sum is then divided by the scene's maximum and the quotient's mean over the twelve blocks is calculated as final score.

Validity aspects

Due to the fact that the approach of measuring social competence as a "performance test" is new, verifications were made at various points in order to ensure the validity. The authenticity of the test was assured through direct feedback of the participants during the pilot phase as well as in an online-survey with practitioners and experts in the field described above. The results were very satisfactory (e.g. for authenticity N= 28, M = 5.1, Std.Dev. = 0.23 on a scale from 1 to 6). The content validity in CosMed was developed over several steps. As already described before, at the start of the project a comprehensive requirements analysis was conducted with various interdisciplinary sources from academia and practice. The competence model was derived based on this by integrating first-hand analyses and general models of social competence (e.g. Kanning, 2005). This occurred in 2 directions; bottom-up and top-down (Krumm et al., 2012). At the end of this stage of ensuring content validity, psychologists and sociologists with diagnostic training carried out an expert rating and selected competence dimensions. As a following validity check, we looked if the video scenarios really did trigger the emotions required, as this contributes significantly to the evaluation of the results. Particular attention was paid here to whether the scenarios which cover the area of internal conflict create a feeling of insecurity and whether those scenarios

covering external conflict cause anger. This was determined by asking openly about the emotions experienced, and the strength of this emotion. The emotions proved to be those, which were intended. The strength of the emotion had a quasi-normal distribution. The individual answer formats were tested in a third step. Different multiple-choice variants were compared to start with. These proved to be unsuitable for the dimensions of perspective-coordination and communication strategies (emotion regulation: Cronbach's α = .66-.87, perspective-coordination: Cronbach's α = .26-.28 and communication strategies: Cronbach's α = .31-.46) partly, due to the strong effect of the school-leaving qualification or native language, unsatisfactory reliability measures and a low level of acceptance among participants (e.g. communication strategies: Cronbach's α = .71-.85 if German is one's mother tongue). All these measures turned out to be at least satisfactory to good after changing to an open answer format (perspective-coordination: Cronbach's α = .75 and communication strategies: Cronbach's α = .68).

Results and discussion

Data collection and sampling

The test module was used in three data collection phases with a total of N = 901 medical assistant trainees in the third year of training. All data collections took place in vocational school classes in Germany using the schools' own computers. The nature and aims of the data collections were explained to the trainees beforehand using an information letter and participation was voluntary and anonymous. On top of the competence measurements, participants completed a questionnaire containing information about their social and educational context, as well as a self-reported estimation of their general level of social competences on a scale from one to ten, composed by Baethge et al. (2015) during all three phases. This allowed identifying critical factors that could be considered and if necessary corrected for the final test (third phase). The first two data collections were used to pilot the instrument. The focus was much less on the level of performance of the participants and much more on checking the quality of the instrument in accordance with criteria relating to test theories and content. The initial pilot was completed in early 2013 with N = 236 trainees, the second pilot then followed in winter 2013, 2014 with N = 260 trainees. We have omitted detailed descriptions of these two samples here. However, their distributions are strongly comparable to the sample for the main survey described in the following.

The main survey took place from April to June 2014 and was conducted with a further N = 405 trainees in the third year of training. The average age of the cohort, 21.3 years, was

slightly lower than the value of approx. 22.7 years for the cohort in the Germany-wide vocational education and training statistics for the occupation (BIBB 2014). The proportion of female trainees at 98.7% was exactly the same as for the 2013 cohort (BIBB 2013). School leaving qualifications were distributed similarly in both the sample and the population, although more higher-level-school leaving qualifications occur in the sample. This may be linked to the fact that schools tend to provide more highly performing classes for such data collections.

A question was asked regarding the country of origin in order to capture the migration background of the participants (Baethge et al., 2015). This was also similarly distributed in both, the sample (Germany = 87.8%) and the 2013 cohort (90.7% cf. BIBB, 2014). German was specified as the native language by 57.3% in the sample, a further 39.4% spoke both German and another language in their family of origin and 3.3% spoke only another language. This shows that a relatively high proportion of trainees have grown up bilingual.

The data collection was based on a random sample and was only conducted in three German states for reasons of cost and efficiency. Taking these limitations into account, however, the transferability of these results to other medical assistant trainees in the third year of training may be assumed to be good on the basis of the distribution of the demographic data.

Results

All analyses were made using the R software (R Core Team, 2015) with the psych (Revelle, 2016) and the lavaan (Rosseel, 2012) packages. The statistical analysis of the quality of the test, based on mean values and sum scores, delivers adequate to good results. The individual competence dimensions which are measured using an open answer format exhibit satisfactory to high inter-rater correlations (r=.6 - r=.9). Below, we describe the results for our three dimensions, of which only the one on communication strategies will be discussed in full detail. Confirmatory factor analyses (CFA) for the competence dimension of perspective coordination with N = 228 very clearly exhibit a single factor structure (X2 = 62.017, df = 54, CFI = .97, RMSEA = .03 and SRMR = .05). By contrast, the dimension of emotion regulation at this point in time indicates a theoretically and statistically acceptable four-factor model (N = 405, X2 = 93.189, df = 49, CFI = .91, RMSEA = .05 und SRMR = .03). For the dimension of communication strategies we found a one-, a four- and a five-factor model after an exploratory factor analysis. Since the five-factor model makes sense with regard to the content and explains a total of 44% of the variance (factor 1: 10%, factor 2:

10%, factor 3: 11%, factor 4: 6%, factor 5: 7%) we conducted a CFA by using the maximum-likelihood procedure with a promax-rotation given that the components correlate. The model (see figure 2) shows how the five components were composed and the individual loadings of the items on the latent factor. Also, the model fits (N = 405, X2 = 32.904, df = 37, p = .662, CFI = 1, RMSEA = .0 und SRMR = .047) are very satisfactory. Still, the composite reliabilities for each one of the factors ("confronted with strong sadness"-CR = 1, "confronted with bad diagnosis"-CR = 1, "confronted with distributional conflict"-CR = .61, "confronted with anger"-CR = .44 and "confronted with mobbing"-CR = .63) show that there are some further analyses to do. Also, three of the five factors consist of one single item and for some items the loadings are low.

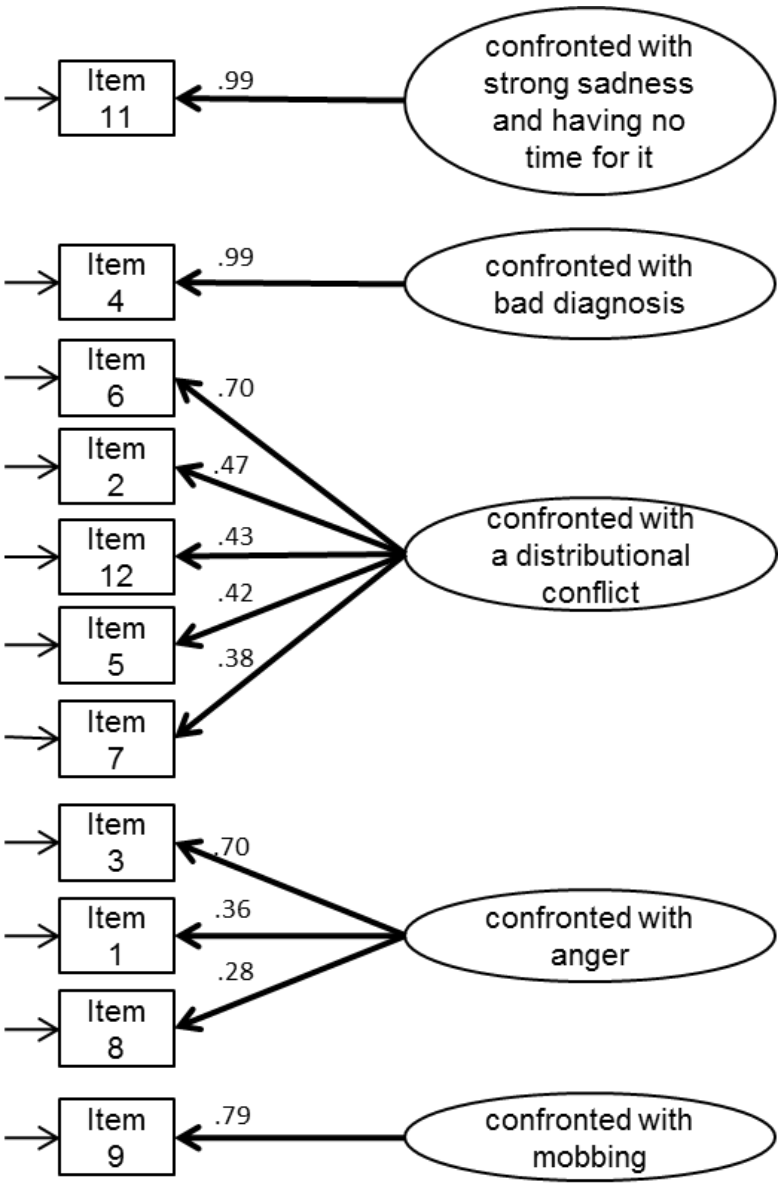

Figure 2: Factor model of the dimension of communication strategies found in CoSMed

At this point we integrated the three competence dimensions in one model (see figure 3). The model shown in figure 3 with N = 405 shows the following values: X2 = 594.319, df = 518, CFI = .96, RMSEA = .02 and SRMR = .07. A significant correlation is evident here between the dimensions of communication strategy and perspective coordination (r= .67, p = 05). The current measures of emotion regulation also exhibit a correlation of r = .39 (p = .03) with the communication strategies, although these show no significant relationships with perspective coordination.

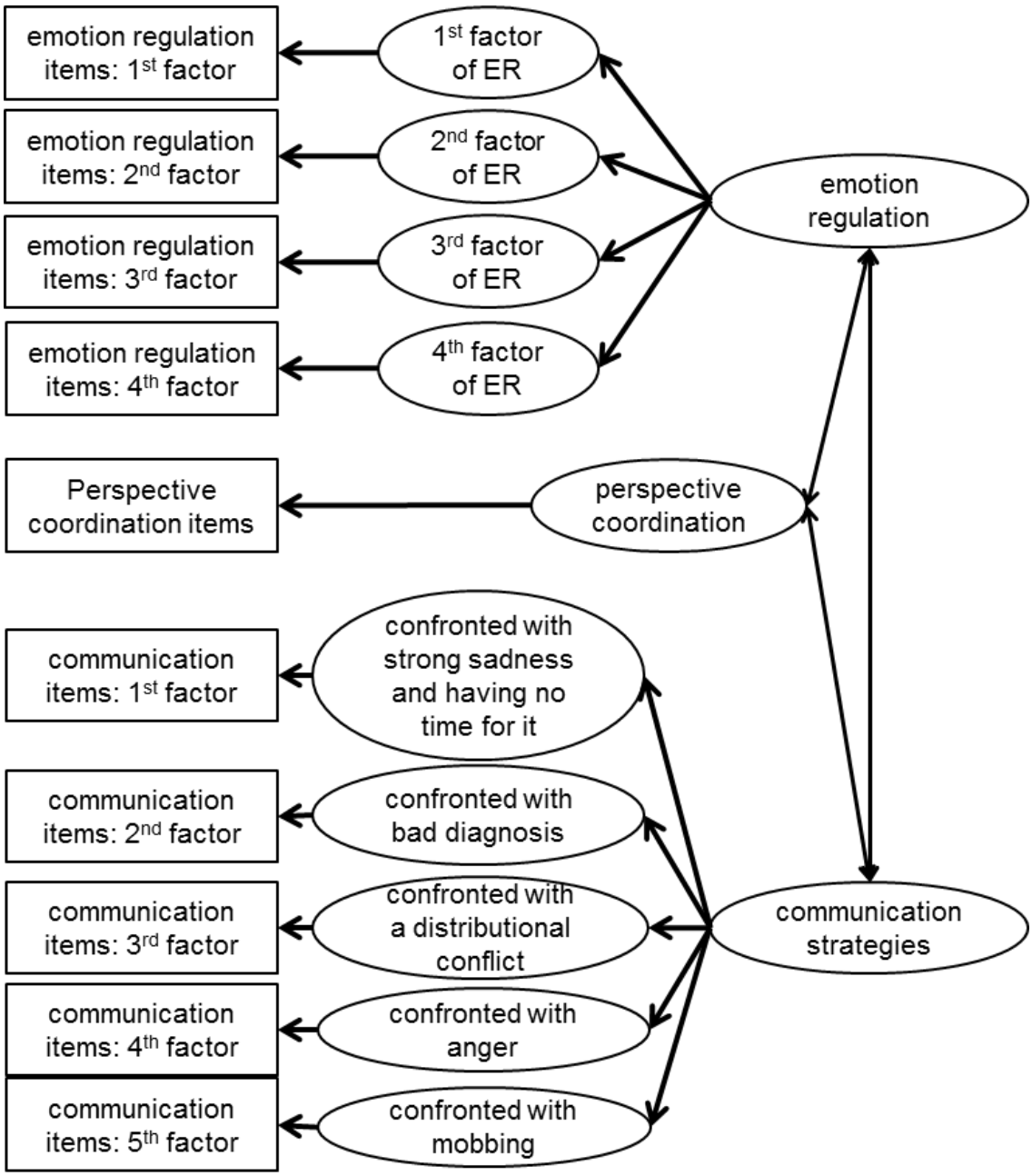

Figure 3: Structural model of the social competence dimensions in CoSMed

After completing basic analyses for the functionality and dimensionality of the test, we found interesting test-outcomes. For example, the results of the competence dimension emotion regulation show that there is a significant difference between the strength of the felt and shown emotion, so-called emotional dissonance in each one of the twelve scenes.

Table 1

Paired samples t-test between felt and shown emotions for the 12 Situations

scenes	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**	**S10**	**S11**	**S12**
mean of felt emotions	6.2	6.8	7.5	6.9	5.4	7.2	6.0	7.4	8.2	6.3	7.0	6.3
mean of shown emotions	3.9	3.7	5.0	4.1	2.5	4.2	3.1	4.2	5.8	3.3	4.5	3.8
t-value	36.7	33.3	25.9	25.0	35.4	27.5	28.7	27.5	18.3	29.0	22.4	24.3
df	267	266	266	264	262	247	251	247	247	241	246	245
p-value	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001

The distributions of the final score of perspective coordination show that over a third of the trainees manage to achieve level four of seven, meaning that they are mostly able to perceive the perspective not only of an individual person involved (e.g. one's own) but also the perspective of all people involved in the interaction and when doing so to analyze at least one of the perspectives in depth.

With regard to the competence dimension of communication strategies, figure 4 shows how the final scores are distributed.

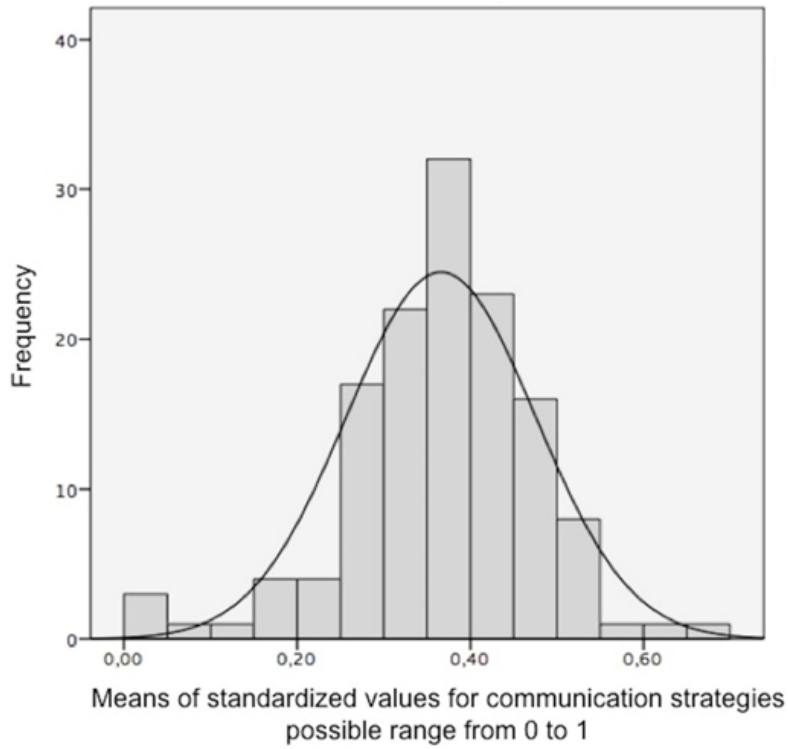

Figure 4: Distribution of final score for the dimension of communication strategies

99 % of participants have an acceptable tone and mostly do not use one of the other criteria of exclusion; still the distribution shows that the mean (M = 0.37 on a scale from 0 to 1) is very low. For example, participants are rewarded with more points if they communicate "authentically" (in their own words) in order to comfort somebody as compared to the use of the usual "empty phrases". But, distributions show that if comfort is given at all, 87% use "empty phrases". Trainees also differ strongly in the amount of action relevant information given to the patients, their relatives or colleagues. While this is counted in 10 scenes, information is given M = 5.8 times with a large standard deviation of 1.7.

Finally, the self-assessed level of general social competences on a scale from one to ten exhibited no correlation with the test values (Spearman's-rho with emotion regulation r = .012, p = .861, with perspective-coordination r = .009, p = .861, with communication strategies r = .024, p = .543) in CoSMed and did not bring further information to the structural equation model.

Discussion

We found evidence of strong dissonance between the participants experienced emotion and shown emotion, meaning that the emotional expression is adapted. Emotion regulation strategies that belong to the family of surface acting (in comparison to deep acting or "no

acting") can have long-term consequences for the well-being of the medical assistants and, for example, may lead to apathy and insensitivity and even to depression (Zapf, 2002). It has to be assumed that a strategy, which reduces the emotional dissonance by a conscious reevaluation and reinterpretation of the situation, represents a healthier way to deal with your own emotions in the long term. Furthermore, the latter strategy of "deep acting" (Hochschild, 1983) also results in an expression of feelings, which will be experienced as authentic by the conversation partner. However, this strategy was selected around five times less frequently in the sample. This result is significant for the very stressful day-to-day work of the medical assistant and calls for information to be provided about potential ways to deal with your own emotional state in the course of the job-training.

Concerning the perspective coordination level, it seems good to see that the perception of both parties, while being able to analyze at least one of them deeply is achieved by a third of the participants. This occurs despite having to constantly coordinate practice interests with, in some cases, the opposing interest of the patient under pressure of time. It is apparent that the strength of the own feeling may slightly reduce this performance, which once again demonstrates the importance of handling one's own emotionality well. Also, this means that about two third do not achieve this level, making praxis coordination more difficult, since it depends on the perception and organization of all represented parties.

Concerning communication strategies, the found factors make sense regarding the situation types. It seems that communication is different whether one is confronted with strong sadness that one has no time to take care of, with bad diagnosis, with distributional conflicts, with anger or even with mobbing. This fits assumptions that are used in popular trainings on social competences, as for example from Hinsch and Pfingsten (2007), where three prototypical types of situations are used (to assert one's right, to maintain relationships, to bid for sympathy). Still, for the composed score we see that the scores are still very low. One could imagine concrete trainings in formulating authentically or making participants attentive to the important aspects in the five types of situations for example, to enhance communication strategies.

Finally, an interesting finding is that the self-estimated general social competence level does not correlate with the social competence test dimensions.

Conclusion

The general deficit in terms of research on social competences has been known about for a long time while the requirements for these competences as a basis for vocational and

specialist professionalism are growing. In this article we have shown how the definition and measurement difficulties of these competences can be handled, i.e., by using the reduced context of a specific occupation, and the concomitant set of social rules and values, an unambiguous definition becomes possible. The translation into Situational Judgment Tests can then be done by detecting work tasks, interactions and tools, etc. of the specific work environments by using a requirement analysis. This represents the basis for the competence model containing all necessary competence dimensions for achieving the occupational demands found in the previous investigation. In a final step Situational Judgment Tests based on an authentic environment can be devised, allowing an individual statement on the social competence dimension's levels. First results in CoSMed show, that the distribution of competence levels is not satisfactory for all dimensions considering the stressful environment of medical assistants. It becomes visible that information and support in the area of social competences appear to be urgently needed during training for occupations with a great amount of social interactions. That is why future research should emphasize the development of models of learning for the underlying competence dimensions. This would support professional conduct when dealing with patients, clients, colleagues etc. and facilitate a personally satisfactory and sustainable way of dealing with critical situations in a socially demanding occupation. Thus, a detailed analysis on the situational dependencies and factorial distributions has to be made to clearly define the model's scope of application. Also, in regard to the newly emerging field of research, more comparable studies should be done for validation purposes. Finally, one could argue that the three dimensions can also be found in other occupations and they most probably would. However, their peculiarity and structure can only be holistically described in a clearly defined framework of for example a specific occupation. Yet, this does not exclude an inter-contextual influence, meaning that a medical assistant achieving a high level in one of the social-communication dimensions of their occupation could probably achieve a high level in the same social-communication dimension in another occupation more easily than a medical assistant with a low level. Assumptions like these should also be content of future research.

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Transition from second paper to manuscript in preparation for submission

In the previous paper we have shown that modeling SEICS demands a pluridimensional approach. However, due to word count restrictions, we could only outline how we dealt with the dimension of communication, and had to leave out the discussion of perspective coordination and of emotional regulation. The former is treated in Tanja Tschöpe's doctoral thesis, while the latter is the subject of the following (third) paper.

Manuscript in preparation for submission: Measuring Occupation Specific Emotion Regulation of Health Professionals: Development and implementation of a Video-Based Situational Judgment Test

Reference

Monnier, M., Tschöpe, T., Tschan, F & Dietzen A. (in preparation). Measuring Occupation Specific Emotion Regulation of Health Professionals: Development and implementation of a Video-Based Situational Judgment Test. In preparation for submission.

Keywords

Emotion Regulation, Emotion Labor, Emotion Work, Emotion, Cognition

Abstract

In this paper we describe the detailed construction of a situational judgment test (SJT) to evaluate occupation specific emotion regulation (ER) tailored to the profession of medical assistants. To maximally engage participants in realistic situations while keeping the assessment short, we chose a video-vignette based procedure, using a first-person, direct-interaction perspective. While finding good results in regard to face and content validity, internal consistency and reliability, we struggled with convergent and divergent validity, a well-known phenomenon in matters of SJT (Ployhart & MacKenzie, 2011). Nonetheless, the final testing reliably showed the important amount of emotion regulation occurring during a typical medical assistant's workday. Prominent features were a high level of emotional dissonance (ED) between felt and shown emotions and the predominant use of unhealthyer surface acting. We also found a four-factor model, showing that ED depends on the situational context. Finally, comparing the two outcomes of the ED scales and ER strategy measurements in dependence of the four context factors, we found that surprisingly many participants with high ED indicated to just having shown what they had felt, a result that makes no sense. The results give rise to the question whether ER assessments are not strongly affected by the emotional-cognitive nature, consciousness aspects and social desirability aspects of the ER concept (Lee et al., 2017).

Introduction

Emotion Regulation (ER) can be defined as a set of processes that redirect emotions (Koole, 2009) or influence their strength, duration or expression. Especially in health care settings, professionals must rapidly adapt to patients' highly emotional states, carry out actions that can create strong reactions, as well as coordinate within the practice team and its hierarchical structures, without loosing their professional role. ER thereby constitutes an important part of their activity.

While many ER assessments evaluating participants' general ER-tendencies exist, the goal of this study was to develop a new approach by constructing a video-vignette-based situational judgment test (SJT; Lievens & Sackett, 2006; Lievens, Peeters & Schollaert, 2008; Kanning & Schuler, 2014) for medical assistants. The occupation specificity and the measurement of participants' direct reaction to a simulated work-situation should enable us to draw conclusions on participants' ER competences as part of their professional competence portfolio.

After using a first-person, direct-interaction perspective for our filmed vignettes, we adapted common types of ER-survey questions (proven to be valid) and developed SJT-items to evaluate the participants' ER-related reactions. These turned out to strongly depend on a set of classifiable situational characteristics, a feature that has almost never been taken into account until now. We also noticed a serious problem with self-reports on the use of particular ER strategies, which calls for a critical analysis of established assessments.

Theoretical background of emotion regulation

A lot of work has been done in the field of ER since the early nineties (Thompson, 1994) leading to "roadblocks, such as fuzzy construct conceptualizations, assumed but untested processes, and methodological stagnation" (Grandey & Gabriel, 2015, p.323). Until now, research has preponderantly focused on the identification of ER strategies. During the past decades, "catalogues" of these have been compiled (e.g. by Gross & Thompson, 2007) and presented in meta-analyses (e.g. Webb, Miles, & Sheeran, 2012). Most of them subdivide the concept, as Hochschild initially introduced it in 1983, into surface acting (SA, changing one's emotional expression while keeping one's inner emotional state unmodified, so called emotional dissonance) and deep acting (DA, working on the inner feeling, reducing emotional dissonance and adapting the entire emotional state (inner and outer) to the situation). Additionally one finds automatic ER (Zapf, 2002; described bellow) and the approach in which no correction to the emotions is applied (a strategy called "acting-out" (Gross, 1998; 2001), also called "non-acting" (Gabriel, Daniels, Diefendorff & Greguras, 2015)).

While SA is more efficient, problems can arise, since this strategy can be perceived as unnatural and produce long-term harm to the subject's psychological well-being (Chau, Dahling, Levy & Diefendorff, 2009; Zapf, 2002), job burnout (Hülsheger & Schewe, 2011; Judge, Woolf & Hurst, 2009) or reduce job satisfaction (Gabirel et al. 2015; Hülsheger & Schewe, 2011; Judge, et al. 2009). Also, it is linked to lower task performance (Wallace, Edwards, Shull & Finch, 2009).

In regard to DA, although it is positively related to job satisfaction (Gabirel et al. 2015; Hülsheger & Schewe, 2011; Judge, et al. 2009) and attentional focus during work tasks (Wallace et al. 2009), it needs more effort and time to be produced (Gabirel et al. 2015) (an asset that is not often given during medical assistants workdays).

The automatic ER (Zapf, 2002) or "passive deep acting" (Hochschild, 1983) is a cognitive "shortcut" of DA strategies that can be trained over time, for example within a

professional role. Some emotions will unconsciously adapt and be genuinely felt in a certain situation (Ashforth & Humphrey, 1993). The effort for the act will thereby become easier or quasi inexistent (Mauss, Bunge, & Gross, 2007), for instance due to a complete identification with the professional role (Grandey & Gabriel, 2015). An example could be ‘‘a nurse who feels sympathy at the sight of an injured child”, in comparison to e.g. fear, “has no need to ‘act’’’ (Ashforth & Humphrey, 1993, p. 94). Research shows that, if the identification with occupational values is high, long- and short-term health costs due to ER are reduced (Schaubroeck & Jones, 2000; Wilk & Moynihan, 2005). To scientifically assess the development towards automated and quasi-natural “acting” strategies, longitudinal studies are necessary (Grandey & Gabriel, 2015). Therefore, a measurement of the direct ER-reactions to work-situations and of the change of these reactions over time would provide the necessary information for the evaluation.

Importance of emotion regulation in occupational contexts

The occupation-specific perspective of ER is taken by the established approach of emotion labor and “three decades after its introduction as a concept, emotional labor – regulating emotions as part of the work role – is fully on the map in organizational behavior and organizational psychology” (Grandey & Gabriel, 2015, p.323). But, what does emotion labor mean for the employee? Especially person-oriented service occupations often demand certain emotional displays in the professional appearance. These display-rules are part of the occupational role model and have to be integrated into the educational pathway. The problem is that people are approximately taught what is expected from them, but not how to get there (Hackman, 2002) safely. For example, during interviews concerned with identifying emotional job demands, it is often said that one has to be friendly, even if this is not congruent with the inner feeling (Dietzen, Tschöpe, Monnier & Srbeny, 2016). As a result, people having stressful work contents tend to stay in “unhealthy” and reduced-cognitive-effort-demanding “discordant emotional states” (Mesmer-Magnus, DeChurch & Wax, 2012). Grandey, Fisk and Steiner (2005) show how risky this is, since autonomy, in terms of having more freedom in one’s emotional display, “buffers the relationship between ER and emotional exhaustion and, to a lesser extent job dissatisfaction” (p. 893). From the above it becomes clear that ER should be an integral part of curricula leading to jobs involving social interactions, though it is yet far of being implemented (Tschöpe & Monnier, 2016). The purpose of this study is to address this shortcoming for the specific case of medical assistants by developing video-based stimuli in which typical situations requiring ER are simulated.

Assessments of emotion regulation and emotion labor

Existing assessments of emotion regulation and emotion labor

Many assessments of ER can be found in the field of psychology and up to 96% are based on self-reports (see meta-analysis by Seligowski, Lee, Bardeen and Orcutt (2015)). Despite their common usage, these are subject to strong limitations. As formulated by Lee, Weathers, Sloan, Davis and Domino (2017), "they do not anchor responses to any specified time frame. This obliges respondents to generate their own implicit time frame, which likely varies substantially across respondents. Further, without time-frame specification instructions, respondents might be more likely to rely on trait assumptions about their ER strategy use, rather than generating more specific time- linked estimates." (p. 56) or "that most self-report measures of ER strategy use do not assess the emotion being regulated. Strategies used in regulation of a specified emotion should be assessed only for individuals who identify experiencing the target emotion during the time frame in question. Assessing the emotion being regulated is advantageous for two reasons. First, individuals who report not experiencing the emotion during the specified time frame can be excluded from analysis (depending on the research question), and second, it permits analysis of strategy use as a function of frequency of the target emotion." (p. 57, see pp. 56-57 for more limitations). In addition, the meta-analysis of 109 independent studies, by Mesmer-Magnus et al. (2012) compiling the existing conceptual definitions and operationalisations of emotion labor in an attempt to relate their dimensions to categories ranging from complete emotional discordance (dissonance) to a state of perfect emotional congruence (pp. 5-7), shows that most assessments do not measure the success of a single strategy. Rather, they are presented as a set of options on which the participants separately report their strength of identification, which suggests the possibility of using multiple strategies at the same time. While one could imagine that a change of strategy can happen during the time span of the interaction, in a fast changing environment with short interpersonal contacts as the one of medical assistants, the first reaction is certainly the most relevant one.

Situation Judgment Tests (SJT)

In search of a wider perspective and deeper information from classical ER-assessments, we have developed a Situational Judgment Test (SJT, (Lievens & Sackett, 2006; Lievens, Peeters & Schollaert, 2008), which has the advantage that it also highlights job-performance (Motowidlo, Hooper & Jackson, 2006). SJTs are based on individual judgments of participants on "how they would or should handle" (p.237) a simulated work-situation. They

have become more popular in the past years due to their face validity and tendencies to "exhibit smaller racial and sex subgroup differences" (Ployhart & MacKenzie, 2011, pp. 237). Unfortunately, the difficulties in their operationalization are barely discussed, which is why we have chosen to describe in detail the construction of our SJT for ER, in order to highlight where these difficulties lay and show how they can be handled.

Development of an occupation-specific emotion regulation situational judgment test for medical assistants

Our goal was to develop a SJT that evaluates how often medical assistants need to regulate their emotions and to assess the ER strategies they use in the course of their activity. Taking an occupation specific perspective, we chose to elicit emotions by presenting vignettes of emotionally challenging work situations, assuming that milder situations would not differentiate enough between participants' abilities to regulate their emotions. We assessed the participants' direct reactions to these vignettes.

A test should be easy to use and to administer on a large scale. We therefore developed a computer-based instrument with video-stimuli (filmed vignettes) that allows efficient and ergonomic use. We built our instrument in several steps, presented in chronological order below.

Development of stimulus-material: Vignettes (Pre-study 1)

The first step was to identify work related events that elicit strong enough emotions in medical assistants to require emotion regulation from their part, and to generate prototypical vignettes of such situations.

1. Identifying emotionally challenging work situations of medical assistants

Participants

We conducted 13 semi-standardized interviews with two medical doctors, seven medical assistants with professional experience of at least five years and six medical assistant trainees. We also conducted a workshop with a focus group composed by three medical doctors and 10 medical assistants with professional experience of at least five years. Participants were recruited by contacting cross-regional training centers for medical assistants as well as based on a list provided by the association of medical professionals (Verband medizinischer Fachberufe e.V.).

Interviews and coding

During the interviews, we used the critical-incident technique (Flanagan, 1954) to identify emotionally challenging work situations. This method consists of "a set of procedures for collecting direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems" (Flanagan, 1954 pp.327). Participants were asked to describe examples of emotionally difficult work situations they had experienced or heard of by colleagues. We then asked them which behavioral responses they perceived to be positive or negative in these situations.

Participants provided 78 emotionally challenging situations requiring emotion regulation. By using iterative categorization (Neale, 2016) and inductive coding, we firstly differentiated between interactional partners (patients, or patients' relatives or team members) and locations (reception area, examining room and break room). The coding of interaction partners and locations is based on the medical assistants' explanations that they reacted differently to members of their work team as compared to patients or patients' relatives and that their reactions were dependent on the location. For example, interactions exclusively among colleagues were restricted to the break room, and interactions with patients in the examination room (alone with the patient) contained different stressors than interactions with patients at the reception (in the presence of witnesses and where other tasks needed to be executed in parallel).

In a second step, we coded the content of the interactions based on the definition of conflict by Walker (1970) who defines conflictual behaviors as "actions by one member which are inconsistent with the goals or objectives of some other member" (p. 18) One distinguishes between inter-individual conflict (e.g. a patient that aggressively requires to see the doctor immediately, although this is not possible), which will mostly elicit anger,.and intra-individual conflicts (e.g. a medical assistant wants to offer emotional support to a patient but cannot, due to work overload), which predominantly elicit unsettlement, insecurity, fear or sadness. The latter are termed intra-individual, because they present goal-inconsistencies between the interaction partners but do not contain offensive negative behavior by one of the partners.

All situations could be coded as either inter- or intrapersonal conflict situations. Combining interaction partners, locations and type of conflict led to six different types of situations: (i) Inter-individual-conflict with colleagues in the break room; (ii) inter-individual-conflict with patients or patients' relatives at the reception; (iii) inter-individual-conflict with

patients or patients' relatives in the examination room; (iv), intra-individual-conflict with colleagues in the break room; (v) intra-individual-conflict with patients or patients' relatives at the reception; and (vi) intra-individual-conflict with patients or patients' relatives in the examination room.

2. Generating vignettes of prototypical situations eliciting negative emotions

For each of the identified situations, we created two prototypical scenarios (see table 1) for a total of 12 different vignettes.

For each of the 12 vignettes, we wrote word-by word screenplays as well as a description of the specific emotional behavior the actor had to display.

Table 1: Vignettes

Nr	Conflict	Interactional partner	Location	Content
1Aa	inter-individual	Patient	Reception	A patient is waiting since an hour because the physician had to attend an emergency. The patient is not informed about the reason for the prolonged waiting time and demands to see the doctor immediately in an aggressive tone.
1Ab	inter-individual	Patient	Examination room	A patient does not want to talk to the medical assistant, telling her that she is "just a receptionist". He behaves condescendingly towards the medical assistant.
1Ac	inter-individual	Colleagues	Break room	A colleague asks the medical assistant to move her vacation spot, since only one of them can take vacations at the same time. Her body language is aggressive and her arguments are unfair.
2Aa	inter-individual	Patient	Reception	A Patient tries to convince the medical assistant to communicate confidential medical results of her husband. The medical assistant will need to deny the request.
2Ab	inter-individual	Patient	Examination room	During an electrocardiogram procedure, the patient tells the medical assistant in an angry voice that her colleague performed much better than she is.
2Ac	inter-individual	Colleagues	Break room	A colleague on purpose hides a file that the medical assistant should bring to the physician. She behaves provocatively.
1Ba	intra-individual	Patient	Reception	A patient is lost after receiving a cancer diagnosis. She asks the medical assistant for help.
1Bb	intra-individual	Patient	Examination room	An elderly patient is ashamed und undress for an medical examination. The examination cannot be done fully dressed.
1Bc	intra-individual	Colleagues	Break room	The medical assistant is asked to tell an intern to take more care of herself and her appearance.
2Ba	intra-individual	Patient	Reception	The medical assistant does not speak nor understand the language of an obviously distress patient that is in pain and needs help.
2Bb	intra-individual	Patient	Examination room	A patient is crying and wants to talk, but the medical assistant has to get back to the reception quickly.
2Bc	intra-individual	Colleagues	Break room	A colleague is depressed because of a mean patient and she wants to talk. The medical assistant has to leave to fetch the bus taking her to an important meeting.

3. Face validity

We tested whether the vignettes indeed represented prototypical situations for medical assistants and assessed the authenticity of the situations in an online survey.

Method

Participants

The participants were 28 professional medical assistants with at least five years of work experience. They were recruited through the association of medical professionals; the response-rate was 100%.

Measures

Participants received the written scripts of the 12 vignettes. They were asked to evaluate each vignette with regard to authenticity of the situations ("Is the situation authentically described?") with an answering format on a 6-point Likert scale, ranging from 1 (not authentic at all) to 6 (very authentic); to evaluate the realism ("Is a comparable situation realistic to occur during a medical assistant's everyday work?") with an answering format on a 6-point Likert scale, ranging from 1 (disagree completely) to 6 (agree completely); and to assess the frequency of occurrence of each of situation ("How often does a comparable situation occur during the medical assistant's everyday work?") with a time-anchored answering format on a 8-point scale: daily (8), weekly (7), monthly (6), several times a year (5), yearly (4), repeatedly during entire work experience (3), once during entire work experience (2), never (1). Table 2 shows the results.

Table 2: Results of the survey evaluating if the scripts for the vignettes are authentic and realistic and assessing frequency of occurrence.

Vignette		1Aa	1Ab	1Ac	2Aa	2Ab	2Ac	1Ba	1Bb	1Bc	2Ba	2Bb	2Bc
Authentic (1-6)	M	5.3	4.0	4.8	4.5	4.3	4.4	4.6	4.0	4.0	5.2	5.6	4.5
	SD	.8	1.5	1.1	1.4	1.4	1.4	1.1	1.7	1.4	1.0	.7	1.4
Realistic (1-6)	M	4.3	4.4	4.0	4.0	5.2	5.6	3.9	4.5	4.1	4.5	4.3	4.5
	SD	1.2	1.1	1.6	1.7	.9	.7	1.2	1.2	1.4	1.4	1.2	1.1
Frequency of occurrence (1-8)	M	5.8	4.0	3.1	5.0	4.4	3.6	4.4	4.5	2.9	5.5	4.7	4.5
	SD	1.4	1.6	.9	1.7	1.8	1.6	1.3	1.9	1.2	1.2	1.1	1.4

The means between 4.0 and 5.6 for authenticity and between 3.9 to 5.6 for realism indicate that the scenarios were authentic and realistic. Most were rated as occurring more often than the scale midpoint, thus at least several times a year.

Development of stimulus-material: Emotional trigger (Pre-study 2)

In this step of the study, we tested whether the 12 filmed vignettes elicited the specific emotions targeted, i.e. anger for inter-individual-conflict vignettes and unsettlement, insecurity, fear or sadness for intra-individual-conflict vignettes. Previous research suggests that filmed sequences can indeed bring out specific emotions (Gross & Levenson, 1995). However, we were concerned about the possibility of inducing biases through the participants' potential identification with the actors playing themselves (Folkes, 1982), e.g. that they would judge the behavior of an actor more positive if there was resemblance between the participant and the actor. To avoid this bias, the vignettes were filmed in a first-person, direct-interaction perspective; thus, the actors acted directly into the camera.

Method

Participants

The participants were N=247 medical assistant trainees at the end of their three year apprenticeship. We recruited them by contacting cross-regional training centers for medical assistants. Data were collected class-wise in vocational schools (8-15 students per class); 21 classes were included. The mean age of the participants was 21.92 (SD = 1.4), 98.9% were female; this proportion reflects the gender distribution of the medical assistant trainees' population.

Filming clips as vignettes

The 12 vignettes were produced according to the scripts described above. For their realization we hired experienced lay actors to play the interaction partners. We used different actors for each role for all but two vignettes (colleague in scene 1Ac and 2Bc, due to illness of an actress the day of the shooting). Vignettes lasted between 15 and 56 seconds. We filmed all vignettes in a real medical practice and the personnel of the practice assured that the medical actions filmed (e.g. an electrocardiogram in vignette 2Ab) were executed correctly.

We also filmed a short introductory sequence presenting the medical practice, the locations (reception, examination room and break room) and all colleagues that appeared in the vignettes.

Procedure

The introductory sequence and the 12 film-vignettes were available on an internet-platform. After a personal and anonymous log-in to the platform, the participants first watched the introductory sequence and then all 12 interactional vignettes. After each one of those, the participants were asked to provide a written statement according to the following instruction: «Which emotion did this situation elicit? ». They also had to indicate the intensity of the emotion on a seven-point Likert scale from 1 (very weak emotion) to 7 (very strong emotion).

Coding

The answers were coded using a two-step procedure. First, we analyzed whether what the participants reported as reaction to a vignette was truly a felt emotion. To do so, we paraphrased and shortened the texts given by the participants. Long descriptions were condensed into a single emotion (e.g. "I get very angry in such a situation, but I will not show it, I will be even more friendly!" was coded as anger). If participants wrote that they had not felt any emotion (e.g. "I have no emotion, I am used to situations like this"), "no emotion" was coded, and if the written answer was not related to own emotions (e.g. "The patient was very angry and impatient") or missing, it was classified as "not codable".

In a second step, the reported felt emotions were coded according to Ekman and Friesen's (1971) model of six basic emotions (anger, disgust, fear, happiness, sadness, and surprise) and the findings by Jack, Garrod and Schyns (2014) who, based on neurological activation patterns, reduced the six basic emotions to four (happiness, sadness, anger/disgust and fear/surprise). Because vignettes representing intra-individual conflicts were expected to elicit either unsettlement, insecurity, fear or sadness, we combined sadness and fear/surprise into one category. The final coding system categorized the answers as either (i) anger/disgust, (ii) sadness/fear/surprise, (iii) happiness, (iv) no emotion felt and (v) not codable.

Four trained coders worked in teams of two or three. Disagreements about coding were resolved by discussion.

Results and discussion

Table 3 shows the results of the descriptive analysis.

Table 3: Frequency, mean intensity and χ^2 of elicited emotions by vignettes

Conflict		Inter-individual-conflicts						Intra-individual-conflicts					
Vignettes		1Aa	1Ab	1Ac	2Aa	2Ab	2Ac	1Ba	1Bb	1Bc	2Ba	2Bb	2Bc
Anger/Disgust	Frequency	106	95	123	66	132	144	1	10	6	11	0	16
	Mean Intensity	*4.3*	*4.5*	*4.7*	*3.9*	*4.9*	*5.7*	*5*	*2.7*	*5.3*	*3.8*	-	*4.1*
	SD Intensity	*1.6*	*1.6*	*1.6*	*1.7*	*1.4*	*1.2*	-	*1.6*	*1.4*	*1.3*	-	*2*
Sad Fear/Surprise	+Frequency	16	46	32	43	29	21	183	55	158	112	177	127
	Mean Intensity	*3.7*	*4.7*	*4.5*	*3.5*	*4.6*	*5.8*	*5.1*	*3.2*	*5.2*	*3.9*	*5.2*	*3.9*
	SD Intensity	*1.7*	*1.6*	*1.9*	*1.3*	*1.6*	*1.2*	*1.5*	*1.7*	*1.6*	*1.4*	*1.5*	*1.6*
Happy	Frequency	0	1	0	0	0	0	0	0	0	0	0	1
	Mean Intensity	-	*4*	-	-	-	-	-	-	-	-	-	*2*
	SD Intensity	-	-	-	-	-	-	-	-	-	-	-	-
No Emotion	Frequency	57	50	13	69	17	5	12	90	12	40	10	32
χ^2		68.06	92.21	123.46	6.82	134.71	204.15	318.81	62.26	252.59	99.55	149.14	219.68
	df	2	3	2	2	2	2	2	2	2	2	1	3
	p	<.001	<.001	<.001	0.033	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
Codable		179	192	168	178	178	170	196	155	176	163	187	176
Not codable		68	55	79	69	69	77	51	92	71	84	60	71
Total		247	247	247	247	247	247	247	247	247	247	247	247

The results of the χ^2 analysis show that the distributions of the selected emotions are not independent, meaning that their apportionment depends on the nature of the vignettes. Looking at the frequencies for each of the categories, we see that they match the intended emotions for the inter-individual conflict vignettes (higher amount of anger/disgust in

vignettes 1Aa-1Ac and 2Aa-2Ac) and intra-individual-conflict vignettes (higher amount of sadness and fear/surprise in vignettes1Ba-1Bc and 2Ba-2Bc).

For some vignettes (1Aa, 1Ab, 2Aa and 1Bb), a high proportion of participants (<50) indicated not having felt an emotion. For most of these vignettes, the intensity ratings of the emotions also seem to be lower. To investigate this, we created a dummy variable in which we coded whether the participant had selected "no emotion" (1) or not (0) for each of the vignettes. We then correlated these values with the intensity of the emotion participants had indicated for each of the 12 vignettes (table 4). Results show that for 10 of the 12 vignettes the negative correlations between "no emotion" and the intensity rating of the rest of the emotions are significant (all except 1Ba and 2Bb, both intra-individual conflicts who trigger strong emotions and have a very small amount of "no emotion").

Table 4: Spearman-correlation between the proportion of "no emotion" and the intensity of the felt emotion in the vignette.

	Vignettes											
	Inter-individual-conflict						Intra-individual-conflict					
	1Aa	1Ab	1Ac	2Aa	2Ab	2Ac	1Ba	1Bb	1Bc	2Ba	2Bb	2Bc
ρ	-.38	-.43	-.22	-.48	-.23	-.30	-.06	-.18	-.33	-.42	-.11	-.28
p	<.001	<.001	.010	<.001	<.001	<.001	.442	.032	<.001	<.001	.122	<.001

These correlations confirm that the higher the intensity of emotion is, the rarer "no emotion" appears.

Further, by looking at the means of the intensity of the felt emotion, vignettes 2Aa, 1Bb, 2Ba and 2Bc seem to constitute weaker emotional triggers than the other vignettes. This fact needs to be taken into account during the final test-construction and will be discussed in pre-study 4.

To summarize, the 12 filmed vignettes seem to elicit the specific emotions targeted. This being given, the following pre-studies are concerned with developing the final test's items.

Item construction: Content validity (Pre-study 3)

In this sub-study, we developed our items for the final SJT and examined, whether the participants would understand them as intended.

The first aim of the test to be constructed was to evaluate whether there was a difference between the emotions felt by participants during the video-vignettes and the emotions that they would show to the interactional partners in the vignettes. This so called

emotional dissonance would indicate that ER had taken place. As a second aim, we wanted to measure the ER strategies the medical assistants had used to create the reported emotional dissonance. Therefore, three types of items had to be created: (i) items that assess the immediately elicited emotions, (ii) items that assess the emotional display and (iii) items that assess the used ER strategies.

Measuring emotional intensity of felt and shown emotions

Inspired by the Geneva Emotion Wheel, we wanted the rating and the intensity of emotion to be "graphically intuitive" (Scherer, 2005, p.722). For felt emotion, we used an analogous scale. Extremes were indicated with emoticons representing distinct emotional expressions in different intensity, originally developed by Dacher Keltner from the University of California, Berkeley, for Facebook (Constine, 2013). They had the advantage of displaying the emotions with the appropriate facial expression (Ekman, Friesen & Ellsworth, 2013). In addition, emotional intensity was represented by darkening colors and increasing triangle shapes (see Figures 1-4).

To assess *felt* emotions, participants were asked to indicate how intensely they felt the anger for inter-individual conflict vignettes and unsettlement for intra-individual conflict vignettes on a scale from one (no anger/unsettlement, represented by a neutral emoticon) to five (strong anger/unsettlement, represented by a emotional emoticon) (see figures 1 and 2).

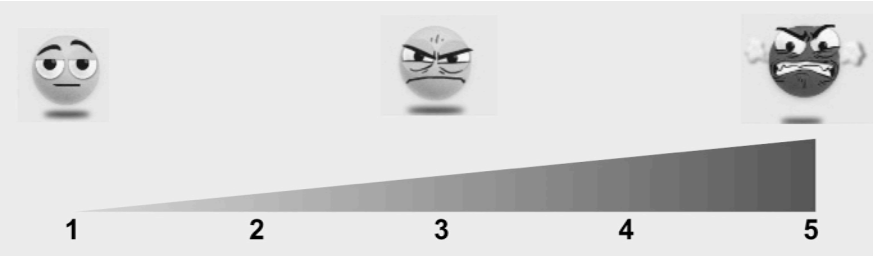

Figure 1: Graphically intuitive measurement of strength of felt anger

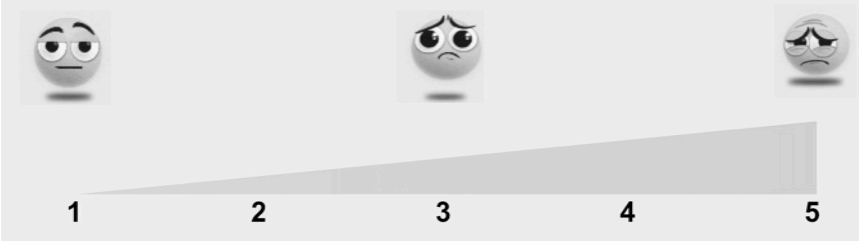

Figure 2: Graphically intuitive measurement of strength of felt insecurity/unsettlement

For the measure of the emotional *display*, we expanded the scales, since many medical assistants had reported that they feel like having to be friendly in every situation. Therefore, we added four extra points, starting at one (being very friendly/happy with a joyful smiley) on the left side of the graph and continued with the same scale as for the felt emotions now starting at five (neutral emoticon) and leading to nine (intense anger/unsettlement, very emotional emoticon) (see figures 3 and 4).

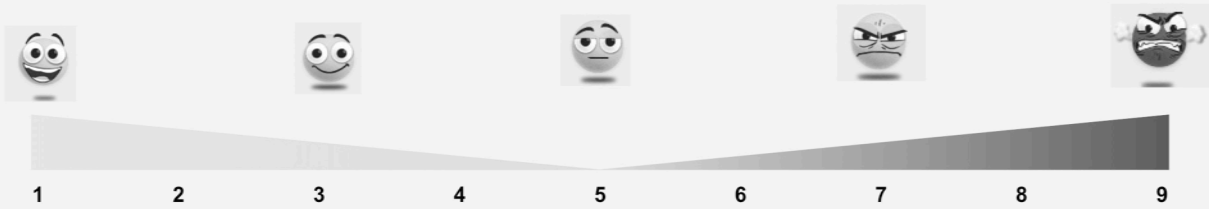

Figure 3: Graphically intuitive measurement of strength of shown anger

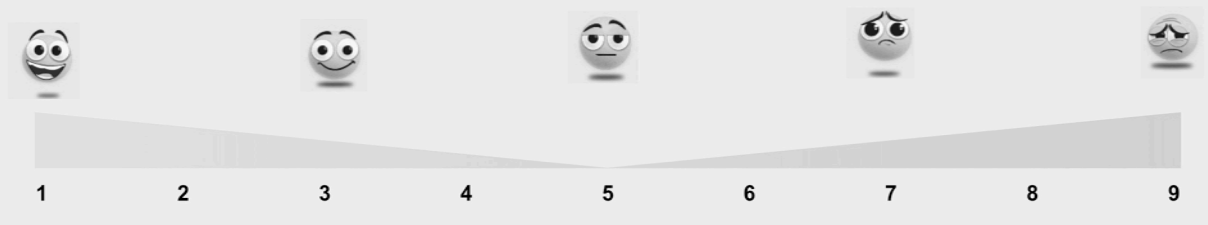

Figure 4: Graphically intuitive measurement of strength of shown insecurity/unsettlement

Measuring ER strategies

Based on the two assessments (felt emotion, displayed emotion) we should be able to calculate whether ER had taken place or not. Accordingly, our next goal was to identify which ER strategy had been used to create the difference between the two measures. In a fast changing environment with short interpersonal contacts, as the one of medical assistants, the first reaction seemed to be of most interest in regard to ER (while one could imagine that a change of strategy can happen during the time span of a longer interaction). This, unfortunately, prevented the use of preexisting ER-strategy-measures, since most tests assess the strength of identification with each one of several possible ER-strategies on Likert-scales, thereby suggesting that several strategies can be used simultaneously or, at least, within the same situation.

Hence, we chose to measure the strategies exclusively by using a single choice format after asking "how do you deal with your feelings in this situation?".

During the item-construction process, we designed two different response-types: one with scene specific formulations inspired by the ERP-R by Nelis, Quoidbach, Hansenne and Mikolajczak (2011) (e.g. positive reappraisal for vignette 1Aa: "Instead of getting angry with the patient, I calm myself down by thinking that it is more important to provide him with the help he needs") and one with general formulations ("I'm considering if there is also something good about this situation"). The occurring difficulties laid in drafting the responses in such a way that no answer would stand out and be attractive only due to its formulation. To avoid these possible biases, we organized a workshop with medical assistant trainees at the end of their three years apprenticeship, and subsequently decided on the type of formulation (vignette-specific or general).

Participants and procedure

The participants (N=11) were all female and between 18 and 21 years old. We showed them all 12 film-vignettes and looked at the respective questions. We then discussed all types of answers in small groups of three to four participants, asking how they understood each one of the answers, which one they would choose and why they didn't choose the other ones.

Results

For the measurements of the emotional strength, the participants reported that it was well represented and totally comprehensible.

With regard to the measurement of the strategies, despite our anticipation and previous counteractions, they found that the attractivity of the vignette-specific choices stemmed mainly from their formulation rather than from their content, inducing a severe bias. The understanding of the generally formulated items on the other hand was the one we intended, e.g. for surface acting they stated: "It's like putting a mask with friendliness or a poker face on".

In view of the above, we decided to use the assessments for the emotional strength as they were and chose the general formulation for the used ER-strategy.

Item construction: Reliability, construct validity (Pre-study 4)

Before conducting the main study to generate information about medical assistants' ER, we carried out a fourth pre-study (pilot-study) to check for the validity of our final test.

Method

Participants

The participants were N=268 trainees at the end of their three year apprenticeship. Comparable to the all over distribution in Germany they were 98,7% female and aged between 19 and 24 (with two exceptions being over 40) with a mean of 22.13 (SD=.98).

Measures and procedure

Since pre-study 2 had shown that some vignettes (2Aa, 1Bb, 2Ba and 2Bc) constituted weaker triggers than the others, we had to find a way to reinforce their target emotion. To do so, we added the sentence "you are angry" at the end of all the inter-individual-conflict films and "you are unsettled" at the end of all the intra-individual-conflict films.

The test-procedure was as follows: after seeing the introduction video and before each of the twelve vignettes, the participants read a small introduction with short background information. Then, immediately after seeing each vignette, they indicated how strongly they had felt and would have shown anger, respectively unsettlement and wich one of the presented strategies they "had" used to deal with their feelings.

For validation purposes, the participants completed a paper-pencil test on standard background information and validated psychological scales in German, after having completed the test online. These scales were the Emotion Regulation Inventory (ERI by König, 2011, about coping with bad feelings at work), the Inventory of Social Competences (ISK by Kanning, 2009) and the Big-Five-Personality-test (B5T by Satow, 2012). Additionally, we asked openly to describe the problem in this situation and what they would answer to the interactional partner (Monnier, Tschöpe, Srbeny and Dietzen, 2016).

Furthermore, since we were forced to use the same actress for an inner and an inter-individual-conflict (Vignettes 1Ac and 2Bc), we divided the sample into two groups, filling out the test in two different orders (1Aa, 1Ab, 1Ac, 1Ba, 1Bb, 1Bc, 2Aa, 2Ab, 2Ac, 2Ba, 2Bb, 2Bc and 2Aa, 2Ab, 2Ac, 2Ba, 2Bb, 2Bc, 1Aa, 1Ab, 1Ac, 1Ba, 1Bb, 1Bc) to check whether the sequence in which the vignettes were seen had an influence on the participants'response.

Data analysis

Firstly, we looked for any impact of the items' order on the answers' distributions.

Then, we examined the internal consistencies by the classical measure of the Cronbach's α, followed by exploratory factor analysis to check for any dependencies or dimensionalities.

Thereafter we looked if there were emotions elicited and if there was a significant difference between the felt and shown ones (emotional dissonance).

In regard to convergent and divergent validity, we looked at the correlation of our measurements with the additional psychological scales.

Results and discussion

Effect of vignettes' order

Looking at the answers to the open questions (describing the problem in the situation and what they would answer to the interactional partner), we saw that our expectations about a possible bias due to the same actress in two vignettes was right: if the inter-individual-conflict film was presented first, there was an impact on the answers to the intra-individual-conflict film (participants were less willing to help, if they had first seen an inter-individual-conflict with the person), but not vice-versa. In order to not take any risks we thereby chose to use the following order further on:

Item 1 = 1Aa, Item 2 = 2Bb, Item 3 = 1Ab, Item 4 = 2Bc, Item 5 = 2Ac, Item 6 = 1Bb, Item 7 = 2Aa, Item 8 = 1Bc, Item 9 =2Ab, Item 10 = 2Ba, Item 11 = 1Ac and Item 12 = 1Ba.

Internal consistency

We then calculated the Cronbach's α for each scale and sub-scale (divided into intra- and inter-individual conflicts, see table 5). Since the ER-strategies were originally a nominal scale, we had to order them to be able to calculate the Cronbach's α. We chose to do so, by looking at the cognitive effort each strategy uses, thereby ranging from 1 = acting out, 2 = surface acting (SA), 3 = distracting (DA) to 4 = positive reappraisal (DA).

Table 5: Pre-Study 4: Inner consistencies (Cronbach's α) of the ER-scales, depending on the conflict type and allover the test.

	Felt Emotion	Shown Emotion	Dissonance	ER-Strategy
Inter-individual-conflicts	.73	.79	.80	.55
Intra-individual-conflict	.65	.78	.77	.59
All Vignettes	.79	.86	.87	.72

Exploratory factor analysis for emotional dissonance (calculated by subtracting the felt emotion (+ 4) from the shown emotion) by Kaiser's (1960) eigenvalue, Cattell's (1966) scree-plot, Revelle and Rocklin's (1979) very simple structure (VSS) and Velicer's (1976) minimum average partial procedures (MAP) indicated a one-factor structure.

Consequently, we interpreted the Cronbach's α for all vignettes together, showing good internal consistencies.

Notwithstanding the emotional dissonance measures' formal functioning, we had to make sure its content was valid too. So, we conducted paired sample t-tests comparing means of felt and shown emotions. Table 6 shows that all of these differences were significant, the felt emotions always being stronger than the shown ones.

Table 6: Paired samples t-test between felt and shown emotions for the 12 situations (pre-study 4)

	Inter-individual-conflict						Intra-individual-conflict					
Vignettes	1Aa	1Ab	1Ac	2Aa	2Ab	2Ac	1Ba	1Bb	1Bc	2Ba	2Bb	2Bc
Mean of felt emotions (+4)	6.23	6.80	7.46	6.00	7.42	8.17	6.88	5.38	7.15	6.26	7.03	6.26
Mean of shown emotions	2.96	3.68	5.04	3.13	4.22	5.78	4.06	2.46	4.22	3.34	4.51	3.76
t-value	36.74	33.37	25.92	28.70	27.51	18.27	25.03	35.38	27.51	28.95	22.44	24.27
df	267	266	266	251	247	247	264	262	247	241	246	245
p-value (two-tailed)	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001

These results confirm that first-person perspective videos can appropriately simulate a work-environment for ER-assessments by evocating work-related emotional dissonance.

Convergent and divergent validity

Finally, we investigated whether our scales for the ER-strategies were convergently and divergently valid. In the field of SJT, "most of what we know about SJT construct validity has been created through the use of meta-analysis" (Ployhart and MacKenzie, 2011, pp.249). Not many studies have been correlating their SJT results to established measurements as we do in this chapter.

Although we had originally planned to use the scale of self-control of the ISK by Kanning (2009) and to correlate it with the ordered strategies (acting out to positive reappraisal) for the convergent validity, it turned out that this scale was not reliable (Cronbach's α=.18). The alternative was to compare our findings with the ERI by König (2011). However, the question formats were not comparable, since the ERI asks for how strongly participants relate to each one of the answers, while we used a single choice format. We therefore had to transform our data, by calculating a frequency score of each strategy over the 12 vignettes (how often was this strategy selected over the 12 scenes). We then correlated these scores with the corresponding ERI sub-scale's outcome (see table 7) after controlling for these sub-scales' internal consistencies (Controlled Expression, Cronbach's α=.88, Uncontrolled Expression, Cronbach's α=.79, Empathic Suppression, Cronbach's α=.75, Distraction, Cronbach's α=.79 and Reappraisal, Cronbach's α=.66). Our method of comparison by the data-transformation left a certain doubt that can partly be seen in the correlations' outcomes.

Table 7: Correlations and descriptive statistics for the frequency of ER-strategies and the ERI-sub-scales for convergent validity.

		M(SD)	1	2	3	4	5	6	7	8	9
1	Acting Out	4.03 (2.13)	1								
2	Surface Acting	3.73 (2.56)	-.28**	1							
3	Distraction	2.25 (1.70)	-.19*	-.21*	1						
4	Positive Reappraisal	3.76 (2.56)	-.27**	-.47**	-.12	1					
5	ERI: Uncontrolled Expression	1.12 (.77)	.08	-.07	.13	-.06	1				
6	ERI: Controlled Expression	2.37 (.94)	-.01	-.01	.01	-.08	.22**	1			
7	ERI: Empathic Suppression	2.32 (.81)	-.16*	-.00	.00	.123	-.26**	-.13	1		
8	ERI: Distraction	2.49 (.78)	-.02	-.04	-.09	.01	-.23**	.24**	.21**	1	
9	ERI: Reappraisal	2.09 (.78)	-.14“	.10	-.29**	.20*	-.12	.24**	.26**	.37**	1

N = 268, “p < .1 *p < .05. **p < .01 (two-tailed).

While we would have expected our measurement of acting out (“I show him/her what I am feeling” (anger/unsettlement)) to correlate with the ERI’s uncontrolled expression (e.g. I show my negative feelings in an intense way), these showed no significant correlation. On the other hand, acting out correlates negatively with empathic suppression (e.g. I try not to show my feelings to avoid hurting someone). This latter result makes sense if looking at the content and so we accepted it as a reverse content validation of acting out.

Our measure of surface acting (“I pretend having the convenient feeling”) however, turned out not to show any significant correlations although we would have expected it to correlate with empathic suppression (e.g. I try not to show my feelings to avoid hurting someone). Since pre-study 3 had shown that participants understood “I pretend having the convenient feeling” as “putting on a poker face” (high content validity), we attributed the problem to the very different formulations, unfortunately not having any other measures of comparison for the content validity.

We found the most interesting results for our distraction measure ("I somehow distract myself"). While we expected it to correlate with the ERI's distraction-scale (e.g. I try to concentrate on something different) this turned out to be non-significant, although formulations were very similar. Surprisingly, it negatively correlated with the ERI's reappraisal-scale (e.g. I'm considering if there are positive aspects about the situation), positively with the B5T's neuroticism-scale .31** (Cronbach's α=.85, eg. I'm often feeling insecure) and negatively with the B5T's agreeableness-scale (Cronbach's α=.66, eg. I'm always getting a long with other people, even if we don't share opinions) (see table 8).

Finally and as expected, our positive reappraisal measure ("I'm considering if there is also something good about this situation") correlated positively with ERI's reappraisal-scale (e.g. I'm considering if there are positive aspects about the situation).

For divergent validity we correlated our frequency scores with the B5T (table 8).

Table 8: Correlations and descriptive statistics for the frequency of ER-strategies and the B5T sub-scales for divergent validity.

		M(SD)	1	2	3	4	5	6	7	8	9
1	Acting Out	4.03 (2.13)	1								
2	Surface Acting	3.73 (2.56)	-.28**	1							
3	Distraction	2.25 (1.70)	-.19*	-.21*	1						
4	Positive Reappraisal	3.76 (2.56)	-.27**	-.47**	-.12	1					
5	Openness	1.12 (.77)	-.08	.04	-.16	.06	1				
6	Consciousness	2.37 (.94)	-.05	-.05	-.04	.12	.07	1			
7	Extraversion	2.32 (.81)	-.03	-.04	-.16	-.03	.37**	-.01	1		
8	Agreeableness	2.49 (.78)	-.07	.11	-.18*	.07	.17*	.29*	.26**	1	
9	Neuroticism	2.09 (.78)	-.01	-.03	.31**	-.09	-.12	-.01	-.19**	-.13	1

N = 268, *p < .05. **p < .01 (two-tailed).

Except for the two correlations of our distraction measure (with agreeableness and neuroticism), none of the Big 5-scales showed significant correlations with our frequency scales, indicating good divergent validity.

In summary, we can state that convergent and divergent validity seem only tendentially accomplished. This reflects the findings of Ployhart and MacKenzie (2011), stating that "the fact remains that nearly every study that examines KSA (knowledge, skills, and abilities) correlates of SJTs finds the convergent validities to be relatively small" (pp. 249).

Furthermore, due to the necessary transformation of our data to estimate the validity correlations, we cannot be totally sure of the correlations' outcomes. Still, the results of pre-study 3 about the content validity were very positive, so that we confidently decided to accept our items as they were.

Assessing medical assistants' ER

Since the test was functioning, we engaged in a main study assessing medical assistants' ER. Therefore we formulated 6 hypotheses in regard to the expected test-outcome, keeping in mind that our emotional scales could differentiate whether there is only a down-regulation of the felt emotion (e.g. feeling very angry and showing just a little bit of anger) or even a change of emotion in the participants' emotional display (e.g. feeling angry but showing a friendly smile):

$H_{outcome}1$: The strength of regulation depends on the felt emotion

- $H_{outcome}1a$: Inter-individual-conflicts with patients produce a high down-regulation of the felt emotion and lead to a change of emotion in the participants' emotional display.
- $H_{outcome}1b$: Intra-individual-conflicts with patients produce a high down-regulation of the felt emotion and *can lead* to a change of emotion in the participants' emotional display
- $H_{outcome}1c$: Inter-individual-conflicts with colleagues produce a low down-regulation of the felt emotion, but *can lead* to a change of emotion in the participants' emotional display
- $H_{outcome}1d$: Intra-individual-conflicts with colleagues produce a low down-regulation of the felt emotion and *can lead* to a change of emotion in the participants' emotional display

$H_{outcome}2$: ER measured by the emotional dissonance is pluri-dimensional

- $H_{outcome}2a$: The measure of emotional dissonance is two-dimensional and differentiates between inter-individual-conflicts and intra-individual-conflicts

- $H_{outcome}2b$: The measure of emotional dissonance is two-dimensional and differentiates between the familiarity of the interactional partners (patients versus colleagues)

- $H_{outcome}2c$: The measure of emotional dissonance is four-dimensional and differentiates between inter-individual-conflicts and intra-individual-conflicts and between the familiarity of the interactional partners (patients versus colleagues)

$H_{outcome}3$: The most frequently chosen strategy to produce emotional dissonance is SA

- $H_{outcome}3a$: The most frequently chosen strategy to produce emotional dissonance in inter-individual-conflicts with patients is SA

- $H_{outcome}3b$: The most frequently chosen strategy to produce emotional dissonance in intra-individual-conflicts with patients is SA

- $H_{outcome}3c$: The most frequently chosen strategy in inter-individual-conflicts with colleagues is acting out

- $H_{outcome}3d$: The most frequently chosen strategy in inter-individual-conflicts with colleagues is acting out or SA

$H_{outcome}4$: The strength of emotional dissonance depends on the strength of the felt emotion.

$H_{outcome}5$: The choice of the used ER-strategy depends on the strength of the felt emotion.

$H_{outcome}6$: The choice of the used ER-strategy depends on the strength of emotional dissonance.

Main Study: Testing and outcomes

Method

Participants

The participants were N = 405 trainees in the third year of their apprenticeship. We recruited them by contacting cross-regional training centers for medical assistants. They were 98,7% female and aged between 18 and 46 (M = 21.3, SD = 3.1).

Procedure and Measures

For each data collection, two researchers went to the respective schools and administered the assessment class-wise (8-15 pupils per class). Participants completed the test individually at the computers of their schools. Effects of the vignettes' presenting order (see pre-study 4), and influence factors like the participants' level of language, were controlled. In addition to the test, participants completed questionnaires containing information about their social and educational context composed by Baethge, Baethge-Kinsky and Lischewski (2015) to control for possible influences and compare the sample's distribution to the existing data for the overall population. A negligible difference was found between the two sets of data.

Data analysis

To start off, we controlled for the inner consistencies (Cronbach's α) and if there was a significant difference between the felt and shown emotions (emotional dissonance). We then tested the outcome-hypotheses described above.

We used the R software (R Core Team, 2015) with the psych (Revelle, 2016) and the lavaan (Rosseel, 2012) packages for most analysis.

Results and discussion

Inner consistencies were still satisfying with Cronbach's $\alpha = .76$ for the shown emotion scale, $\alpha = .74$ for the emotional dissonance scale and $\alpha = .66$ for the ordered ER-strategies scale. However, we found a Cronbach's $\alpha = .54$ for the felt emotion scale, rising to .78 if the first item was left out. We therefore decided to use the entire scale, critically keeping track of item 1Aa.

We then conducted paired sample t-tests comparing the means of felt and shown emotions (see table 9) and found that all our vignettes had produced emotional dissonance.

Table 9: Paired samples t-test between felt and shown emotions for the 12 situations (main study)

Vignettes	1Aa	1Ab	1Ac	1Ba	1Bb	1Bc	2Aa	2Ab	2Ac	2Ba	2Bb	2Bc
Mean of felt emotions (+4)	6.55	7.14	7.44	7.04	7.69	7.31	5.70	7.27	8.06	6.54	6.77	6.58
Mean of shown emotions	3.33	3.67	4.88	4.02	2.14	4.75	2.55	3.86	5.08	3.25	3.46	3.85
t-value	10.1	42.1	32.6	34.3	2.2	30.0	43.6	37.2	29.6	40.1	39.1	32.7
df	402	399	394	393	394	393	391	394	398	400	395	400
p-value (two-tailed)	<.01	<.01	<.01	<.01	.03	<.01	<.01	<.01	<.01	<.01	<.01	<.01

We looked at the distribution more precisely: Firstly we classified the strength of the down-regulation (dissonance) as being high if the difference between the reported felt and shown emotion was ≥ 3 and being low if the same difference was < 3. Secondly we looked if there was a change of emotion between the nature of the felt emotion (anger or unsettlement) and the shown emotion (neutral or friendly) or not. The frequency of participants' reports for each of the resulting 4 groups (low dissonance and emotional change, high dissonance and emotional change, low dissonance and **no** emotional change and high dissonance and **no** emotional change) is shown in table 10.

Table 10: Frequencies of strength of down-regulation (dissonance) and change of emotional display, and χ^2 differentiating for difference between categories

Vignettes	1Aa	1Ab	1Ac	1Ba	1Bb	1Bc	2Aa	2Ab	2Ac	2Ba	2Bb	2Bc
Frequency of low dissonance and emotional change	94	64	75	49	76	59	86	82	44	68	62	74
Frequency of high dissonance and emotional change	274	276	163	238	291	179	277	249	181	275	269	217
Frequency of low dissonance and **no** emotional change	28	51	135	93	25	134	25	56	150	52	56	100
Frequency of high dissonance and **no** emotional change	1	9	20	10	0	16	0	7	23	1	3	4
χ^2 differentiating between the 4 categories (strength of dissonance high/low and emotional change yes/no	456.4	429.5	124.2	305.3	305.1	166.0	267.3	336.1	182.2	441.9	423.8	238.73
df	3	3	3	3	3	3	3	3	3	3	3	3
Asymptotic significance	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001

$H_{outcome}$1: The strength of regulation depends on the felt emotion

Since all χ^2 measures for the frequency of having high versus low dissonance and having a change of emotion or not were significant, we could interpret the absolute value of the frequencies for our comparisons in hypothesis 1. Hence, we see that hypothesis $H_{outcome}$1a and $H_{outcome}$1b are supported. Other than expected, while interacting with colleagues, participants show mostly high dissonance with a change of emotion for all vignettes. But, we see that the proportion of having low dissonance and no emotional change is significantly higher than for the vignettes with patients, partly supporting our hypothesis $H_{outcome}$1c and $H_{outcome}$1d.

$H_{outcome}$2: ER measured by the emotional dissonance is pluri-dimensional

Investigating in the dimensionality of ER (by the measure of emotional-dissonance), we used confirmatory factor analysis by structural equation models. We used the χ2 goodness of fit, the Comparative Fit Index (CFI), the Tucker–Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) to interpret our models' fit, by stating that the model is acceptable if CFI and TLI are ≥ .95 and RMSEA and SRMR are ≤ .05 (West, Taylor, & Wu, 2012). As pre-study 4 indicated a one-factor model, we calculated a CFA with all 12 vignettes loading on the same factor: N=405, X^2= 162.044, df= 54, CFI= .92, TLI=0.91, RMSEA= .07 and SRMR= .05. Results showed that the model fits were not satisfactory and so we engaged in the CFA for hypotheses $H_{outcome}$2a to $H_{outcome}$2c.

Firstly we calculated a two-factor model, differentiating between vignettes of inter-individual and intra-individual-conflict: N=405, X^2= 151.318, df= 53, CFI= .93, TLI= .91, RMSEA= .07 und SRMR= .04. Still, model fits were not satisfactory and so we calculated a two-factor model, differentiating between patients and colleagues: N=405, X^2= 161.546, df= 53, CFI= .92, TLI= .90, RMSEA= .07 und SRMR= .05. This also showed no satisfying model-fits. Hence, we controlled for the four factor model differentiating between interactional partners and type of conflict: N=405, X^2= 145.027, df= 48, CFI= .93, TLI= .90, RMSEA= .07 und SRMR= .04 and still did not find a satisfactory model. Hypotheses $H_{outcome}$2a, $H_{outcome}$2b and $H_{outcome}$2c could thus not be supported.

We then conducted exploratory factor analysis (Kaiser-Mayer-Olin criteria of .90) with an oblimin rotation and a varimax rotation, both stating for a three-factor model explaining 55% of variance. But, in a non-statistical perspective, considering theoretical aspects, the factor loadings were not totally reasonable. We therefore investigated if there could be

another dimensionality underlying our vignettes, testing for diverse models that made sense with regard to their content. Finally, by trial and error of these "content-models", we found a four-factor model with very satisfactory model fits: N=405, X^2= 93.968, df= 49, CFI= .97, TLI= .96, RMSEA= .05 und SRMR= .03. The four factors differentiated between psychological characteristics of the situations the participants were in:

1. Having to fulfill an illegitimate task (Semmer et al., 2015): Vignette 1Bc
2. Being in an inter-individual-conflict and getting attacked directly: Vignettes 1Aa, 1Ab, 1Ac, 2Ab and 2Ac
3. Having a distributional conflict (Inderst, Müller and Wärneryd, 2007): Vignettes 1Bb, 2Aa, 2Bb and 2Bc
4. Feeling lost, not knowing what to do: Vignettes 1Ba and 2Ba

$H_{outcome}$3: The most frequently chosen strategy to produce emotional dissonance is SA

Next, we engaged in the analysis regarding the ER-Strategies. To see which strategies were selected most, we looked at their frequencies and if there were significant differences (see table 11).

Table 11: Frequencies of selected strategies and χ^2 differentiating for difference between categories

Vignettes	1Aa	1Ab	1Ac	1Ba	1Bb	1Bc	2Aa	2Ab	2Ac	2Ba	2Bb	2Bc
Acting out	32	64	282	192	152	184	165	71	156	134	201	199
Distraction	67	93	32	31	20	30	41	93	108	33	44	28
Positive reappraisal	105	71	34	47	74	98	45	40	30	70	36	89
Surface acting	198	169	52	131	145	72	147	181	87	148	109	72
χ^2 differentiating between the 4 categories	152.6	70.0	1028.4	702.4	120.6	595.7	388.1	454.6	596.5	412.9	559.3	812.2
Df	3	3	3	3	3	3	3	3	3	3	3	3
Asymptotic significance	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001

In regard to our third outcome-hypothesis we found that indeed, the most frequently chosen strategy to produce emotional dissonance is SA in inter-individual-conflicts with patients ($H_{outcome}$3a supported). Intra-individual-conflicts with patients on the other hand not only showed a lot of surface acting, but also acting out, only partly supporting $H_{outcome}$3b. All

vignettes with colleagues showed a majority of acting out, supporting $H_{outcome}3c$ and partly supporting $H_{outcome}3d$, also expecting a high amount of surface acting.

$H_{outcome}4$: The strength of emotional dissonance depends on the strength of the felt emotion.

For contextual analysis, we first looked if the strength of the felt emotion would influence the strength of the shown emotion and conducted a simple regression for each scene with the felt emotion as predictor variable and the shown emotion as dependent variable. The results of the regressions indicate that the predictor explains between $R^2 = 5\%$ and $R^2 = 34\%$ of the variance (see table 12) and support hypothesis $H_{outcome}4$.

Table 12: Linear regression with felt emotion as predictor variable and shown emotion as dependent variable

Scene	R^2	F	df 1	df 2	Sig.	Const.	b1	$B_{stnd.}$
1Aa	.091	40.89	1	403	p<.001	2.12	.43	.303
1Ab	.073	32.71	1	400	p<.001	2.51	.38	.275
1Ac	.245	130.80	1	399	p<.001	2.09	.81	.497
1Ba	.161	77.10	1	396	p<.001	2.06	.66	.404
1Bb	.077	34.09	1	397	p<.001	1.35	.62	.281
1Bc	.244	129.35	1	399	p<.001	2.04	.83	.496
2Aa	.153	72.97	1	398	p<.001	1.53	.62	.394
2Ab	.053	23.29	1	398	p<.001	2.77	.35	.235
2Ac	.111	51.08	1	400	p<.001	2.29	.70	.336
2Ba	.246	131.48	1	400	p<.001	1.46	.76	.497
2Bb	.217	112.137	1	399	p<.001	1.235	.86	.468
2Bc	.340	206.21	1	398	p<.001	1.41	.98	.584

$H_{outcome}5$: The choice of the used ER-strategy depends on the strength of the felt emotion and $H_{outcome}6$: The choice of the used ER-strategy depends on the strength of emotional dissonance.

We then conducted two multinomial logistic regressions with the categories of ER strategies as dependent variable and felt emotions and emotional dissonance, each one as a single predictor. Almost none of the models were significant, only showing significant constants with too little information to be interpreted, so that $H_{outcome}5$ and $H_{outcome}6$ could not

be analyzed. To bypass these regressions, we used descriptive analysis of our data. On the basis of our four-factor model, we looked at the distributions of the ER-strategies depending on the 4 groups of emotional dissonance described above in table 10 (low dissonance and emotional change, high dissonance and emotional change, low dissonance and **no** emotional change and high dissonance and **no** emotional change) for each of the situation types in our factor model (see figures 5 to 8).

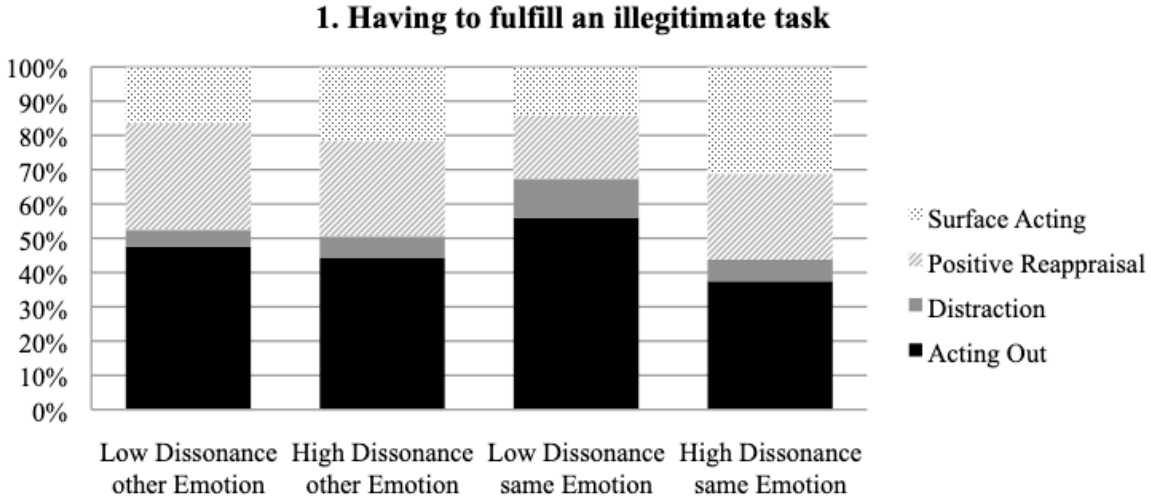

Figure 5: Distribution of chosen ER strategy by emotional dissonance factor "Having to fulfill an illegitimate task", intensity of dissonance and change of emotion

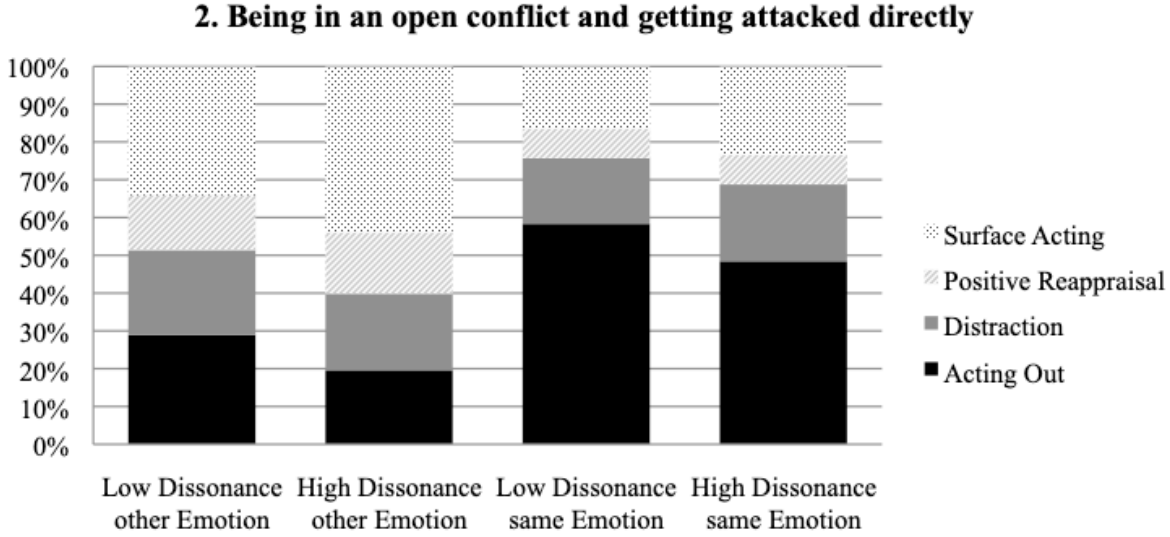

Figure 6: Distribution of chosen ER strategy by emotional dissonance factor "Being in an inter-individual-conflict and getting attacked directly", intensity of dissonance and change of emotion

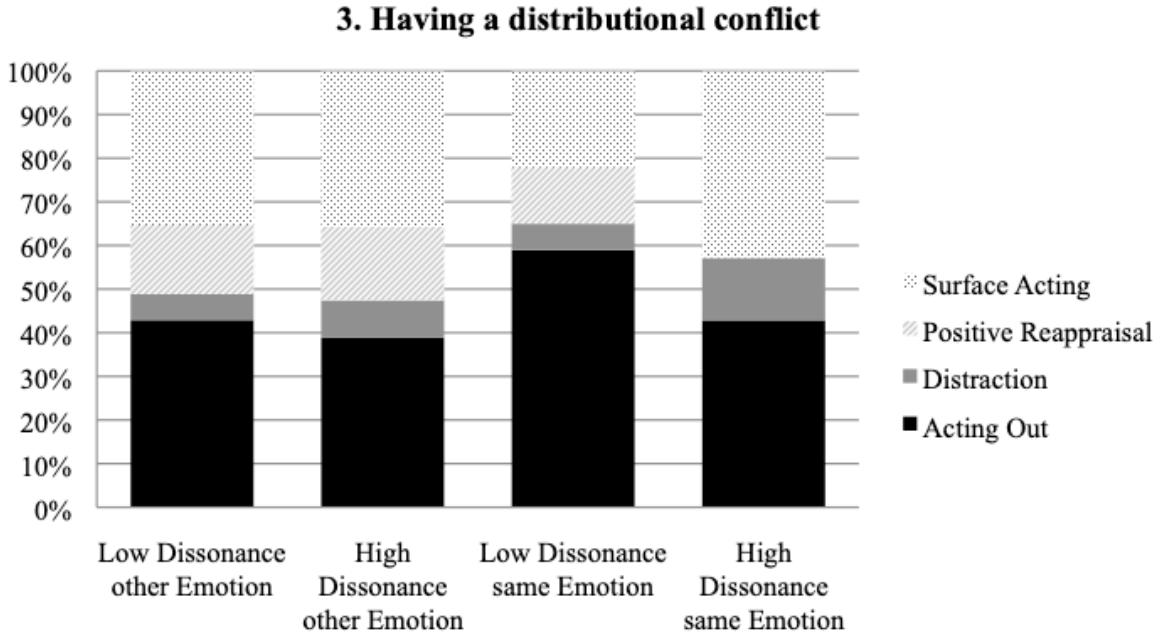

Figure 7: Distribution of chosen ER strategy by emotional dissonance factor "Having a distributional conflict", intensity of dissonance and change of emotion

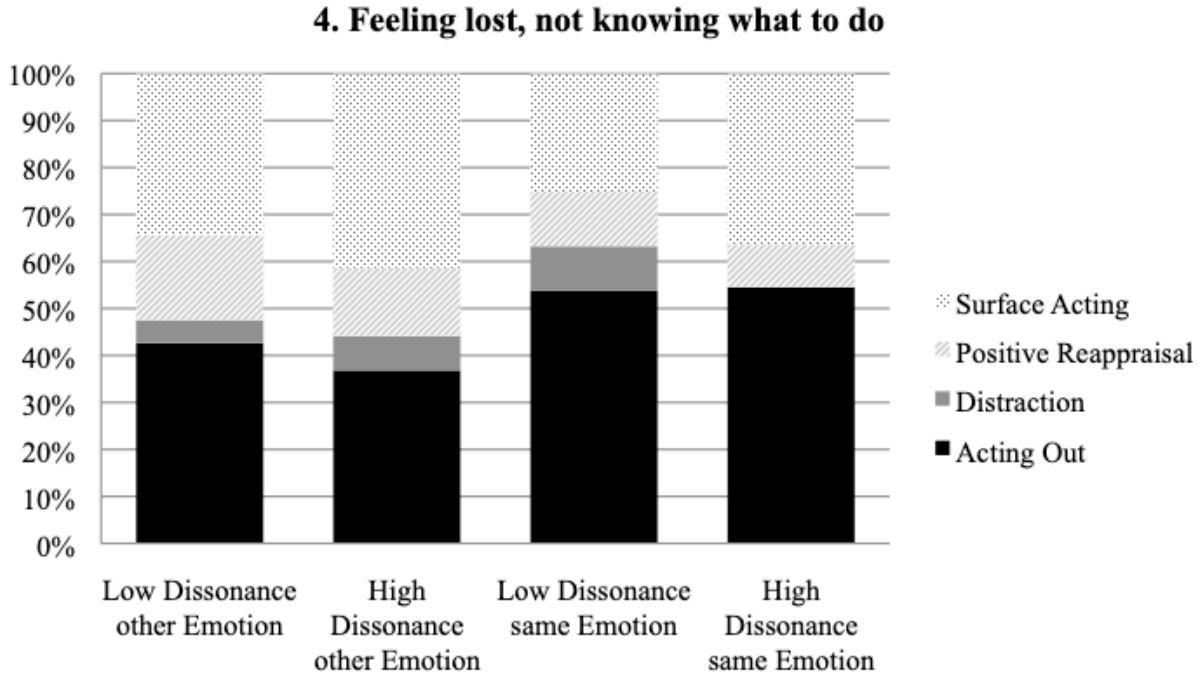

Figure 8: Distribution of chosen ER strategy by emotional dissonance factor "Feeling lost, not knowing what to do", intensity of dissonance and change of emotion

We can see that the distributions look very similar. At this point, it is important to keep in mind that the analysis for hypotheses $H_{outcome}3$ showed that the strategy selection made a lot of sense in regard to the situation the participants were in (showing a great amount of SA and acting out, depending on the type of conflict and interactional partner). Nevertheless, it is strikingly conspicuous in the distributions (figures 5 - 8) that in all cases "acting out" is selected very often, even though great emotional dissonance is reported in the first place, a result that does not make sense. Looking at its frequency, we see that over the twelve vignettes, 10,7% of the participants chose this "impossible" strategy once, 14,2% twice, 15,9% three times, 15,6% four times, 11,8% five times, 6,8% six times, 3,6% seven times, 3,0% eight times, 1,1% nine times, 1,4% ten times and finally 0,3% eleven times.

Since our assessment was validated and we controlled for the measurements quality at several points, these findings give rise to questions about general ER-measurements, indicating that the content of their assessment does not seem to be what it is expected to be.

Conclusion and outlook

Glasenapp (2013) ascribes a coordinative function between psychological, physical and social process to emotions and states their omnipresence during interpersonal situations. While some of these situations will have low or strongly positive emotional loads, others will stand out due to their more challenging, unpleasant, inappropriate or negative nature. In comparison to other occupations, we can imagine that many situations belonging to the second group appear in medical assistants' every day experience, e.g. low recognition by society, difficult coordination between the different hierarchical levels of medical practices, and having to put up with vulnerable patients, while maintaining a caring and nice, but still medically impeccable display. In view of the above, ER is obviously an essential component of medical assistants professional competences.

As described in detail in the introduction, the classical differentiations of ER between surface acting (SA), deep acting (DA) (Hochschild, 1983) and automatic ER (Zapf, 2002) or passive deep acting (Hochschild, 1983) show differing influences on either cognitive loads or short- and long-term well-being. While SA is more efficient it can lead to job burnout (Hülsheger & Schewe, 2011; Judge, Woolf & Hurst, 2009) or reduce job satisfaction (Gabirel et al. 2015; Hülsheger & Schewe, 2011; Judge, et al. 2009), DA on the other hand is positively related to job satisfaction (Gabirel et al. 2015; Hülsheger & Schewe, 2011; Judge, et al. 2009) and attentional focus during work tasks (Wallace et al. 2009) but it needs more effort and time to be produced (Gabirel et al. 2015) (an asset that is not often given during

medical assistants workdays). Last but not least, there is automatic ER (Zapf, 2002) or "passive deep acting" (Hochschild, 1983), a cognitive "shortcut" of DA strategies that can be trained over time, but, to scientifically assess the development towards automated and quasi-natural "acting" strategies, longitudinal studies are necessary (Grandey & Gabriel, 2015). These should both measure direct ER-reactions to work-situations and their change over time (quasi an extension of our method, by collecting date at successive points in time).

In this paper, we wanted to see if we could identify how ER is predominantly composed in the work of medical assistants by constructing an assessment (SJT) tailored to the occupation and strongly related to job-performance (Motowidlo, Hooper & Jackson, 2006). To begin with, we wanted to maximally engage participants in realistic situations while keeping the assessment short. For that purpose we chose a video-vignette based procedure, differing from others by using a first-person, direct-interaction perspective. Based on this decision, we proceeded by four pre-studies presented above and describing the detailed approach to our test-construction, indicating our successes but also our difficulties (e.g. in regard to SJT aspects of construct validity that are also described in literature by e.g. Ployhart and MacKenzie (2011), stating that "the fact remains that nearly every study that examines KSA (knowledge, skills, and abilities) correlates of SJTs finds the convergent validities to be relatively small" (pp. 249)). Nonetheless, our final validation models and results turned out to be very satisfactory in regard to the test's functioning and delivered very interesting and mostly expected outcomes:

Firstly, while it appears that medical assistants have to regulate their emotions in all situations presented during the test, we can see that to overcome these emotional dissonances SA is predominantly indicated. Concerning long-term satisfaction and well-being at work this result is worrying. It calls for concrete attention in regard to ER as being part of the educational pathway towards becoming a medical assistant. During trainings, we could imagine a repetitive practice to shift the use of SA to the cognitively more challenging but healthier DA and making these strategies automatic through repeated application.

Secondly, we found that the strength of emotional dissonance was highly depending on context, differentiating between four types of situations:

1. Having to fulfill an illegitimate task (Semmer et al., 2015)
2. Being in an inter-individual-conflict and getting attacked directly
3. Having a distributional conflict (Inderst, Müller and Wärneryd, 2007)
4. Feeling lost, not knowing what to do

This context-specificity has only been taken into account in few research approaches of ER and at least, it should be controlled for in future research.

Finally, we discovered a measurement problem that, we suspect, is not due to our test-design, but lays deeper in the nature of ER-measurements. Concretely, we found that if we put the two individually well functioning measurements of emotional dissonance and of the identification of emotion regulation strategies together, we find quantity of a senseless results, showing great amounts of emotional dissonance paired with the indication of using the acting-out "strategy" (Gross, 1998; 2001), where no correction to the emotions is applied (also called "non-acting" (Gabriel et al., 2015)).

There is a large body of research on ER evaluations by self-reports. But, in contrast to general ER-measurements, where the strength of identification with each one of several possible ER-strategies on Likert-scales is assessed, in this SJT the participants were forced to choose the one and only strategy they had used to overcome the concrete situation simulated by the video-vignette. They were not asked to describe an abstract representation of their general ER habits, but to report on their emotional dissonance. They did this successfully, but seemed to have many difficulties describing how they had gotten there in a concrete situation. Our results somehow give rise to the question whether ER assessments are not strongly affected by the emotional-cognitive nature, consciousness aspects and social desirability aspects of the ER concept (Lee et al., 2017). Hence our confusing outcomes lead us to three conclusions and outlooks:

Firstly, although we tried to make the self-report on one's emotional state easier by using Keltner's smileys with human emotional displays (Constine, 2013) in comparison to the usual scales, the results are still ambiguous and should be controlled and validated by physiological measurements (Shepherd and Wild, 2014), such as the participants' cortisol level or changing heart rates.

Secondly, competitive emotional-cognitive processes, such as e.g. social desirability and one's belief on the expected target emotion and its strength, should also be included in the measurements, since their effect is usually strong, using up a great part of the cognitive resources necessary for a healthy ER (Wang et al. 2011). These would probably function as a statistical moderator.

Finally, we have to find a way to detect the emotional-cognitive processes ER is based upon and make them "visible" or measurable. In psychopathology, studies have shown that interviews are a promising tool for extracting more information about ER (e.g. the Emotion Regulation Interview (ERI) by Werner, Goldin, Ball, Heimberg and Gross (2011) or the

Semi-Structured Emotion Regulation Interview (SERI) by Lee et al. (2017)). As an example of this kind of assessment with non-pathological populations and work-related contents, we propose an interview technique coming from phenomenological cognitive sciences. Petitmengin (2006) describes how subjective experiences can be validly reported "with great precision" (p. 229). The course of the interview is designed as follows: starting with stabilizing the interviewee's attention, then moving from general representation to singular experience, after that retrospectively accessing the lived experience, followed by directing the attention to the various dimensions of the experience, finally deepening the diachronic dimension and deepening the synchronic dimension. Accompanied by putting into words and shaping a trustworthy relationship between the two interview parties, this technique has proven to bring consciousness to underlying unconscious processes (Petitmengin, 2006). Finally, in order to gain procedural information on ER, these qualitative methods will have to be combined with quantifiable elements of the kind described in this paper. The gained knowledge would facilitate the fostering of these essential occupational qualities, the ultimate goal being the significant reduction of all unhealthy strategies.

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Synthesis: A Process-Model of Social-Emotional Intelligence, Competences and Skills, an Indication for Approaching Future Trainings

Keywords

Social Emotional Intelligence, Social Emotional Competence, Social Emotional Skills, Personality, Action Regulation, Social Emotional Learning

Introduction

While working on social-emotional intelligence, competence and skills (SEICS) over the last few years, I noticed quite a bit of confusion in the literature as to what these concepts really mean. Every new article brought new views and aspects to consider and every interview or discussion turned everything around again, leading to a long process of clarification and findings, presented in the foregoing papers of this thesis. While there are many controversies in the scientific field of SEICS, a unanimous quintessence seems to be the importance of fostering these attributes. Yet, we see that this is far from being implemented, inter alia due to the low expectations in regard to training potentials for personal improvement (see fourth paper in the annexes). Thus, the aim of this synthesis chapter is to investigate approaches that could increase the implementation of SEICS trainings in classical educational pathways.

I start by comparing popular and scientific understandings of SEICS, to show that there are psychologically unhealthy misunderstandings that need to be smoothened out to gain recognition for the importance of the topic. By looking at classical theories of personality, learning and action regulation, I then move on to SEICS antecedents, showing the underestimated potential of development, but also the difficulties configuring trainings due to the specific nature of SEICS. Finally, I summarize and complement all findings in a theoretical process-model of SEICS. The intended outcome of the final process-model is to identify the rigid and the dynamic elements, to show where teaching-approaches should set in and where these intentions of fostering SEICS by trainings would have a smaller impact.

Popular versus scientific understanding of SEICS

SEICS are overly present in every person's everyday life, and so a general and latent understanding of them is shared by society. However, these popular understandings often seem to differ from the scientific ones. By highlighting dissimilarities and commonalities I want to show where awareness should be raised towards creating a common ground, laying the base for the implementation for and acceptance of future trainings.

Summary of popular understandings of SEICS

During unstandardized interviews at the beginning of this dissertation, with four medical assistants, two people from service staff in restaurants, three hairdressers and two economists, a strong consensus on the understanding of emotional intelligence and social competences could be observed. Emotional intelligence was seen as the ability to recognize

others' emotions, even in situations where people want to regulate their emotional display (hide the emotions), and understanding (interpreting) causal origins of these emotions. Social competences (mostly seen as a synonym for social skills) on the other hand were understood as the capability to induce sympathy for oneself in others, being helpful and behaving in a "nice" way. Since all of the interviewees worked in client-oriented occupations, they also described the knowledge about and the application of goal oriented manipulative behavior as part of social competences at work.

In summary, it seems that emotional intelligence is seen as a pre-action evaluation that will influence one's use of social competences in the actual interactional behavior. Comparing the findings presented in the first paper of this thesis with the interviews shows that the essential distinction between popular and scientific understandings takes place in the quality of the emotional interpretation, the valorization of the final behavior and the identification of the interplay of the interactional partner's and one's own state. More precisely, while scientific perspectives accentuate the importance of taking into account and perceiving the emotional states of all participants, popular views seem to concentrate on the interactional partners' ones, ignoring one's own. Secondly, while the third paper shows that always being nice can lead to burnout (hyperbolically formulated), this seems to be the popular expectation toward people who are seen as having a high level of SEICS. Finally, a principle of SEICS and their behavioral outcomes is to maximize all interactional partner's wellbeing, while popular views, again, seem to tend to concentrate one side of the interaction.

Popular views on the origin of SEICS

While the scientific perspective makes a point of differentiating between intelligence, competences and skills (see first article) interviews show that the practice attributes the same origin to and a large amount of convertibility between all aspects of SEICS. The widespread assumption is that they are "personal qualities that people just come with or that these are developed in primary socialization processes" (Dietzen et al., 2012, p. 24). Hence, training could only improve the shape of preexisting qualities, but not create new ones. This is congruent to the scientific understanding of fluid intelligence that is seen as very "robust against influences of education and socialization" (Jaeggi et al., 2008, p. 1; Gray and Thompson, 2004; Cattell, 1963; Baltes et al. 1999), but stands in contradiction to the definitions of competences and skills. While "the boundary between skill and competences is fuzzy" (Weinert, 2001a, p.62), Weinert defines them as "referring to combinations of those

cognitive, motivational, moral, and social skills available to *or potentially learnable by* a person" (2001b, p. 2433).

In summary, differences in the origins and definitions are found while comparing popular and scientific understandings of SEICS and clearing up these differences should set the first step for educational work in this domain.

Possible antecedents of, influences on and outputs of SEICS

Again, the comparison between popular and scientific views on SEICS points out the important question of what exactly and how much of it is learnable by training? To find answers to this question I will try to show possible antecedents of and influences on SEICS by looking at the theories of personality and learning as well as on action regulation in the following sub-chapters.

Psychological theory of personality

The American Psychological Association (APA) defines personality as referring "to individual differences in characteristic patterns of thinking, feeling and behaving" (2016). Looking at this definition, the link between personality and SEICS seems to be essential. Hence, it is likely that previous findings on personality can be transferred to enlighten the topic of SEICS.

Bandura already treated the question of the controversy between situation specific behavior and personality dispositions that would bring people to act consistently over situations in 1979 (Schnitzler, 2017). McAdams and Adler find that „dispositional traits, although likely the most stable of the three levels of personality, are never completely set in stone" (2006, p. 475). So it seems that some aspects (traits) are pretty stable over time, while others are more dynamic, especially during the developmental process toward becoming an adult (Roberts and DelVecchio, 2000), a period in life that is strongly influenced by professional evolution and occupational identification. The following chapter presents a well-established model containing different more or less dynamic levels of personality. This model is similar to the differentiation between intelligence, competences and skills presented in the first article of this thesis.

PRISM

To clarify the nature of the stable and variable elements of personality, Roberts (2006) presents a three-level model called the Personality and Role Identity Structural Model (PRISM, see Figure 1 below). The first level represents „the enduring patterns of thoughts,

feelings, and behaviors that people exhibit“ (Roberts, 2006, p.6). The middle level represents role-identities, so called “context specific dispositions” (Wood and Roberts, 2006) based on „the sets of expectations and demands that define the parts people play in social interactions“ (Wood and Roberts, 2006, p. 780; Schnitzler, 2017). These elements are changeable over time and can strongly vary depending on the context. Still, they are dependent on the first “general identity”-traits-level (Schnitzler, 2017).

Finally, the third level (divided into an aggregated experiences and a single experience level) represents the actual action in the situation. These are highly adaptive but strongly dependent on the role-identities (Schnitzler, 2017).

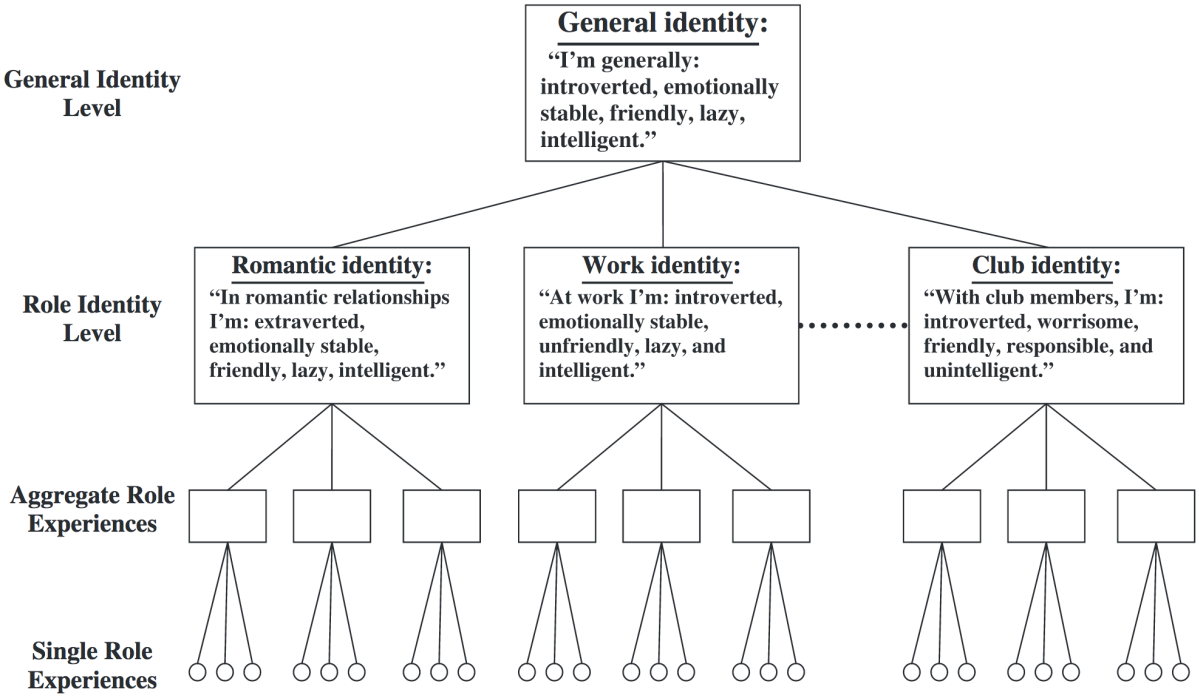

Figure 1: Illustration taken from Wood and Roberts (2006, p. 783): Personality and Role Identity Structural Model (PRISM) (see annexes for permission)

Still, Roberts doesn’t exclude a change of traits (first level): „Over time, with more consistent experiences, a person may internalize and generalize these lower-level attributions into something broader, like a dispositional inference“ (Roberts, 2006, p. 15). An effect that could be compared to the observation that acquiring certain competences can increase success in intelligence tests (Sternberg, 2005). In parallel, the second level and its composition by third level experiences remind of Weinert’s definition of competences being a “combinations of those cognitive, motivational, moral, and social skills available to *or potentially learnable*

by a person" (2001b, p. 2433). Increasingly, the differing dynamic, respectively rigidness, of the three personality levels bring to mind the similar differentiations between the three cognitive levels of intelligence, competences and skills described in the first article. Hence, the popular belief that SEICS have their origins in personality doesn't seem that wrong, at least the two theoretical streams seem to be interdependent. This assumption is intensified by descriptions such as Goleman's (1995), stating that emotional intelligence is composed of human dispositions or illustrations of personality with links to cognitive (not necessarily conscious) theories of action (see first article). Therefore, we can conclude that underlying qualities and behavioral outcomes in social situations arise from the interplay between the three personality levels and the three levels of intelligence, competences and skills.

Considering that at least social-emotional competences and skills are dynamic and thereby changeable and taking into account their strong interdependence with personality, the importance of educational approaches to optimize them becomes obvious. Therefore, classical theories of learning and action regulation and their possible transfer on SEICS are discussed in the following chapters.

Theory of Learning

Definition of learning

„Learning is the process by which a relatively stable modification in stimulus–response relations is developed as a consequence of functional environmental interaction via the senses" (Lachman, 1997). For most of the classical learning topics as e.g. mathematics, the "functional environmental interaction via the senses" generally takes place in educational contexts, like schools. Additionally, there is an objective possibility to determine the correctness of a person's development (e.g. learning that 1+1 will always add up to 2). In comparison to these classical educational contents we now face three important differences or problems concerning SEICS:

From a scientific perspective, we are still developing objectively verifiable possibilities to determine the correctness of a person's (long term-) development in that field (see first paper for intra- and interconceptual confusions).

People with no scientifically trained background often see these scientific determinations as contra-productive on a short-term, since they need more cognitive effort. They seem unnatural (see second article, development of the measurement instrument).

Regarding the learning environment, SEICS are permanently used in a social world and not only in a safe educational context. As a consequence, they can be negatively influenced by the interaction with the environment.

The example of social-emotional versus mathematical intelligence, competences and skills is analyzed in details in the following subsection, making these problems visible.

Social-emotional versus mathematical intelligence, competences and skills

Concerning mathematics, it seems rather clear what the correct answers are. Of course, different strategies can be used in order to solve a given problem, but in the end, an objective statement of one's level is possible and so the direction of the developmental continuum is unambiguous.

On the other hand, the evaluation of the goodness of SEICS outcomes is very controversial. Many of the highly esteemed strategies, as for example the idiom "you've got to know when to put your foot down" could be strongly escalating a conflict situation, even though the situation could have a de-escalation potential by using the right approach from a scientific perspective (only shared by a small group of people). However, as mentioned above, SEICS are permanently used in a social world and not only in an educational context. Thereby they can be negatively impacted by repeated "*dys*functional environmental interaction via the senses" (Lachman, 1997).

Drawing attention to this phenomenon of negative influences should be the first step towards a general recognition of the necessity to integrate SEICS in educational pathways. Concerning the diminution of possible negative influences, one could suggest that once acknowledged and established, SEICS trainings should be of repeated nature, leading to a frequent application of the strategies and thereby reducing cognitive loads in the situation, allowing thinking and acting "fast and slow" (Kahnemann, 2011), as described in the next chapter.

Theory of action

An individual's action in a social context has its basis in the underlying processing of social information that can be more or less demanding (Tschöpe, 2015). Hacker (2003) introduces an action regulation theory decoding these processes into three major levels, so called modes of control. On the first level, action can take place in an automated, unconscious mode of regulation containing implicit automatisms and, if the situation allows, it can be externalized through "prefabricated, motor programs" (p. 108). The second level is

"knowledge-based" (p. 108) and, in part, consciously controlled. It arises in cases in which situational cues are perceived, and externalizes itself through pre-existing action schemes. Finally, the third level is the "strictly conscious intellectual mode" (p. 108) that arises when an intellectual analysis of the situation is necessary and action-based strategies must be found.

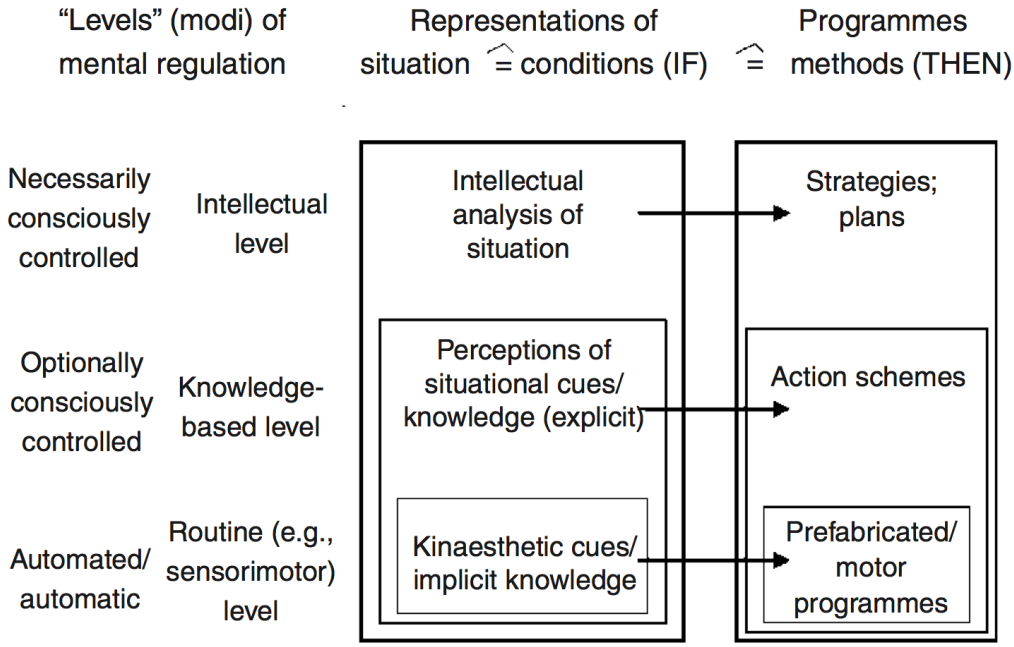

Figure 3: Illustration taken from Hacker (2003, p. 108): "Levels of mental regulation of activities" (for permission see annexes)

In difficult situations, these levels interact (Tschöpe, 2015). "While the intellectual phases secure the reflection on the situation and the adequacy and the effectiveness of one's behavior" (Tschöpe, 2015, p. 100), the knowledge-based processing sequences and routines allow a quick adaptation to the interactional partners' demands (Tschöpe, 2015). Trainings of SEICS should operate on all three levels, giving analyzable information that can be treated on the intellectual level, leading to positive experiences increased by iteration during training situations and thereby transformed into recallable action schemes and finally added up by prefabricated motor programs, such as concrete formulations that, once integrated as automatisms can be used in all situations.

Conclusion and Final Model

In the end, during an interaction we will see an interplay of different behaviors and behavioral reactions to these. In this thesis we discussed SEICS, the personal attributes these actions are based upon.

We started with rather robust fluid social-emotional intelligence, anchoring the acting person and affecting the effect of the more dynamic elements. While fluid social-emotional intelligence is rather invariable, it allows a maximal (cognitive) analysis of the concrete situation.

We then continued by looking at learnable processes, embodied in social-emotional competences that, based on the given robust premises and based on training, can be amended anytime. As a flexible personal feature, they allow a high adaptability of behavioral schemes to concrete situations.

Finally we discussed the application of actual social-emotional skills. While being completely learnable, they are rather inflexible tools that can be integrated to the point of being automatically used (e.g. learning to say “thank you” while growing up). The action-based outcome during an interaction combines the three levels and the resulting experiences significantly contribute to one’s personal development.

This leads us to the following model, integrating all findings of the previous chapters. Motivation has been integrated since it recurrently appears in established definitions of SEICS (e.g. Weinert (2001b), presented above), but will not be discussed.

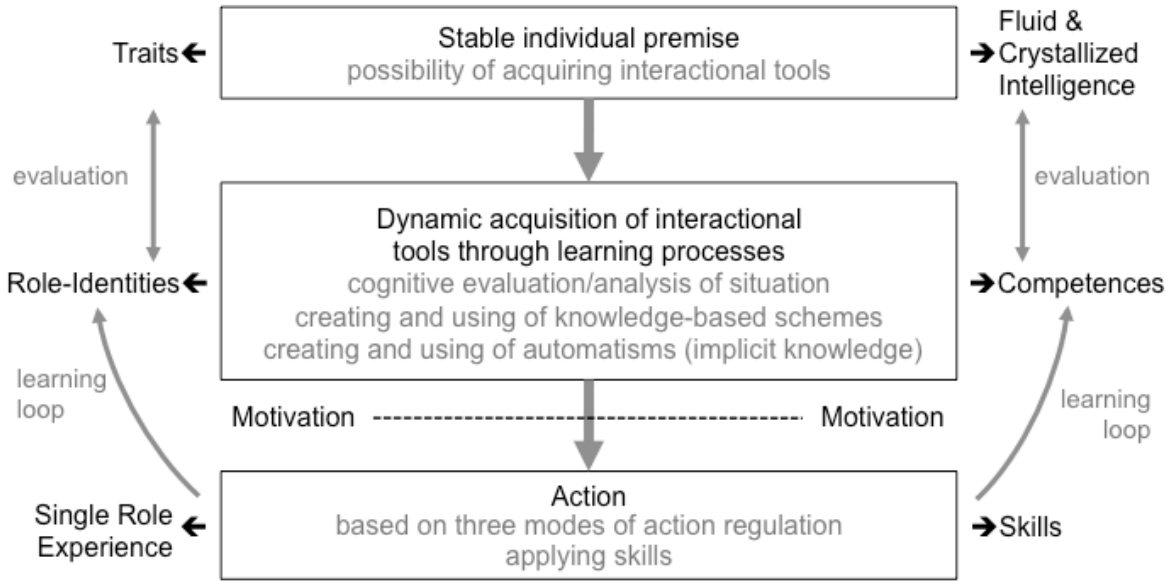

Figure 3: Interaction of personality and social-emotional-cognition in social interactions: generalized process model of social-emotional intelligence, competences and skills

We conclude that the level in which learning efforts have to be fostered is the second one. Clarifying role-identities by making them part of one's implicit knowledge and creating analytical (competences) and applicable (skills) tools will prepare a person to her/his final behavior. This action will be controlled and quickly adapted by the three action regulation modi (Hacker, 2003). The necessary adaptations, their nature and frequency, represent a feedback on one's performance and are an essential part of the learning process. Trying to consciously pay attention to them can accelerate the learning process (Grossberg, 1999). Still, the final model is theoretically derived and mostly based on plausibility assumptions. Therefore, an empirical examination should be done. Quantitative methods should definitely be complemented by qualitative analyses to "carve out" underlying structures, as proposed in the conclusions of the third article.

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Annexes

Transition from the synthesis-chapter to the annexed fourth paper

4th Paper: Modellierung, Messung und Förderung sozial-kommunikativer Kompetenzen von Medizinischen Fachangestellten in der Ausbildung: Ableitungen aus dem Projekt CoSMed

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Transition from the synthesis-chapter to the annexed fourth paper

The previous synthesis-chapter shows that SEICS are partly constituted by dynamic elements that can be improved by training. Still, there are only a few examples in the educational field. In the last and annexed paper, we discuss which trainings exist and how further ones could be designed, by using the three dimensions of SEICS elaborated in the second article.

4th Paper: Modellierung, Messung und Förderung sozial-kommunikativer Kompetenzen von Medizinischen Fachangestellten in der Ausbildung: Ableitungen aus dem Projekt CoSMed

Reference

Tschöpe, T., & Monnier, M. (2016). Modellierung, Messung und Förderung sozial-kommunikativer Kompetenzen von Medizinischen Fachangestellten in der Ausbildung: Ableitungen aus dem Projekt CoSMed. *Zeitschrift für Berufs-und Wirtschaftspädagogik, 112*(4), 525-554.

Keywords

Social Competences, Vocational Education and Training, Medical Setting, Communication, Perspective-Coordination, Emotion Regulation

Abstract

Für viele Tätigkeitsfelder ist die Bedeutung sozialer Kompetenzen für die Bewältigung der beruflichen Anforderungen unumstritten. Zugleich bestehen zu diesem Thema viele offene und zum Teil ganz elementare Fragen. So ist bei genauerer Betrachtung keineswegs klar, was unter sozialen Kompetenzen zu verstehen ist, wie man sie messen kann und wie eine gezielte Förderung aussehen kann.

Im Projekt CoSMed wurde ein berufsspezifischer Ansatz verfolgt, der auf einem Verständnis von Kompetenzen als kontextspezifischen Leistungsdispositionen beruht. Der Beitrag zeigt auf, wie im Projekt CoSMed berufsspezifisch soziale Kompetenzen von Medizinischen Fachangestellten definiert, modelliert und gemessen wurden. Anschließend werden bestehende Ansätze zur Förderung der drei zentralen Dimensionen des CoSMed-Kompetenzmodells – Emotionsregulation, Perspektivenkoordination und Kommunikationsstrategien – vorgestellt. Überlegungen zur Übertragung dieser Ansätze in einen berufsspezifischen Förderansatz für soziale Kompetenzen unter Verwendung von Videosequenzen kritischer sozialer Interaktionen schließen den Beitrag ab.

Modellierung, Messung und Förderung sozialer Kompetenzen in der beruflichen Bildung

Soziale Kompetenzen spielen in Berufen mit interaktiven Anforderungen eine unumstrittene Rolle, allerdings sind sie im Bereich der Kompetenzforschung und -diagnostik bislang kaum erschlossen. Bereits 1995 benannte Seyfried Stolpersteine auf dem Weg zur Modellierung und Messung sozialer Kompetenzen, von denen viele bis heute nicht aus dem Weg geräumt wurden (vgl. hierzu ausführlicher Dietzen, Monnier, Srbeny, Tschöpe und Kleinhans, im Druck). Fragen nach konsensfähigen Definitionen, geeigneten Messverfahren und nach den Entwicklungsbedingungen und Fördermöglichkeiten sozialer Kompetenzen sind auch 20 Jahre später nicht befriedigend beantwortet. Vielmehr ranken sich weiterhin viele Mythen um das Konstrukt der sozialen Kompetenzen und viele Arbeiten basieren vorrangig auf Plausibilitätsüberlegungen (Kanning, 2005). Auch in der Berufsbildungsforschung wird die unklare Begrifflichkeit und teilweise Beliebigkeit der Verwendung des Konzepts der sozialen Kompetenzen kritisiert (Euler und Bauer-Klebl, 2008; Euler, 2012). Auf der anderen Seite entwickelten sich in den letzten Jahren vermehrt Versuche konzeptioneller Klärungen und empirischer Zugänge zum Gegenstandsbereich. Beispielsweise erarbeitete Hacker (2009) in Anlehnung an seine Arbeiten zur

Handlungsregulation in monologischen Tätigkeiten detaillierte Analysen zu den Tätigkeitsanforderungen in dialogisch-interaktiven Tätigkeiten. Auch im Bereich der empirischen Bildungsforschung fokussieren erste Projekte soziale Kompetenzen für einzelne Berufe und entwickeln hierbei ein aufeinander abgestimmtes Vorgehen der Modellierung, Messung und Förderung sozialer Kompetenzen. Beispielhaft seien die Arbeiten von Gartmeier, Bauer, Fischer, Karsten und Prenzel (2011) genannt, die Gesprächsführungskompetenzen von angehenden Lehrerinnen und Lehrern sowie Ärztinnen und Ärzten untersuchen. Weitere berufsspezifische Arbeiten liegen für Lehrerinnen und Lehrer (Bruder, Klug, Hertel und Schmitz, 2010; Bruder, Keller, Klug und Schmitz, 2011). Studierende der Wirtschaftswissenschaften (Braun, Athanassiou, Gockel und Pollerhof, 2016) AltenpflegerInnen (Döring et al., 2016) Medizinische Fachangestellte (Dietzen, Tschöpe, Monnier und Srbeny, 2016) sowie für Bankkaufleute (Tschöpe, 2015) vor.

Ziel des vorliegenden Beitrags ist die Entwicklung von Ideen zur Förderung sozialer Kompetenzen von Medizinischen Fachangestellten auf Basis des Kompetenzmodells und des Testinstruments aus dem Projekt CoSmed. Im Folgenden werden deshalb zunächst die Ansätze des Projekts CoSMed zur Modellierung und Messung sozialer Kompetenzen überblicksartig dargestellt. Für detaillierte Darstellungen des methodischen Vorgehens, des Kompetenzmodells, des Testinstruments und der Ergebnisse der Kompetenzmessungen sei auf Dietzen et al. (2015; 2016) verwiesen. Anschließend werden vorhandene Programme und Trainings zur Förderung sozialer Kompetenzen beschrieben, die sich auf die drei zentralen Kompetenzdimensionen des Modells sozial-kommunikativer Kompetenzen aus CoSMed beziehen: auf die Förderung von Emotionsregulation, Perspektivenkoordination und Kommunikationsstrategien. Abschließend werden Überlegungen zur Übertragbarkeit dieser Ansätze in die Ausbildung Medizinischer Fachangestellter angestellt. Zunächst erfolgt jedoch eine Darstellung des grundlegenden Kompetenzverständnisses des Projekts CoSMed.

Verständnis sozialer Kompetenzen im Projekt CoSMed

Begriffliche Uneinigkeiten und Unschärfen betreffen nicht erst das Konstrukt der sozialen Kompetenzen, sondern setzen bereits beim Begriff Kompetenz an. So existieren in Abhängigkeit vom Fokus der Betrachtung und vom disziplinären Zugang unterschiedliche Vorstellungen über die Enge oder Weite des Begriffs (Kanning, 2003; Nangle, Hansen, Erdley und Norton, 2010). Den Studien der empirischen Bildungsforschung wurde aus forschungspragmatischen Überlegungen bereits von Beginn an ein enges Kompetenzverständnis zugrunde gelegt, welches Kompetenzen als kognitive

Leistungsdispositionen betrachtet und dabei Motivationen und Volitionen ausschließt (Hartig, 2008; Klieme und Hartig, 2007). Kompetenzen werden demnach als funktional bestimmte, auf Klassen von Situationen und Anforderungen bezogene kognitive Leistungsdispositionen verstanden, die sich psychologisch als Kenntnisse, Fertigkeiten, Strategien, Routinen oder auch als bereichsspezifische Fähigkeiten beschreiben lassen (Klieme, 2004).

In der Berufsbildung gilt hingegen das umfassende Konstrukt der beruflichen Handlungskompetenz als Bezugspunkt. Es integriert fachliche, soziale, personale und methodische Aspekte von Kompetenz und betrachtet zugleich Einstellungen, Werte und Motivationen als inhärente Bestandteile des Konstrukts. Mit der berechtigten Wertschätzung dieses umfassenden Zielkonstrukts beruflicher Bildung als Mittel der Persönlichkeitsentwicklung junger Menschen wurde zum Teil zugleich die Forderung verbunden, dieses Konstrukt auch allen Kompetenzmessungen in der Berufsbildung zugrunde zu legen. Diese Forderung ist insofern problematisch, als eine valide Messung eines derart umfassenden und zugleich vagen Konstrukts zum aktuellen Zeitpunkt als unrealistisch bezeichnet werden muss (Nickolaus, 2013) sowie Troitschanskaia und Seidel (2011) kommen entsprechend zu dem Ergebnis, dass Modellierungen, die sich an diesem weiten Kompetenzverständnis orientieren, für eine Operationalisierung und somit für einen empirischen Zugang untauglich sind.

Im Projekt CoSMed wurde ein Mittelweg beschritten, der ausgehend vom Kompetenzverständnis der empirischen Bildungsforschung eine sukzessive Annäherung an das Konstrukt der beruflichen Handlungskompetenz intendiert: Das Kompetenzverständnis der empirischen Bildungsforschung wird auch auf soziale Kompetenzen übertragen und somit ein weiterer zentraler Kompetenzbereich der beruflichen Handlungskompetenz empirisch zugänglich macht. Bereits in der Machbarkeitsstudie für ein Berufsbildungs-PISA (Baethge et al., 2006) wurde zusätzlich zur berufsspezifischen Erfassung fachlicher Kompetenzen eine ergänzende Erhebung von Daten zu sozialen Kompetenzen, Motivation, Einstellung und Werten nach dem Vorbild der großen Large Scale Assessments in der allgemeinen Bildung (PISA) vorgeschlagen. Soziale Kompetenzen wurden in diesen Ansätzen jedoch als generische Merkmale verstanden, die berufsübergreifend mit denselben Instrumenten zu erheben seien (Baumert, Stanat und Demmrich, 2001). Bei Übertragung der Merkmale des Kompetenzbegriffs auf soziale Kompetenzen wird jedoch deutlich, dass auch diese domänen- bzw. berufsspezifische Dispositionen darstellen. In Abhängigkeit von den auszuübenden Tätigkeiten, den Interaktionspartnern sowie von den Rahmenbedingungen, Normen und Werten in den verschiedenen beruflichen Kontexten können Anforderungen im sozial-

kommunikativen Bereich erheblich differieren. Um sicherzustellen, dass mit sozialen Kompetenzen tatsächlich erlernbare sozial-kognitive Leistungsdispositionen und nicht etwa die ihren Erwerb begünstigen Persönlichkeitsmerkmale verstanden werden, müssen Modelle sozialer Kompetenzen deshalb ebenso aus umfangreichen Anforderungsanalysen abgeleitet werden wie Modelle fachlicher Kompetenzen. Eine Definition, die diese Vorstellung zum Ausdruck bringt, stammt von Silbereisen (1995), der unter Sozialkompetenz „das Insgesamt an sozialen Kognitionen..." versteht „…, das die Bewältigung von Anforderungen der Interaktion von Menschen in spezifischen Kontexten erleichtert". Aus diesen Überlegungen leitet sich die diesem Beitrag zugrundeliegende Definition sozialer Kompetenzen als erlernbaren und kontextspezifischen sozial- und emotional-kognitiven Leistungsdispositionen ab, die sozial kompetentes Verhalten ermöglichen. Gegenstand der Modellierung, Messung und Förderung sind demnach in erster Linie soziale Kompetenzen nach diesem Verständnis. Sozial kompetentes Verhalten kann in diesem Zusammenhang als ein – jedoch nicht als einziger - Indikator der Dispositionen betrachtet werden, da nicht alle sozial- und emotional-kognitiven Dispositionen der direkten Beobachtung in Verhalten zugänglich sind.

Inhaltlich schließen sich die Vorstellungen von sozialen Kompetenzen im Projekt CoSMed der Definition von Kanning (2005) an, der unter sozialer Kompetenz die „Gesamtheit des Wissens, der Fähigkeiten und Fertigkeiten einer Person, welche die Qualität eigenen Sozialverhaltens - im Sinne der Definition sozial kompetenten Verhaltens - fördert." (ebd., S. 155). Unter sozial kompetentem Verhalten versteht er das „Verhalten einer Person, das in einer spezifischen Situation dazu beiträgt, die eigenen Ziele zu verwirklichen, wobei gleichzeitig die soziale Akzeptanz des Verhaltens gewahrt wird." (ebd., S. 155). Die Frage, welches Verhalten dies innerhalb eines umschriebenen Kontextes konkret ist und somit die Frage nach der konkreten inhaltlichen Ausdifferenzierung sozialer Kompetenzen für diesen Kontext, kann durch eine Domänen- oder Anforderungsanalyse beantwortet werden, die die zu bewältigenden Anforderungen im sozial-kommunikativen Bereich und die Rahmenbedingungen ihrer Bewältigung offenlegt. Im Projekt CoSMed wurde zur Eingrenzung des Kontexts ein berufsspezifischer Zugang gewählt.

Modellierung sozialer Kompetenzen im Projekt CoSMed

Grundlage der Modellierung der sozial-kommunikativen Kompetenzen Medizinischer Fachangestellter im Projekt CoSMed war eine ausführliche Anforderungsanalyse, in deren Rahmen einerseits Dokumente analysiert (z.B. Ausbildungsverordnung, Ausbildungsrahmenpläne, Rahmenlehrpläne und Prüfungsaufgaben sowie Ausbildungsmaterial) und andererseits Befragungen von Praxisexpertinnen, -en

(Gruppendiskusssionen mit Praxisexperten und Auszubildenden zur MFA im dritten Ausbildungsjahr sowie 13 halbstandardisierte Einzelinterviews mit Ärztinnen und Ärzten, berufserfahrenen MFA und Auszubildenden) durchgeführt wurden. Ergänzend fand eine Auswertung von 1800 Stellenanzeigen der Bundesagentur für Arbeit statt.

Die empirischen Befunde wurden durch theoriegeleitete Arbeiten ergänzt, um so die für die Bewältigung der ermittelten Anforderungen notwendigen sozialen Kompetenzdimensionen ableiten und in ein Model überführen zu können. Bezugsdisziplinen für die Systematisierung der Anforderungen waren hierbei vorrangig die Kognitions-, Entwicklungs-, Sozial- und Arbeits- und Organisationspsychologie, die Pädagogik sowie die Sprach- und Kommunikationswissenschaften. Das im Projekt CoSMed auf diesem Weg generierte Modell sozial-kommunikativer Kompetenzen Medizinischer Fachangestellter ist in Abbildung 1 dargestellt.

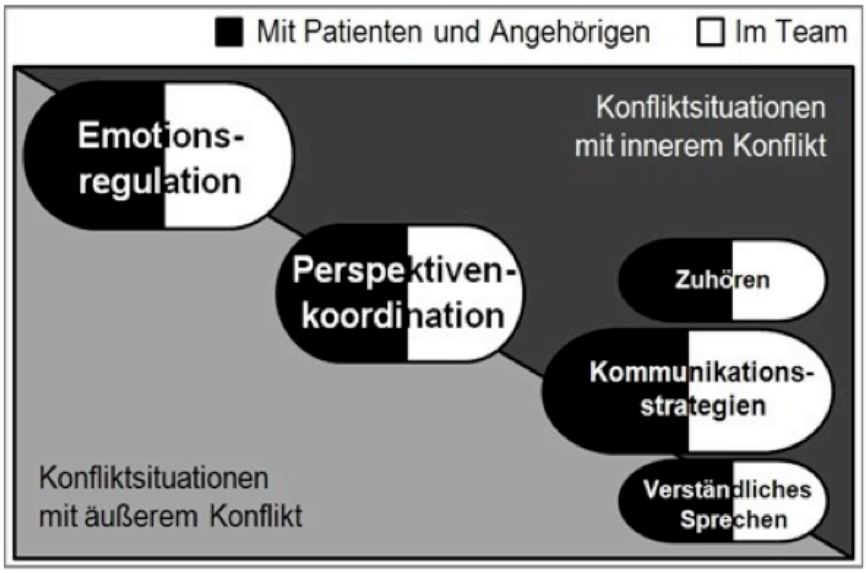

Abb. 1: Modell sozial-kommunikativer Kompetenzen Medizinischer Fachangestellter im Projekt CoSMed

Das Modell unterscheidet die drei zentralen Kompetenzdimensionen Emotionsregulation, Perspektivenkoordination und Kommunikationsstrategien. Als erste zentrale Kompetenzdimension einer MFA wurde die Emotionsregulation modelliert. Sie wurde im Projekt CoSMed als die Fähigkeit definiert, auch in schwierigen sozialen Situationen die eigenen Emotionen innerlich zu kontrollieren und dabei nach außen angemessen reagieren zu können. In die Definition flossen insbesondere theoretische

Überlegungen von Gross (2009) zu verschiedenen Strategien der Emotionsregulation ein. Diese umfassen beispielsweise „acting out“ (ungefiltertes Ausdrücken der Emotionen nach außen), „inhibition of emotion expression“ (oberflächliches Unterdrücken der eigenen Emotionen) oder „situation modification“ (eigene Emotionen werden tiefgehend verändert, in dem man die auslösende Situation modifiziert). Auch Erkenntnisse Hochschild (1983) sowie Giardini und Frese (2006) zu den Effekten einer oberfächlichen vs. tiefen Regulation („surface acting“ vs. „deep acting“) zum Erzeugen eines erwünschten Ausdrucks nach außen ein fanden Berücksichtigung. Darüber hinaus liegen weitere Studien zu den Auswirkungen verschiedener Stile der Emotionsregulation in Dienstleistungsberufen vor (vgl. hierzu z.B. Zapf und Holz, 2006; Nerdinger, 2011). Zur Operationalisierung der Emotionsregulation in CoSMed wurden Strategien selektiert, die im Beruf der MFA anwendbar, realistisch und wünschenswert sind, und diese in ein Kontinuum von „überangepasst“ über „in Balance reguliert“ bis „impulsiv“ eingeordnet. Der Einsatz von Strategien, die auf eine tatsächliche Veränderung der inneren Gefühlslage abzielen, somit die Dissonanz reduzieren und dabei weder zu impulsiv noch zu überangepasst sind, wurden als besonders kompetent eingestuft, das Unterdrücken oder ungefilterte Ausleben der Emotionen als wenig kompetent.

Theoretische Grundlage der zweiten Kompetenzdimension Perspektivenkoordination sind vorrangig die Arbeiten von Selman (2003) und die deutschen Adaptationen von Mischo (2003, 2004), die aufbauend auf den Arbeiten von Piaget (2003) und Kohlberg (1971) ein entwicklungspsychologisches Modell der Perspektivenkoordination und –übernahme entwickelten. Nach Selman (2003) entwickelt sich in fünf festgeschriebenen Stufen sukzessive die Fähigkeit, bei der Betrachtung von Sachverhalten und Situationen zunehmend mehr und differenziertere Perspektiven wahrnehmen und berücksichtigen zu können. Selmans Modell Im Projekt CoSMed wurde dieses Konzept für die MFA adaptiert und als Fähigkeit definiert, auch in schwierigen sozialen Situationen die Perspektive, Emotionen und Bedürfnisse des Gegenübers nachvollziehen, dabei die eigene Perspektive bzw. die Anforderungen der Praxis im Blick behalten und beide Seiten möglichst konstruktiv in Beziehung zueinander setzen zu können.

Als dritte zentrale Kompetenz fließen Kommunikationsstrategien in das Modell ein. Kompetente Kommunikationsstrategien wurden in CoSMed als die Fähigkeit definiert, auch in schwierigen Gesprächssituationen die Kommunikation auf eine für beide Seiten gute Lösung hinsteuern zu können und dem Gegenüber das zu Gefühl geben, ernst genommen und verstanden zu werden. Die theoretische Fundierung dieser Kompetenzdimension beruht u.a. auf den Kommunikationstheorien von Watzlawick, Beavin und Jackson (1969), Schulz von

Thun (2004) sowie der gewaltfreien Kommunikation nach Rosenberg (2006) Berücksichtigt werden sowohl inhaltliche als auch metakommunikative Aspekte, beispielsweise ob sachliche Erklärungen gegeben werden, Äußerungen nicht persönlich und zum Anlass für Rechtfertigungen genommen werden oder ob und in welcher Weise Konflikte angesprochen werden. Die beiden Subdimensionen des Zuhörens und des verständlichen Sprechens wurden zwar ebenfalls als bedeutsame sozial-kommunikative Kompetenzen einer MFA identifiziert, aufgrund fehlender Operationalisierungsmöglichkeiten in einem schriftlichen Testformat jedoch nicht in den Test aufgenommen.

Das Modell der sozial-kommunikativen Kompetenzen von medizinischen Fachangestellten differenziert außer den Kompetenzdimensionen verschiedene Situationstypen. Die diagonale Linie quer durch das Modell trennt Situationen mit inneren und äußeren Konflikten in Anlehnung an Theuerkauf (2005). Äußere Konflikte beschreiben Situationen, in denen eine tatsächliche Auseinandersetzung mit einer anderen Person besteht, z.B. die Beschwerde eines Patienten. Innere Konflikte dagegen beschreiben Situationen, in denen verschiedene innere Anforderungen miteinander im Konflikt stehen, beispielsweise die Anforderung, sich einem Patienten zu widmen bei gleichzeitigem Zeitdruck. Zusätzlich werden Situationen im Umgang mit Patienten und Angehörige einerseits und mit Teammitgliedern andererseits unterschieden (dargestellt durch die weißen und schwarzen Anteile der Kompetenzdimensionen). Annahmen zu unterschiedlichen Rollenanforderungen in den jeweiligen Interaktionen (Quelle) waren für diese Unterscheidung maßgeblich.

Messung sozialer Kompetenzen im Projekt CoSMed

Im Rahmen der Anforderungsanalyse im Projekt CoSMed wurde sowohl in den Workshops als auch in den Einzelinterviews u.a. auch die Critical Incident Technique (Flanagan, 1954) eingesetzt, um für soziale Interaktionen erfolgskritische Situationen zu ermitteln, die im beruflichen Alltag von MFA auftreten. Insgesamt wurden auf diesem Weg 78 Situationen gesammelt, zu deren Bewältigung sozial-kommunikative Kompetenzen erforderlich sind. Diese Situationen bildeten anschließend das Material zur Konstruktion des Testverfahrens.

Um den beruflichen Alltag möglichst authentisch abzubilden, wurde der Test als simulationsorientierter Situational Judgment Tests (SJT; Lievens und Chan, 2010; Kanning und Schuler, 2014) konstruiert. SJT wurden in den letzten Jahren zur Messung sozialer und emotionaler Kompetenzen als Methode (wieder) entdeckt und für die Modellierung berufsbezogener sozialer Kompetenzen als sehr geeignet eingeschätzt.

Der SJT zur Messung sozialer Kompetenzen in CoSMed besteht aus einer filmischen Einführung in eine fiktive Arztpraxis, auf die zwölf Videosequenzen mit kritischen sozialen Interaktionen folgen. Jeder der zwölf Blöcke startet mit einer kurzen textbasierten Einführung. Der Einführungstext in Block 1 lautet beispielsweise: „Es ist ein Notfallpatient in die Praxis gekommen. Er wurde den anderen Patienten vorgezogen." Im Anschluss sehen die Teilnehmenden ein Video, in dem die jeweiligen Interaktionspartner direkt in die Kamera sprechen. Durch die Ich-Perspektive soll ein noch realistischerer Eindruck erzeugt, Identifikationseffekte verringert und die emotionale Involviertheit erhöht werden. Abbildung 2 zeigt beispielhaft eine Szene aus dem Testverfahren.

Abb. 2: Szenenauszug aus dem Testverfahren zur Messung sozialer Kompetenzen

Die zwölf Szenen wurden so ausgewählt, dass Patientensituationen sowohl am Empfang als auch im Behandlungszimmer mit ihren jeweils eigenen Anforderungen enthalten sind. Die Teamsituationen finden z.B. im Pausenraum oder auf dem Flur statt. Darüber hinaus behandeln sechs Szenen äußere und sechs Szenen innere Konflikte. Nach jedem Video werden den Testteilnehmenden Fragen gestellt, welche die zentralen Kompetenzdimensionen messen. Um den Anforderungen der jeweiligen Dimensionen gerecht zu werden, wurden verschiedene Antwortformate in Pilotierungen des Tests erprobt. In der endgültigen Version kommen textbasierte Fragen mit offenen Antworten und mit Antworten im Multiple-Choice-Format sowie bilderbasierte Antworten zum Einsatz. Die Auswertungskriterien aller Kompetenzdimensionen basieren auf den Theorien, die den jeweiligen Dimensionen zugrunde liegen (vgl. hierzu den vorherigen Abschnitt).

Im Anschluss an zwei Pilotierungen des Testverfahrens mit insgesamt N= 496 Auszubildenden, in denen die inhaltliche Validität durch weitere Expertenbefragungen sowie die statistichen Gütekriterien überprüft wurden, kam der Test in einer Haupterhebung mit N= 405 Auszubildenden zum Einsatz. Die postulierte dreidimensionale Struktur des Kompetenzmodells konnte in einer konfirmatorischen Faktorenanalysen (X2 = 636.658, df = 554, CFI = .96, RMSEA = .02 und SRMR = .07) bestätigt werden. Das Modell ist in Abbildung 3 dargestellt.

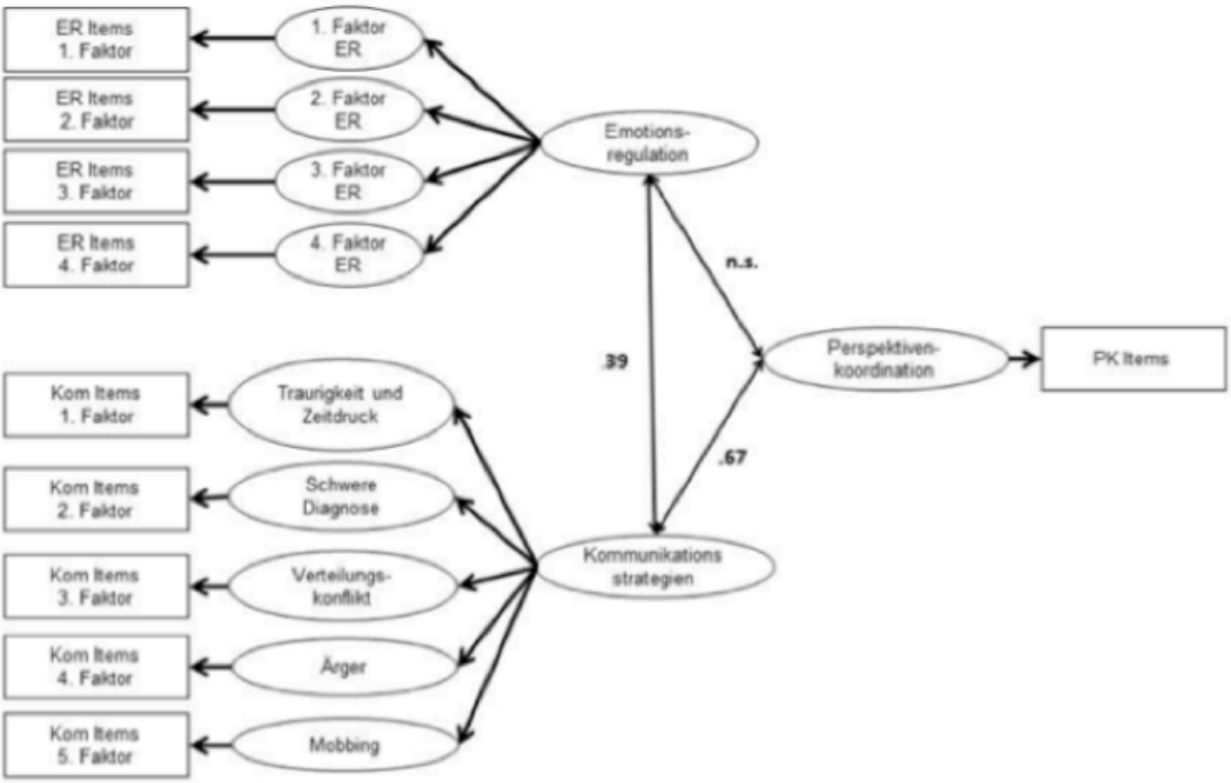

Abb. 3: CFA des Modells der sozial-kommunikativen Kompetenzen von MFA

Die Ergebnisse der Testung zeigen, dass die Leistungsunterschiede zwischen den Teilnehmenden erheblich sind und zum Teil auch substanzielle Defizite in den drei Kompetenzbereichen bestehen. Beispielsweise zeigte sich, dass in fast allen Situationen ein signifikanter Unterschied zwischen der Stärke der gefühlten und der gezeigten Emotionen, eine sogenannte emotionale Dissonanz, bestand. Zur Überbrückung dieser Dissonanz überspielte der überwiegende Teil der Auszubildenden ihr wahres Gefühl, und betrieb somit sogenanntes „surface acting“ (Hochschild, 1983). Eine Strategie, bei der die emotionale Dissonanz durch eine bewusste Umbewertung und Neudeutung der Situation reduziert wird

und die im Modell wegen positiver Effekte für den Regulierenden und seinen Interaktionspartner als kompetenter eingestuft ist, wurde in der Stichprobe etwa fünfmal seltener gewählt als das Überspielen.

Auch bei der Perspektivenkoordination zeigen sich Entwicklungsmöglichkeiten der Auszubildenden. Zwar schafft es etwa ein Drittel der Auszubildenden, sogar in einer schwierigen Situation nicht nur die Perspektive einer einzelnen beteiligten Personen (z.B. die eigene), sondern die Perspektive aller Beteiligten wahrzunehmen und dabei mindestens eine der Perspektiven tiefgründig zu analysieren. Umgekehrt bleiben etwa zwei Drittel, denen dies nicht gelingt. Es zeigte sich, dass die Stärke des eigenen Gefühls diese Leistung etwas verringern kann, was die Wichtigkeit eines guten Umgangs mit der eigenen Emotionalität einmal mehr verdeutlicht.

Bezüglich der Kompetenzdimension der Kommunikationsstrategien scheinen zwischen den Teilnehmenden beim Tonfall nahezu keine Unterschiede zu bestehen. Die Teilnehmenden bringen ihre Äußerungen nahezu alle in einem freundlichen Tonfall vor. Unterschiede finden sich jedoch beispielsweise, wenn es um die Kommunikation von authentisch wirkendem Zuspruch in eigenen Worten im Vergleich zum Benutzen von üblichen „Floskeln“ geht. Auch das Mitteilen von handlungsrelevanten Informationen gelingt den Auszubildenden unterschiedlich gut.

Insgesamt zeigen die Testergebnisse, dass bei allen drei Kompetenzdimensionen bei vielen Auszubildenden noch Entwicklungsbedarf besteht. Zugleich sind systematische Förderungen dieser Kompetenzen bislang nicht Gegenstand der Ausbildung. Im Folgenden werden deshalb Ansätze gesichtet, in denen eine gezielte Förderung der drei Kompetenzdimensionen Emotionsregulation, Perspektivenkoordination und Kommunikationsstrategien stattfindet.

Förderung sozialer Kompetenzen

Ganzheitliche Zielformulierungen für Bildungsgänge im allgemeinschulischen und im berufsbildenden Bereich betonen die Bedeutung von Kompetenzen, die über fachliches Wissen und dessen Anwendungsfähigkeit hinausgehen. Brohm (2009) zeigt auf, dass entsprechende Zielformulierungen in bildungsrelevanten Papieren auf sämtlichen politischen Ebenen verankert sind, angefangen bereits beim 26. Artikel der UN Menschenrechtskonvention (Generalversammlung der Vereinten Nationen 1948), in dem u.a. Persönlichkeitsentfaltung und Erziehung zu Verständnis und Toleranz als Ziele von Bildung benannt werden. Auch auf nationaler Ebene enthalten die Schulgesetze der Länder ebenso

wie die Ordnungsmittel der beruflichen Bildung Erziehungs- und Bildungsziele, die eine Entfaltung der Persönlichkeit anstreben und dabei neben fachlichen auch soziale, emotionale, moralische und motivationale Facetten menschlicher Entwicklung umfassen.

Bei der Umsetzung von Bildungszielen in konkrete Lerninhalte spielen nicht fachbezogene Inhalte in Deutschland jedoch häufig eine deutlich untergeordnete Rolle. Die nationalen Bildungsstandards in Deutschland sehen kein eigenes Curriculum für soziale Kompetenzen vor. Sozialkompetenzbezogene Ziele sind jedoch zum Teil in die jeweiligen Fachcurricula integriert. Am ehesten ist dies im Fach Deutsch der Fall, dessen Curriculum einige diesbezügliche Zielformulierungen enthält (Brohm, 2009, S. 202). Beispielsweise sollen die Schülerinnen und Schüler lernen, sich konstruktiv an einem Gespräch zu beteiligen, Gesprächsregeln einzuhalten und verstehend zuzuhören (Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen, 2007). Brohm (2009) kommt zu dem Schluss, dass jedoch auch im Fach Deutsch keine gezielte Förderung sozialer Kompetenzen vorgesehen ist, sondern davon ausgegangen wird, dass die Beschäftigung mit fachlichen Inhalten und die Förderung sprachlicher Kompetenzen in diesem Fach dazu führen, dass soziale Kompetenzen nebenbei bzw. „von sich aus“ (ebd. S.203) gefördert werden.

Auch in der beruflichen Bildung, die mit dem Konstrukt der beruflichen Handlungskompetenz ein sehr umfassendes Bildungsziel verfolgt, klafft eine Lücke zwischen diesem Ziel und dem, was tatsächlich in Schulen und Betrieben vermittelt wird. Für den Beruf der Medizinischen Fachangestellten umfassen die schulischen Curricula in den Lernfeldern zwar zum Teil auch sozial-kommunikative Inhalte, faktisch werden diese jedoch ebenfalls nur sehr selten explizit thematisiert und gelehrt. Die Anforderungsanalyse des Projekts CoSMed ergab, dass in den untersuchten Schulen nur wenig Lernzeit für die Vermittlung sozial-kommunikativer Inhalte zur Verfügung gestellt wird. Am häufigsten werden einige Schulstunden auf die Vermittlung von Kommunikationstheorien verwendet, beispielsweise das Kommunikationsquadrat von Schulz von Thun (2004), deutlich seltener Rollenspiele zu schwierigen Interaktionssituationen durchgeführt. Auch in den Ausbildungsbetrieben für Medizinische Fachangestellte werden sozial-kommunikative Kompetenzen selten aktiv gefördert. Im Idealfall finden die Auszubildenden in den erfahrenen Kolleginnen Vorbilder für die Bewältigung schwieriger Interaktionssituationen. Da auch diese zumeist nicht systematisch im Bereich sozial-kommunikativer Kompetenzen ausgebildet wurden, ist das Risiko einer Weitergabe maladaptiver Verhaltensweisen hoch. Zudem sind insbesondere die sozial- und emotional-kognitiven Facetten der Emotionsregulation und der Perspektivenkoordination von außen kaum bis nicht zu

beobachten. Die Lerngelegenheiten für Auszubildende im Bereich sozial-kommunikativer Kompetenzen in der Ausbildung zur Medizinischen Fachangestellten sind demnach rar.

Die in Deutschland bislang auf den Bereich der beruflichen und hochschulischen Bildung entwickelten Ansätze zur Förderung sozial-kommunikativer Kompetenzen konzentrieren sich bislang stark auf kommunikative Aspekte und setzen auf der Verhaltenseben an. Für die Förderung der Dimension „Kommunikationsstrategien" des Kompetenzmodells für medizinische Fachangestellte bieten diese Ansätze eine Reihe von Anregungen, wie basierend auf Kommunikationstheorien und mit Rollenspielen das sozial-kommunikative Verhaltenspotenzial medizinischer Fachangestellter erweitert werden kann. Programme, in denen behaviorale mit sozial- bzw. emotional-kognitiven Elementen kombiniert werden, existieren hingegen bislang nicht. Insbesondere bei den ersten beiden Kompetenzdimensionen handelt es sich jedoch vorrangig um innerliche Dispositionen, die im Kontext sozialer Interaktionen handlungswirksam werden, dabei jedoch ohne zusätzliche introspektive Methoden nicht eindeutig zu diagnostizieren sind. Geringe Kompetenzausprägungen in diesen Bereichen können sich trotz hervorragend geschulter Kommunikationsstrategien („Wie sage ich was am besten?") sowohl in kurzfristigen Irritationen in der Interaktion als auch in langfristigen negativen Folgen bemerkbar machen. So zeigen Studien beispielsweise, dass oberflächlich regulierte Emotionen vom Gesprächspartner als weniger authentisch erlebt werden und darüber hinaus bei beiden Gesprächspartnern zu einem erhöhten Stresslevel führen (Butler, Egloff, Wilhelm, Smith, Erickson und Gross, 2003). Langfristig geht mit oberflächlichen Regulationsstrategien darüber hinaus ein erhöhtes Burnout-Risiko einher (Nerdinger, 2003). Für eine umfassende Förderung sozialer Kompetenzen von medizinischen Fachangestellten stützten diese Beispiele die Schlussfolgerung, dass sie sich nicht auf Verhaltenstrainings und Kommunikationsübungen beschränken sollte, sondern darüber hinaus gezielt die internen sozial- und emotional-kognitiven Dispositionen adressieren sollte.

Im Folgenden wird der Forschungsstand zur Förderung sozialer Kompetenzen zunächst getrennt nach den drei Dimensionen Emotionsregulation, Perspektivenkoordination und Kommunikationsstrategien dargestellt. Da in der beruflichen Bildung und auch in der allgemeinen und hochschulischen Bildung zumeist nur wenige Ansätze existieren, werden ergänzend Maßnahmen aus dem klinischen Bereich gesichtet. Anschließend werden Ansätze vorgestellt, die in einem pädagogischen Kontext entwickelt wurden und die Förderung mehrerer Kompetenzdimensionen integrieren.

Förderung der Kompetenzdimension „Emotionsregulation“

Glasenapp (2013) schreibt Emotionen eine koordinierende Funktion an der Schnittstelle psychischer, körperlicher und sozialer Prozesse zu und konstatiert, dass sie in zwischenmenschlichen Begegnungen allgegenwärtig sind (ebd., S. 92). Emotionale Prozesse laufen jedoch häufig weitgehend unbewusst ab, was bei automatisiertem maladaptivem Umgang vielfältige negativen Folgen nach sich ziehen kann. Unter Emotionsregulation im engeren Sinne kann nach Gross (2009) die Beeinflussung einer Emotionssequenz von der emotionsauslösenden Situation bis zur emotionalen Reaktion verstanden werden.

Studien belegen den positiven Zusammenhang zwischen der Fähigkeit zum Umgang mit Emotionen und Facetten der Bewältigung von Lebensanforderungen (Glasenapp, 2013, S. 49). Auch Barnow (2014) fasst die Studienlage so zusammen, dass diese Fähigkeit positiv mit Lebenszufriedenheit und Erfolg assoziiert ist und vor Burnout, Depression und Angst schützt. Otto (2008) fasste unter emotionaler Kompetenz die Aufmerksamkeit auf Emotionen, die Klarheit von Emotionen und die Beeinflussbarkeit von Emotionen zusammen und konnte für dieses Konstrukt Zusammenhänge mit förderlichem Problemlöseverhalten in komplexen Situationen, Leistungsfähigkeit und besserer Stimmung aufzeigen. Goetz, Frenzel, Pekrun und Hall (2007) berichten ebenfalls von positiven Ergebnissen der Förderung emotionaler Kompetenzen in der Schule, wobei sich ihr Fazit auf die für schulisches Lernen relevanten Facetten der Lern- und Leistungsemotionen beziehen und nicht auf die Emotionsregulation in Interaktionen.

Umgekehrt belegen verschiedene Studien negative Effekte eines maladaptiven Umgangs mit Emotionen bzw. von emotionalen Dysregulationen. Glasenapp (2013) beschreibt negative Auswirkungen auf die kognitive Funktionsfähigkeit, auf das Selbstwertgefühl und auf soziale Beziehungen (ebd. S. 55). Nach Kaschka, Korczak und Broich (2011) kann emotionale Dysregulation die Entwicklung von Burnout und emotionaler Erschöpfung begünstigen. Als Risikofaktor wird in diesem Zusammenhang vor allem das Auftreten einer großen emotionalen Dissonanz diskutiert, die durch einen Zustand der Unstimmigkeit von gefühlten und gezeigten Emotionen gekennzeichnet ist (Dormann und Zapf, 2002; Zapf und Holz, 2006). Studien an Callcenter-Mitarbeitern (Wegge, Van Dick und von Bernstorff, 2010) und Lehrern (Philipp, 2010) stützen Hypothese des Zusammenhangs zwischen emotionaler Dissonanz und Burnout.

Znoj, Abegglen (2011, S. 56) definieren adaptive Emotionsregulation als die „Fähigkeit oder Kompetenz eines Individuums, aufkommende emotionale Regungen in einer Weise zu regulieren, welche diese Regungen weder vollkommen unterdrückt oder so stark verändert,

dass sie nicht mehr als Signale erkennbar (dekodierbar) sind, aber auch nicht in einem Maße zulässt, dass übrige Handlungsintentionen oder Denkprozesse vollkommen von dieser Regung dominiert werden.“ Als grundlegende Einheiten der Regulation benennt (Glasenapp, 2013) die Qualität und Quantität und beschreibt, dass die Angemessenheit der Regulation von Qualität und Quantität von Emotionen nicht allgemein gültig, sondern nur vor dem Hintergrund kontextualer Gegebenheiten beurteilt werden kann. Ähnlich formuliert Ben-Ze‘ev (2009) eine Angemessenheit bezüglich der Umstände und des Ausmaßes als Voraussetzungen für den angemessenen Umgang mit Emotionen. Nach Barnow (2014) zeichnet sich eine intelligente Emotionsregulation dadurch aus, dass situationsangemessen die passenden Strategien der Regulation so eingesetzt werden, dass längerfristig eine gesunde und zufriedene Lebensweise möglich ist (ebd., S. 34).

In einer Meta-Analyse zur Effektivität verschiedener Strategien der Emotionsregulation von Webb, Miles, Sheeran (2012) wiesen kognitive Veränderungen wie das Neubewerten des emotionsauslösenden Stimulus und die Übernahme von Perspektiven die höchsten Effektstärken auf, wobei die Effektivität jedoch in Abhängigkeit von der regulierten Emotion sowie der Häufigkeit und des Zwecks des Einsatzes der Strategie variierten. Butler et al. (2003) zeigten in zwei Studien negative Folgen des Unterdrückens eines Gefühlsausdrucks für die Person und insbesondere auch für die Interaktion auf. In einem experimentellen Design mit Gesprächssituationen zwischen unbekannten Personen fielen in der Gruppe mit der Instruktion zur Suppression Beziehungsaufbau und -qualität negativer aus als in den Vergleichsgruppen. Zugleich ließen sich unter dieser Bedingung bei beiden Gesprächspartnern höhere Blutdruckwerte feststellen. Auch Barnow, Aldinger, Ulrich und Stopsack (2013) untersuchten in einer Meta-Analyse auf der Basis von 500 Studien negative und positive Effekte von Emotionsregulationsstrategien, wobei die Effektstärken der negativen Auswirkungen deutlicher ausfielen. Beispielsweise konnten sie aufzeigen, dass Grübeln, Vermeidung sowie Unterdrücken des Emotionsausdrucks mit Depressivität und Angst einhergingen. Reduktion von beidem sowie eine Steigerung des Wohlbefindens waren hingegen mit den Strategien des Neubewertens, der Akzeptanz und des Problemlösens verbunden. Ein adaptiver Umgang mit Emotionen kann nach Glasenapp (2013, S. 52) „durch Auswahl und Veränderung der auslösenden Situation, durch Lenkung der Aufmerksamkeit, durch Neubewertung der Gründe sowie eine flexible Gestaltung der emotionalen Reaktion und des damit verbundenen Ausdrucks“ geschehen.

Nach Barnow (2014) wird die Fähigkeit zum Umgang mit Emotionen zu großen Teilen durch Lernen erworben und kann deshalb verändert und verbessert werden (ebd. S. IX). Aus

den vorliegenden Befunden leitet Glasenapp (2013) Ziele für die Förderung der Emotionsregulation ab, die sich auf eine Flexibilisierung von Regulationsstrategien beziehen. Westphal, Seivert und Bonanno (2010) bezeichnen das Resultat als Expressive Flexibility, die sich darin äußert, dass Emotionen entsprechend den situativen Anforderungen hoch- oder herunterreguliert werden können. Nach Glasenapp (2013, S. 43) ist die reflexive Regulation von Emotionen ein komplexer mentaler Prozess, der folgende Aspekte umfasst: Emotionen bei sich und anderen wahrnehmen; sie akzeptieren und die ihnen zugrundeliegenden Bewertungen verstehen; alternative Reaktionsweisen entwickeln; reflektieren, welche davon angemessen sind und reflexartige, impulsive Handlungen vermeiden.

Nach Holodynski (2006) erfordert die Bewältigung dieser Anforderungen deklaratives Wissen über Emotionen und prozedurales Wissen für die Umsetzung, die zusammen in Metarepräsentationen der Emotionsregulation münden. Auch für Glasenapp (2013, S. 51) bedeutet eine Verbesserung des Umgangs mit Emotionen vor allem, das Wissen über Emotionen zu erweitern. Als relevantes Wissen benennt er in diesem Zusammenhang beispielsweise Wissen über körperliche und mentale Signale für Emotionen, über die Funktion von Emotionen sowie über adaptive und maladaptive Formen des Umgangs mit Emotionen. In der Folge eines erweiterten Wissens über Emotionen können bislang automatisch ablaufende Reaktionen und die ihnen zugrundeliegenden impliziten Annahmen einer bewussten Reflexion zugänglich gemacht werden und somit eine reflektierte Regulation emotionaler Prozesse ermöglichen (ebd, S. 52).

Im Bereich der Psychotherapie und Beratung wurden in den vergangenen zwei Jahrzehnten verschiedene Ansätze entwickelt, mit denen emotionale Kompetenzen von Patienten und Klienten verbessert werden sollen. Beispiele sind die emotionsfokussierte Therapie (EFT) für Einzelpersonen und Paare von Greenberg (2006), das Training emotionaler Kompetenzen (TEK) von Berking (2010) oder auch das Training der Emotionsregulation von Sulz (2000) bzw. Sulz und Sulz (2005). Die meisten dieser Ansätze umfassen (auch) Sequenzen, die die Regulation von Emotionen fokussieren. Sie unterscheiden sich dahingehend, ob die Emotionen im Rahmen des Trainings tatsächlich erlebt und gefühlt werden sollen (sog. hot learning) oder ob dieser Prozess stärker kognitiv vermittelt abläuft (sog. cold learning). Die meisten Ansätze basieren jedoch auf einer intensiven Beziehung zwischen Therapeut und Klient, stellen hohe kognitive Ansprüche an die Zielgruppe oder sind ausschließlich für Einzelsettings konzipiert. Aus diesem Grund werden an dieser Stelle das Manual von Glasenapp (2013) und Barnow (2014), da sie sich

aufgrund ihrer Verständlichkeit bzw. der Eignung für den Einsatz in Gruppen leichter für Bildungszwecke adaptieren lassen.

Das Manual von Glasenapp (2013) basiert auf sechs Modulen, von denen je zwei der Trias Wissen, Verstehen und Verändern zugeordnet sind. Unter dem Stichwort Wissen wird im ersten Modul ein Vokabular für Emotionen aufgebaut und Varianten des emotionalen Ausdrucks erarbeitet. Das zweite Modul vermittelt weiteres Wissen über den Sinn von Emotionen. Dem Themenbereich Verstehen sind die Module drei und vier zugeordnet, die darauf abzielen, Zugang zum eigenen emotionalen Erleben und zu eigenen Lernerfahrungen im Umgang mit Emotionen zu erlangen. Die Module fünf und sechs, die den Themenbereich Verändern bilden, behandeln explizit Möglichkeiten des Umgangs mit den eigenen Emotionen und den Transfer des Gelernten in den Alltag.

Der Zeitumfang der Bearbeitung des Manuals kann dem Ziel des Einsatzes angepasst und hierbei zwischen einer Kurz- und einer Langform mit 150 bis 500 Minuten Bearbeitungszeit je Modul ausgewählt werden. Für die Sitzungen werden umfangreiche Materialien im Form von Arbeitsblättern zur Verfügung gestellt. Inhaltlich starten die Module bei einem cold learning zum Aufbau von deklarativem Wissen und gehen dann über zu einem hot learning, bei dem der eigene emotionale Stil und dessen Erwerb behandelt werden. Die beiden letzten Module intendieren den Aufbau prozeduralen Wissens zur Regulation von Emotionen.

Als Anwendungsbereich benennt Glasenapp (2013) für seinen Ansatz die vorrangig mit Einzelpersonen stattfindenden Einsatzgebiete Psychotherapie, Beratung und Coaching. Insbesondere die mittleren Module, bei denen sehr persönliche Themen behandelt werden, sind in einem Bildungs- oder schulischen Setting nur schwer umsetzbar. Das Manual bietet jedoch einzelne Elemente, die sich sehr gut für diesen Zweck adaptieren lassen. Hervorzuheben sind hierbei insbesondere die psycho-edukativen Elemente der Module eins und zwei sowie die Module fünf und sechs, die Varianten zur Regulation von Emotionen sehr anschaulich aufzeigen und dabei sowohl den Abbau von Überregulation als auch das Reduzieren (zu) intensiver Emotionen thematisieren.

Das Programm „Gefühle im Griff“ von Barnow (2014, vgl. hierzu auch Barnow, Löw, Dodek und Stopsack 2014) ist für eine selbstständige Erarbeitung und Übung mit den bereitgestellten Materialien gedacht. Der Kurs ist so konzipiert, dass er in acht Wochen bei einem Aufwand von 20 Minuten an fünf Wochentagen absolviert werden kann, wobei jede Woche ein anderes Thema behandelt wird. Einleitend werden eigene Gefühle und bisherige Strategien des Umgangs mit ihnen betrachtet. Anschließend erfolgt wöchentlich eine vertiefte

Auseinandersetzung mit den folgenden Regulationsstrategien und ihren Folgen: Grübeln, Suppression, Neubewertung, Akzeptanz, Problemlösen, Vermeiden. Auch dieses Programm umfasst ausführliche Materialien zur Erarbeitung der einzelnen Themen, die auf ihre Übertragbarkeit auf eine Umsetzung im berufsschulischen Setting hin geprüft werden können.

Förderung der Kompetenzdimension „Perspektivenkoordination“

Während die zuvor beschriebene Kompetenzdimension sich auf den Umgang mit den eigenen Emotionen bezog, beschreibt das Konzept der Perspektivenübername die Fähigkeit zu erkennen, dass die Welt aus der Sicht anderer Personen anders aussehen kann als aus der eigenen. Unter Perspektivenkoordination wird darüber hinaus die Fähigkeit verstanden, verschiedene mögliche Perspektiven miteinander in Beziehung zu setzen (Selman, Beardslee, Schultz, Krupa und Podorefsky, 1986). Beide entwickeln sich im Kindesalter in enger Verbindung mit der kognitiven Entwicklung (Sodian, 2012), wobei in den verschiedenen Altersgruppen zwischen Personen erhebliche Unterschiede in den Fähigkeiten vorliegen und bei manchen Personen auch bis ins Erwachsenenalter erhebliche Defizite bestehen (Larisch, 1997). Insbesondere höhere Stufen der Fähigkeit zur Perspektivenkoordination, bei denen Situationen nicht nur aus den jeweiligen Perspektiven aller Beteiligten, sondern aus einer übergeordneten Perspektive und somit mit einer gewissen Distanz betrachtet werden können, bilden sich nach Selman (1980) frühestens mit dem frühen Jugendalter heraus, treten jedoch bei einigen Personen überhaupt nicht ein. Eben diese Stufe der Koordination wird jedoch von Bengtsson und Johnson (1992) sowie von Geulen (1982) als Voraussetzung für die Entwicklung prosozialen Verhaltens betrachtet.

In zahlreichen Studien untersuchten Flavell und Kollegen (beschrieben u.a. in Flavell, Botkin, Frey, Wright und Jarvis, 1968; Flavell, 1992; Flavell, Miller und Miller, 1993) die Entwicklung von Perspektivenübernahme und –koordination und ihre Auswirkungen auf die soziale Entwicklung von Kindern. Flavell et al. (1968) entwickelten auf der Basis ihrer Ergebnisse ein Modell, welches fünf für die Anwendung von Perspektivenübernahme bei der Kommunikation notwendige Teilkompetenzen umfasst: (1) ein Wissen darüber, dass es unterschiedliche Perspektiven geben kann („existence“), (2) die Anerkennung der Nützlichkeit der Berücksichtigung verschiedener Perspektiven („need“), (3) die Unterscheidungsfähigkeit, relevante Aspekte von Perspektiven herauszufiltern zu können, die z.B. Vorhersagekraft für Verhalten haben („prediction“), (4) die Gedächtnisleistung, die

verschiedenen Perspektiven präsent halten zu können und („maintenance“) und (5) eine Anwendungsfähigkeit der Perspektiven in der Interaktion („application“).

Auch Selman (1980, 1981) untersuchte Beziehungen zwischen der Perspektivenkoordination und verschiedenen Facetten des sozialen Lebens wie beispielsweise der Entwicklung von Freundschaften oder der Fähigkeit, Probleme in Interaktionen zu lösen. Beide Gruppen kamen zu dem Schluss, dass mit elaborierten Fähigkeiten in diesem Bereich zumindest eine notwendige Bedingung für prosoziales Verhalten erfüllt ist (die jedoch erst durch ein Zusammenspiel mit bestimmten Werten in prosoziales Verhalten mündet, vgl. hierzu bspw. die Befunde zum Mobbing in der Schule von Sutton, Smith, Swettenham (1999). Als Motor für die Weiterentwicklung und Ausdifferenzierung in diesem Bereich sowie für die Überwindung eines jugendlichen Egozentrismus sahen Piaget und Inhelder (1977) kommunikativen Austausch und kritische Auseinandersetzung mit anderen Menschen an und wiesen hierbei insbesondere der Phase des Übergangs in den Beruf kritische Bedeutung zu.

In zahlreichen Ansätzen wurde vor dem Hintergrund dieser Befunde versucht, die Fähigkeit zur Perspektivenübernahme und -koordination zu verbessern. Wie auch bei der Kompetenzdimension Emotionsregulation stammen viele dieser Programme aus dem klinischen Bereich. Elemente zur Verbesserung der sozialen Perspektivenübernahme und -koordination wurden beispielsweise in Programmen zur Prävention von sexuellem Missbrauch (O’Donohue, Yeater und Fanetti, 2003, Schewe und O'Donohue, 1993), zur Reintegration delinquenter Jugendlicher (Chandler, 1973; Chalmers und Townsend, 1990) und bei verhaltensauffälligen Kindern und Jugendlichen erfolgreich eingesetzt (Chandler, Greenspan und Barenboim ,1974).

In allen Studien ließ sich ein Effekt der Trainings auf die Fähigkeit zur sozialen Perspektivenkoordination nachweisen, darüber hinaus erzielten jedoch nur diejenigen Programme auch Verhaltensverbesserungen im kommunikativen Bereich, in denen Maßnahmen zur Förderung der Perspektivenkoordination mit Kommunikationstrainings kombiniert wurden (Larisch, 1997). Beispielsweise fügten Grizenko et al. (2000) einem Training sozialer Kompetenzen Elemente hinzu, welche die Entwicklung der Fähigkeit zur Perspektivenkoordination nach dem theoretischen Ansatz von Selman (1971) unterstützen sollten und verglichen die Ergebnisse beim Einsatz dieses Trainings in einer Experimentalgruppe (EG) mit denen einer Kontrollgruppe (KG), die nur das Training ohne diesen Zusatz absolvierte. Das ursprüngliche Training, welches auf dem Ansatz von McGinnis und Goldstein (1984) basierte, umfasste beispielsweise Einheiten zur

Selbstkontrolle sowie zum Umgang mit Konflikten und mit Ärger. Zur Förderung der Perspektivenkoordination wurden die Kinder in der EG zusätzlich ermuntert, bei Rollenspielen immer wieder zu verbalisieren, wie der andere sich fühlen könnte, außerdem sollten sie in Rollenspielen auch die Rolle des Anderen übernehmen. In kleinen Hausaufgaben wurde zusätzlich immer wieder die Frage gestellt, wie sie selbst sich in konflikthaften Situationen fühlten. Der Vergleich der beiden Gruppen ergab stärkere Verhaltensänderungen im Lehrerurteil in der EG als in der KG, und zwar sowohl in der Kurzzeit- als auch in der Langzeitmessung.

Als Methode zur Förderung der Perspektivenübernahme und -koordination werden häufig Rollenspiele (zum Teil unter Einsatz von Videokameras zur Nachbesprechung) eingesetzt, in denen die Trainingsteilnehmenden nacheinander verschiedene Rollen einnehmen. Für die Verbesserung der sozialen Perspektivenkoordination hat sich diese Methode als wirksam erwiesen (Larisch, 1997). Als weitere Methoden kommen in den Trainings Wissensvermittlung, Gruppendiskussionen, Spiele mit sozialen Dilemmata, schriftliche Aufgaben, die zur Selbst- und Fremdbeschreibung sowie zum Rollenwechsel auffordern sowie Imaginationsübungen oder Filmsequenzen mit Empathieaufforderung zum Einsatz. Larisch (ebd., S. 72f) weist darauf hin, dass diejenigen Studien, in denen mehrere Methoden zum Einsatz kamen, in der Regel bessere Erfolge erzielten, insbesondere bezüglich des Transfers auf neue Situationen und des Einflusses auf weitere soziale Kognitionen und Fähigkeiten (Roeders, 1980; Santilli und Hudson 1992).

Förderung der Kompetenzdimension „Kommunikation"

Kommunikationsstrategien nach dem Verständnis des Projekts CoSMed beziehen sich auf Merkmale der Nachrichteninhalte. Kompetente Kommunikationsstrategien erleichtern das Erschaffen eines gemeinsamen Verständnisses der aktuellen Situation, ein sogenanntes geteiltes mentales Modell (Jonker, Van Riemsdijk und Vermeulen, 2011), welches zum Beispiel durch Wiederholen von Situationseigenschaften unterstützt werden kann, sodass alle Parteien „vom Gleichen sprechen“ (ein sogenannter Common Ground, Clark und Schaefer 1989). Für eine gelingende Kommunikation ist ein „Wissen um die Grundlagen der Kommunikation und das Berücksichtigen von Kommunikationsregeln“ (Theuerkauf, 2005, S.113) wichtig.

Die Kompetenzdimension Kommunikation ist die einzige, für die im Bereich der beruflichen und hochschulischen Bildung in Deutschland bereits Förderansätze existieren (vgl. hierzu z.B. Dürnberger, 2009). Für die Förderung der Kommunikationsstrategien von

MFA bieten manche von ihnen Anknüpfungspunkte, da sie ebenfalls auf den Kommunikationstheorien von Watzlawick, Beaver und Jackson (1969) oder Schultz von Thun (2004) basieren. Gemäß der Definition der Kompetenzdimension Kommunikationsstrategien sind dabei Ansätze zur Förderung von Dispositionen gemeint, welche es den Interaktionspartnern erlauben „auf eine für beide Seiten gute Lösung hinzusteuern und dem Gegenüber das Gefühl zu geben, ernst genommen und verstanden zu werden“ (Dietzen et al., 2016, S. 232). Die Dimensionen „Verständliches Sprechen“ und „Zuhören“ spielen dabei eine voraussetzende Rolle. Die Verständlichkeit, die zum Beispiel von der Einfachheit (Fachjargon) der Ausdrucksform, der Anordnung der Informationen und der Kürze oder Länge der Nachricht abhängt (Langer, von Thun und Tausch 2002), macht dabei die Form der Kommunikation aus, welche die Inhaltsebene moderiert. Die Dimension des Zuhörens repräsentiert im Gegenzug die kommunikative Ausgangslage. So zeigen schon grundlegende Kommunikationsmodelle wie das Sender-Empfänger-Modell von Shannon und Weaver (1949), dass nicht nur das Senden eines kommunikativen Inhaltes, sondern auch das Empfangen (das Zuhören) eine Dekodierleistung verlangt, welche den weiteren Verlauf der Kommunikation beeinflusst. Schulz von Thun (2004) baute diesen Gedanken, aufbauend auf Watzlawick et al. (1968), zu seinem Kommunikationsquadrat aus. Das Modell beschreibt vier Ebenen, auf denen jede gesendete Nachricht gehört und verstanden werden kann: Beziehungsebene, Sachebene, Appellebene und Selbstoffenbarungsebene. Eine Kommunikationsstörung tritt demnach vor allem dann auf, wenn der Sender auf einer bestimmten Ebene sendet, der Empfänger aber auf einer anderen Ebene hört und entsprechend reagiert (Schulz von Thun 2004). Die vier Ebenen einer Nachricht bilden auch das Kernstück des Modells sozial-kommunikativen Handelns nach Euler und Reemtsma-Theis (1999).

Fördermaßnahmen zu kommunikativen Fähigkeiten gibt es in verschiedenen Bildungs- und Trainingskontexten. So beschreiben Euler und Hahn (2007) für den Bereich der beruflichen Ausbildung die Wichtigkeit didaktischer Kommunikation als Mittel zum Aufbau kommunikativer Fähigkeiten und Fertigkeiten. In drei verschiedenen Situationstypen können demnach verschiedene sozial-kommunikative Handlungskompetenzen aktiviert oder gefördert werden: Im Rahmen von „Lehrvorträgen“ könne zum Beispiel durch das Üben gezielter Nachfragen bei Unklarheiten und finalem Feedback durch die Lehrperson das Etablieren der geteilten mentalen Modelle (Jonker, Van Riemsdijk und Vermeulen, 2011) verstärkt werden. Im Situationstyp „Lehrgespräch“ würden durch klare Impulse der Lehrperson einzelne Kategorien der Kommunikation hervorgehoben. Zum Beispiel kann der,

die Lernende aufgefordert werden, eine Äußerung auf verschiedenen Ebenen zu artikulieren oder zu interpretieren. Dies führe zu einer gesteigerten Wahrnehmung dieser Merkmale, sei es als Sender oder als Empfänger, was wiederum zu mehr zwischenmenschlichem Verständnis und zu verbesserter Kommunikation führt (Zaboura, 2009). Schlussendlich bieten Gruppenarbeiten die Möglichkeit zum Beispiel Kommunikationsstörungen aufzudecken, zu interpretieren und zu klären und auch dadurch die Wahrnehmung für zukünftige Interaktionen zu schärfen. In allen drei Situationstypen zeigt sich eine post-situative Reflexion über Ziele, Strategien und Prozesse (West, 1996) der eigenen Kommunikation als förderlich.

Im Bereich der hochschulischen Bildung wurde in einem Projekt aus dem DFG-Schwerpunktprogramm zur Kompetenzdiagnostik von Bruder et al (2010 2011) ein Modell der Beratungskompetenz für Lehrerinnen und Lehrer entwickelt, das mit Hilfe eines Fallszenarios und eines SJT überprüft wurde und für die Ableitung von Fördermaßnahmen konzipiert ist. In den Stichproben der Lehramtsanwärter und der Lehrer erwiesen sich die Unterstützung von Selbstreflexion sowie ein Feedback zu einem simulierten Beratungsgespräch (Rollenspiel) als förderlich für alle Kompetenzdimensionen der Beratungskompetenz (Bruder et al., 2011).

Gartmeier et al. (2011) messen Gesprächsführungskompetenzen für Berufe mit starker Experten-Laien-Kommunikation am Beispiel von Ärzten und Lehrern. Durch die Beschreibung und Analyse von Audio- und Videosequenzen und die Teilnahme an standardisierten Simulationen in Form von Rollenspielen, werden Kompetenzniveaus ermittelt. Auf der Grundlage dieser Arbeit beschreiben Hoppe-Seyler et al. (2014) die Umsetzung von realitätsnahen und systematisch-didaktischen Lehrfilmen, welche Inhalt eines Programms zur Förderung der Gesprächsführungskompetenzen werden sollen (Gartmeier, in Vorbereitung).

Für Studierende der Wirtschaftswissenschaften werden im Projekt KomPü (Braun et al., 2015) aus dem Programm KoKoHs standardisierte Rollenspiele zur Messung kommunikativer Fähigkeiten entwickelt. Sie basieren ebenfalls auf der Unterscheidung von Sach- und Beziehungsebene nach Watzlawick et al. (1968) und zusätzlich auf der Unterscheidung verständigungsorientierter und strategischer Kommunikation nach Habermas (1981). Ziel des Projekts ist neben der Entwicklung eines Testinstruments kommunikativer Kompetenzen der Einsatz der Rollenspiele zu Trainingszwecken.

Neben diesen wissenschaftlichen Arbeiten finden sich vor allem im Bereich der Weiterbildung und Beratung viele Förderprogramme und Handlungsvorschläge aus dem

klinischen oder arbeits- und organisationspsychologischen Kontext. Neben den erwähnten Kommunikationstheorien wird hierbei auch die Theorie der gewaltfreien Kommunikation nach Rosenberg (2005, 2013) zurückgegriffen. Die Trainings basieren zumeist auf wiederholtem Üben von Gesprächssituationen mit Schauspielern oder anderen Teilnehmern in einem geschützten Kontext. Die Anwendung der darin verankerten vier Schritte, an denen sich eine Kommunikation orientieren sollte (1. Beobachtung der Situation wiedergeben, 2. Gefühlslage beschreiben, 3. zugrundeliegendes Bedürfnis schildern, 4. um zukünftige Handlungsalternativen bitten) führt nach Rosenberg (2005) zu einem höheren Wohlbefinden in zwischenmenschlichen Situationen verschiedener beruflicher Kontexte. Dies könnte auf das Schaffen eines klaren mentalen Modells zurückzuführen sein, da die eigene Perspektive für die anderen Interaktionspartner erläutert wird und Offenheit für die anderen Perspektiven signalisiert wird.

Das methodische Repertoire der Fördermaßnahmen zur Kommunikation beinhaltet meist eine aktive wiederholte Übung und Anwendung, sei es in Rollenspielen oder in der schulischen Umgebung. Doch auch das Reflektieren über eigene oder fremde Verhaltensweisen, sei es frei gestaltet oder durch gezielte Nachfragen, erweisen sich als förderlich und wirksam.

Übergreifende Ansätze zur Förderung mehrerer Kompetenzdimensionen

In Großbritannien werden soziale Kompetenzen als Lernziele in den Lehrplänen der allgemeinen Schulen explizit berücksichtigt. Das von der britischen Qualifications and Curriculum Authority (QCA) im Rahmen des nationalen Curriculums entwickelte Fach Personal, Social and Health Education (PSHE) wurde eigens zu diesem Zweck entwickelt. Das Curriculum beschreibt Leistungsanforderungen in Form von Kompetenzniveaus nicht nur für fachliche, sondern auch für soziale und personale Kompetenzen und zielt dabei beispielsweise auf die Vermittlung von Teamfähigkeiten und Selbstorganisation ab (Formby et al., 2011). Die Ergebnisse der Evaluationen deuten auf einige Probleme bei der Umsetzung hin, die zumindest zum Teil mit der fehlenden Ausbildung der Lehrkräfte zu diesem Thema zusammenhängen. Jones, Bouffard und Weissbourd (2014) zeigen auf, dass sozial-emotionalen Kompetenzen der Lehrkräfte selbst eine zentrale Rolle für den Erfolg der Maßnahmen zu spielen scheinen und ausgebildetete Fachkräfte in diesem Fach bessere Erfolge erzielen. Die curriculare Verankerung des Themas stellt jedoch zumindest auf der Ebene der Bewusstseinsbildung einen erheblichen Fortschritt dar.

In den Vereinigten Staaten wurden unter dem Titel „Social and Emotional Learning (SEL, vgl. hierzu bspw. Cohen 1999, 2001, 2006)“ Initiativen für die Förderung sozialer und emotionaler Kompetenzen implementiert. Die Unterdimensionen des sozial-emotionalen Lernens (CASEL, 2015) umfassen mit Selbstbewusstheit, Selbstkontrolle, sozialer Bewusstheit, Beziehungsfähigkeiten und verantwortungsvollem Entscheiden neben kommunikativen Fähigkeiten auch Prozesse, die als sozial- und emotional-kognitive Elemente innerlich ablaufen und zwar sowohl vor als auch während stattfindender Interaktionen. Die Dimension Selbst-Management schließt beispielsweise die Kontrolle eigener Emotionen ein, die Dimension der sozialen Bewusstheit die Fähigkeit zur Empathie und Perspektivenübernahme (CASEL, 2015). Die Programme beinhalten somit Einheiten zu den beiden in diesem Beitrag betrachteten Kompetenzfacetten Emotionsregulation und Perspektivenkoordination.

Auch in Deutschland existieren umfassende Förderprogramme für sozial-kommunikative Kompetenzen für den schulischen Kontext. Diese sind jedoch nicht curricular verankert, sondern müssen von den Schulen in Eigeninitiative umgesetzt werden. Viele der Programme stammen aus dem klinischen Bereich und adressieren vorrangig das Problem von Gewalt und Aggressivität in Schulen. Jerusalem und Klein-Heßling (2002) systematisierten in Anlehnung an Topping, Holmes und Bremner (2000) die in Schulen stattfindenden Maßnahmen zur Förderung sozialer Kompetenzen. Von den sieben gebildeten Kategorien sind drei als direkte Trainings- oder Fördermaßnahmen zu bezeichnen, die nach den Ansatzpunkten Verhalten vs. Kognitionen vs. Mischformen aus beidem unterschieden werden. Beispielhaft sei für die letztgenannte Gruppe das positiv evaluierte Sozialtraining in der Schule von Petermann, Jugert, Tänzer und Verbeek (2012) genannt. Mit seinem klinischen Schwerpunkt zielt es auf die Prävention von Verhaltensstörungen bei Kindern von der dritten bis zur sechsten Klasse ab und soll aggressivem Verhalten, Angst, sozialem Rückzug und hyperaktivem Verhalten vorbeugen. Es verbindet psycho-edukative Elemente (kognitive und meta-kognitive Strategien wie z.B. soziales Problemlösen) mit Ansätzen zum Selbstmanagement (z.B. Ärger- und Stresskontrolle) und zum sozial-kommunikativen Verhalten (z.B. Konfliktlösestrategien) und enthält somit Elemente zu allen drei Kompetenzdimensionen des Modells aus CoSMed.

Metaevaluationen zur Wirksamkeit von Trainingsmaßnahmen für soziale Kompetenzen in der Schule (Lösel und Beelmann 2003, 2004; Beelmann und Lösel 2006) berichten zum Teil gute Erfolge mit mittelhohen Effektstärken und tendenziell höheren und vor allem nachhaltigeren Effekten für die Mischformen mit sozialkognitiven und Verhaltenselementen.

Außerdem schneiden Programme, die mit einer höheren zeitlichen Intensität von über 40 Sitzungen durchgeführt wurden sowie Durchführungen mit Altersgruppen über 13 Jahren tendenziell besser ab.

Die Programme bleiben dabei in der Regel auf den Anwendungskontext der Lebenswelt von Schülern beschränkt, d.h. auf schulische und familiäre Interaktionen sowie solche mit Freunden. Die oben beschriebenen Ansätze zur Förderung der Kommunikation adressieren zum Teil konkrete berufliche Kontexte und in diesem Zusammenhang auch professionelle Interaktionen, bleiben dabei aber eben auf die Kompetenzdimension der Kommunikation beschränkt. Abschließend werden deshalb die zusammengetragenen Informationen auf Ideen zur Förderung sozial-kommunikativer Kompetenzen von Medizinischen Fachangestellten zugespitzt.

Schlussfolgerungen für die Entwicklung von Fördermaßnahmen sozialer Kompetenzen von MFA

Die Ergebnisse der Kompetenzmessungen im Projekt CoSMed zeigen auf, dass im Bereich aller drei sozial-kommunikativen Kompetenzfacetten des Kompetenzmodells erheblicher Förderbedarf besteht. Als wichtige Transfermöglichkeit der Ergebnisse aus dem Projekt wird in diesem Beitrag deshalb der Einsatz des Kompetenzmodells sowie des Testinstruments zur Förderung der einzelnen Kompetenzfacetten beschrieben, um somit zugleich die dringend angezeigte Förderung von sozialen Kompetenzen in der beruflichen Bildung weiter anzuregen.

Eingangs wurde aufgezeigt, dass es sich auch bei sozialen Kompetenzen um kontextspezifische Leistungsdispositionen handelt und dass die Anforderungen im sozial-kommunikativen Bereich zwischen verschiedenen Anwendungskontexten erheblich differieren können. Hieraus ergibt sich, dass bei einer passgenauen Förderung sozialer Kompetenzen deutlich bessere Effekte zu erwarten sind als von Standardansätzen, die ganz allgemein kommunikative Kompetenzen fördern. Zudem zeigen Studien, dass der Transfer von Lernergebnissen bei größerer Ähnlichkeit zwischen Lern- und Anwendungssituation deutlich höher ausfällt (Blume und Ford, 2010).

Um diesem Umstand Rechnung zu tragen, wurde von Lave und Wenger (1991) das Konzept des situierten Lernens entwickelt. Mandl, Gruber und Renkl (2002) beschreiben, dass situiertes Lernen auch in multimedialen Lernumgebungen verankert werden kann. Die Verwendung der Filmsequenzen aus dem Projekt CoSMed eröffnet somit eine Möglichkeit, die Förderung sozialer Kompetenzen von MFA als situiertes Lernen zu gestalten. Die

Berufsschule stellt dabei einen geeigneten Lernort dar, da dort Auszubildende zusammenkommen, die aufgrund ihres erlernten Berufs mit einem sehr ähnlichen Anforderungsprofil im sozial-kommunikativen Bereich konfrontiert sind. Eine systematische Förderung sozialer Kompetenzen in den Betrieben wäre ebenfalls denkbar, würde aber die Ausbildung der Ausbilder in den Kompetenzdimensionen voraussetzen, würde aber die gezielte Gestaltung von Lerngelegenheiten in den Betrieben voraussetzen. Durch den Einsatz der Medien Computer und Video können jedoch auch im Rahmen des berufsschulischen Unterrichts authentische kritische soziale Situationen aus dem beruflichen Alltag von MFA ins Klassenzimmer geholt werden.

Zumbach (2010) schätzt die Nutzung neuer Medien für den Lehrkontext als unausweichlich ein und beschreibt Rahmenbedingungen zur Gestaltung zeiteffizienter und anwendungsfreundlicher video- und simulationsbasierter Trainingseinheiten. Eine Voraussetzung im Bereich der sozialen Kompetenzen stellt jedoch die Abbildung von Interaktionen dar, welche im Falle einer E-Learning-Umgebung simuliert werden müssten. Sogenannte Goal-Based-Scenarios (vgl. Schank, Berman und Macpherson, 1999) arbeiten zum Beispiel mit schriftlichen Vignetten oder videobasierten Simulationen und Fällen, welche die Teilnehmer, -innen aktiv bearbeiten müssen (Zumbach, 2010). Hoppe-Seyler et al. (2014) beschreiben, wie solche Lehrfilme im Bereich von Gesprächsführungstrainings umgesetzt werden könnten, um eine hohe Realitätsnähe zu gewährleisten. Bisher gibt es aber nur sehr wenige solcher videobasierten und handlungsorientierten Trainingseinheiten, da interaktionsorientierte multimediale Instrumente derzeit noch einen sehr großen Konstruktionsaufwand voraussetzen.

Im Artikel wurde jedoch eine Vielzahl an Möglichkeiten aufgezeigt, wie verschiedene Medien in der Förderung sozialer Kompetenzen eingesetzt werden können. Meist handelt es sich hierbei um Tonaufnahmen oder Videoaufzeichnungen von sich selbst oder anderen. Eine integrierte Nutzung dieser Medien zusammen mit interaktiven Methoden wie Rollenspielen stellt eine gute Möglichkeit dar, situativ und zugleich interaktiv zu arbeiten. Die im Projekt CoSMed entwickelten computer- und videobasierten Testelemente bieten sich aufgrund der realistischen Darstellung kritischer sozialer Interaktionen auch für den Einsatz bei der Förderung sozialer Kompetenzen für diese Berufsgruppe an. Mit den in der Anforderungsanalyse gesammelten kritischen Situationen liegt darüber hinaus bereits ein Fundus vor, der für die Herstellung weiterer Filmsequenzen verwendet werden kann.

Für alle drei Kompetenzbereiche des Modells sozial-kommunikativer Kompetenzen medizinischer Fachangestellter aus dem Projekt CoSMed liegen darüber hinaus

vielversprechende Ansätze zu ihrer Förderung aus anderen Kontexten vor. Diese haben zumeist andere Zielgruppen (z.B. Kinder und Jugendliche, klinische Gruppen) und müssen deshalb zunächst auf die Zielgruppe und den Beruf übertragen werden. Hierbei ist u.a. darauf zu achten, die zu stark therapeutischen Elemente auszuklammern oder zu modifizieren.

In Wirksamkeitsstudien haben sich Ansätze mit gemischten Methoden, die mehrere Kompetenzbereiche adressieren als wirksamer erwiesen. Für eine Förderung sozial-kommunikativer Kompetenzen von MFA und zur gezielten Förderung aller drei im Kompetenzmodell enthaltenen Dimensionen wird deshalb ebenfalls eine Mischung von Methoden als sinnvoll erachtet. Nach dem Vorbild der oben beschriebenen Fördermaßnahmen sollte zu allen drei Kompetenzbereichen zunächst grundlegendes Wissen vermittelt werden. Anschließend können die Videosequenzen beispielsweise als Einstieg in Reflexionsprozesse zur Emotionsregulation, Perspektivenkoordination und Kommunikation genutzt werden oder auch als Vorlagen für anschließende Rollenspiele, in denen die Anwendung der Kompetenzen geübt werden kann.

Die Zusammenfassung der Ansätze zur Förderung der Kommunikation zeigt auf, dass sich auch im Bereich der sozialen Kompetenzen erste Ansätze entwickeln, die systematisch den didaktischen Dreischritt einer aufeinander bezogenen Modellierung, Förderung und Messung sozialer Kompetenzen verfolgen. Die hier beschriebenen Ideen zur systematischen Förderung sozial-kommunikativer Kompetenzen von Medizinischen Fachangestellten gehen insofern über diese hinaus, als sie sich nicht auf die Förderung von Verhalten und seiner Reflexion beschränken, sondern insbesondere mit den beiden innerlichen Kompetenzdimensionen Emotionsregulation und Perspektivenkoordination aber auch mit einer Vermittlung von Kommunikationsstrategien gezielt an den sozial- und emotional-kognitiven Dispositionen ansetzen und somit eine Kompetenzförderung im eigentlichen Sinne darstellen. Durch eine Kombination reflexiver Methoden mit Rollenspielen kann zugleich die Anwendungsfähigkeit dieser Kompetenzen gefördert werden.

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Levels of mental regulation of activities

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