Fachbereich Psychologie der Universität Koblenz-Landau / Campus Landau

# EFFECTS OF CHILD CARE WORKERS' PERSONALITY ON PROCESS QUALITY IN EARLY CHILD CARE

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The thought manifests as the word;
The word manifests as the deed;
The deed develops into habit;
And habit hardens into character.

*Buddha*

Plant a thought and reap a word;
plant a word and reap an action;
plant an action and reap a habit;
plant a habit and reap a character;
plant a character and reap a destiny.

*Bishop Beckwaith*

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## Abstract

In this thesis we examined the question whether - and if so, how - personality traits of early child care workers influence process quality in preschool.

We know that experiences children gain in preschool substantially influence their development. Research has shown that in educational settings such as preschool, pedagogical quality affects children's developmental outcome (e.g. NICHD, 2002; Peisner-Feinberg et al., 1999). A substantial part of pedagogical quality known to be vital in this respect is the interaction between teacher and children (e.g., Tietze, 2008). Results of prior classroom research indicate that teachers' personality might be an important factor for good teacher-child-interaction (Mayr, 2011). Thus, personality traits might also play a vital role for the interaction in preschool. Therefore, the aims of this thesis were to a) identify pivotal personality traits of child care workers, b) assess ideal levels of the identified personality traits and c) examine the relationship between pivotal personality traits and process quality. On that account, we conducted the following three studies. Our first study (Chapter 2) consisted of a qualitative requirement analysis, comprising two parts: (a) an online survey of $N$ = 113 parents and $N$ = 60 child care workers, in which they were asked to name trait adjectives corresponding to personality traits pivotal to be a child care worker and (b) a content analysis of $N$ = 52 curricula and educational plans. The results show that parents, child care workers and the documents partly agree as to which personality traits are pivotal for child care workers. In our second study (Chapter 3), we selected 60 of the identified trait adjectives and asked $N = 73$ parents, $N = 76$ child care workers and $N = 64$ professional school teachers to rate their importance. Furthermore, the three groups judged the minimum, optimum and maximum levels of those traits. Parents, child care workers and lecturers showed high consensus with regard to the minimum, optimum and maximum trait levels. In our third study (Chapter 4), we let $N = 22$ students rate short video clips ("Thin Slices", Ambady & Rosenthal, 1992) of $N = 54$ child care workers in action with regard to the 60 previously selected traits. Subsequently, we compared those child care workers' profiles to the experts' ideal profile. Child care workers whose profiles were closer to the experts' ideal also showed higher process quality. In factorial analyses, we found two factors corresponding to the Big Two: *Communion* and *Agency* (Bakan, 1966; Digman, 1997). Regression analyses showed that the child care workers' levels of Communion and Agency related significantly to their process quality.

## Zusammenfassung

In der vorliegenden Arbeit gingen wir der Frage nach, ob und falls ja wie genau Persönlichkeitseigenschaften von Erzieher/innen (zur einfacheren Lesbarkeit ist im Folgenden die männliche Form als Neutrum zu verstehen) mit der pädagogischen Qualität im Kindergarten zusammenhängen. Die bisherige Forschung konnte bereits zeigen, dass die pädagogische Qualität die kindliche Entwicklung nachhaltig beeinflusst (z.B. NICHD, 2002; Peisner-Feinberg et al., 1999). Ein in diesem Zusammenhang bedeutender Aspekt der pädagogischen Qualität ist die Lehrer-Schüler-Interaktion (z.B. Tietze, 2008), welche laut früherer Forschung durch die Persönlichkeit von Lehrern beeinflusst werden kann (Mayr, 2011). Dementsprechend könnten Persönlichkeitseigenschaften auch eine bedeutende Rolle für die Erzieher-Kind-Interaktion spielen. Die Ziele der vorliegenden Arbeit waren es daher a) bedeutende Persönlichkeitseigenschaften von Erziehern zu identifizieren, b) optimale Ausprägungen dieser Eigenschaften zu bestimmen und c) die Beziehung zwischen Persönlichkeitseigenschaften und der Prozessqualität zu untersuchen. Hierzu führten wir drei Studien durch. Die erste Studie (Kapitel 2) bestand aus einer Online-Erhebung von $N$ = 113 Eltern und $N$ = 60 Erziehern, in welcher die Teilnehmer für den Erzieherberuf bedeutende Persönlichkeitseigenschaften nennen sollten, sowie einer Inhaltsanalyse von $N$ = 52 Lehr- und Bildungsplänen. Die Ergebnisse zeigten, dass Eltern und Erzieher weitgehend darin übereinstimmen, welche Persönlichkeitseigenschaften für einen Erzieher bedeutend sind. Die Inhaltsanalyse ergab teils ähnliche, teils abweichende Ergebnisse. In der zweiten Studie (Kapitel 3) wählten wir 60 der zuvor identifizierten Eigenschaften aus und ließen $N$ = 73 Eltern, $N$ = 76 Erzieher und $N$ = 64 Dozenten deren Bedeutung einschätzen. Darüber hinaus beurteilten diese Experten die minimale, optimale und maximale Ausprägung der Eigenschaften im Hinblick auf den Erzieherberuf. Eltern, Erzieher und Dozenten zeigten eine hohe Übereinstimmung. In der dritten Studie (Kapitel 4) ließen wir $N$ = 22 Studenten kurze Videoausschnitte (“Thin Slices”, Ambady & Rosentahl, 1992) von $N$ = 54 Erziehern bzgl. der 60 ausgewählten Eigenschaften bewerten. Anschließend verglichen wir die Eigenschaftsprofile dieser Erzieher mit den Optimalprofilen. Erzieher, deren Profil näher am Optimalprofil der Experten lag, wiesen eine höhere Prozessqualität auf. Faktorenanalysen ergaben zwei Faktoren, welche den Big Two *Communion* und *Agency* entsprachen (Bakan, 1966; Digman, 1997). Abschließende Regressionsanalysen wiesen auf einen signifikanten Zusammenhang zwischen den Communion- und Agency-Ausprägungen der Erzieher und ihrer Prozessqualität hin.

# 1 Introduction

Today, the vast majority of german children visits child care institutions before they enter school. According to the *Bundesministerium für Familie, Senioren, Frauen und Jugend* [Federal Department for Family, the Elderly, Women and Youths] (2018a, 2018b) and the *Statistisches Bundesamt* [Federal Office of Statistics] (2017), almost 94% of the children between three and six years and about 33% of the children younger than three years were cared for in child care settings in Germany in the year 2017. Accordingly, extrafamilial child care can be considered standard for children between three and six years of age in Germany. Hence, since so many young children experience daily extrafamilial care for up to six years of their lives, researchers have long-since addressed the question whether this kind of care affects their development sustainably. Probably the most prominent factor the researchers looked at in order to answer this question was the child care settings' pedagogical quality.

## 1.1 Quality in Early Child Care Settings and Children's Development

In sum, research has shown that pedagogical quality sustainably influences children's cognitive and academic performance as well as their social development (Burchinal et al., 2008; Mashburn, 2008; Mashburn et al., 2008; Van Belle, 2016; for a literature review, see Anders, 2013). The effects found last through kindergarten, elementary school (Burchinal et al., 2008; Lamb, 2000; Peisner-Feinberg et al., 1999) and even up to adolescence (Vandell et al., 2010).

Becker-Stoll & Fröhlich-Gildhoff (2018) stress the importance of pedagogical quality by stating that whether or not extrafamilial care is beneficial for the children's well-being and development in the long term depends on the child care's quality (p.65). In line with these results, Burchinal et al. (2009) found relationships between the quality in early child care settings and the children's cognitive as well as academic, social and language skills – even after controlling for background characteristics. Accordingly, they concluded that "the quality of

children's early care and education, measured by widely used observational tools, is related to children's academic, cognitive, language, and social skills after taking background characteristics into account" (Burchinal et al., 2009, p.3). Furthermore, their results showed that the children's benefit depended on the level of quality, with greater benefits being associated with *good* to *high* quality. Likewise, Vandell et al. (2010) showed that child care quality significantly affected the children's academic achievement from 4 ½ to 15 years. Furthermore, they found linear as well as quadratic effects of quality on the children's cognitive-academic achievement at age 15. Regarding possible quality thresholds, Vandell et al. (2010) state that "the quadratic association indicated that associations were stronger at moderately high levels of quality than at low or very low levels" (Vandell et al., 2010, p.746). For an overview of possible thresholds regarding child care quality, see Zaslow et al. (2010) who discuss current findings in their paper. Even though it is not yet clear whether the relationship between the children's developmental outcome and the child care setting's pedagogical quality is of a linear or a non-linear kind, the aforementioned studies definitely show their interconnection.

However, pedagogical quality itself consists of several factors. Usually, the most renowned factors are called *structural quality*, *process quality* and *orientation quality* (Fthenakis & Textor, 1998; Tietze, 2008). Structural quality refers to distal or framework aspects such as teacher-child-ratio, group size and the caregivers' qualification. Process quality refers to proximal components like the interaction between the caregivers and children (for that reason, process quality is sometimes also referred to as *interactional quality*). Orientation quality refers to the child care workers' beliefs, values and attitudes (Fthenakis & Textor, 1998; Tietze 2008). However, up to now, the majority of studies has focused on structural quality (for an overview of studies, see Viernickel & Schwarz, 2009). One result of this research was the detection of the relationship between structural factors and the development of children. For instance, the education of caregivers and the teacher-child-ratio turned out to be important variables for the children's developmental outcome (e.g., Viernickel & Schwarz, 2009). However, further

studies showed that structural quality seems to influence children's development mainly in an indirect way, namely by influencing the quality of interactions (Kuger & Kluczniok, 2008; NICHD, 2002). In contrast, process quality seems to influence children's development mainly in a direct way (NICHD, 2002; Tietze, 2008). Accordingly, Tietze and Viernickel (2003) consider interactions between child care workers and children as very important in their *"Nationaler Kriterienkatalog für die pädagogische Arbeit mit Kindern von null bis sechs Jahren"* [National list of critera for the pedagogical work with children from zero to six years]. Furthermore, Tietze and Lee (2009) stress the importance of process quality in their *"Deutsches Kindergarten Gütesiegel"* [German Kindergarten Quality Seal] (Tietze & Lee, 2009). They report that process quality contributes with a weight of 40% to the total amount of their *Gütesiegel* (Tietze & Lee, 2009, p. 55). In contrast, structural quality contributes with a weight of 30% and orientation quality and quality of family relatedness contribute with a weight of 15% each (Tietze & Lee, 2009, p.55).

In line with these findings, Viernickel and Schwarz (2009) remark that the frequency and quality of interactions are important for the relationship between child care workers and children. Moreover, they note that the configuration of the interaction between child care workers and children is substantial for the children's development with regard to social-emotional as well as verbal-cognitive areas (Viernickel & Schwarz, 2009, p.15).

Accordingly, process quality is clearly considered to be an important factor for the development of children and a variety of measurement instruments exist to operationalize and measure it in early child care settings (for an overview, see Janta, van Belle and Stewart, 2016). Renowned examples include the *Early Childhood Environment Rating Scale* (ECERS) (Harms, Clifford & Cryer, 1980), the *Caregiver Interaction Scale* (CIS) (Arnett, 1989) and the *Classroom Assessment Scoring System* (CLASS) (Hamre, Goffin & Kraft-Sayre, 2009; Pianta, LaParo & Hamre, 2008).

In this thesis, we use the *Classroom Assessment Scoring System* (CLASS) which assesses process quality usinging the domains and dimensions shown in Table 1: *Emotional Support*, *Classroom Organization* and *Instructional Support* which consist of three to four dimensions each (Hamre et al., 2009; Pianta et al, 2008). In order to assess these domains, raters have to rate each facet on a 7-point Likert scale. The CLASS model and scoring system have often been applied in international as well as national school and preschool research studies. In this thesis, we conducted a secondary analysis of CLASS data provided by Kammermeyer, Roux and Stuck (2013, 2016) (see Chapter 3).

Table 1

*Domains and Dimensions of the Classroom Assessment Scoring System (CLASS)*

| **Emotional Support** | **Classroom Organization** | **Instructional Support** |
|---|---|---|
| Positive Climate | Behavior Management | Concept Development |
| Negative Climate | Productivity | Quality of Feedback |
| Sensitivity | Instructional Learning Formats | Language Modeling |
| Regard for Students' Perspective | | |

In line with the results reported in the aforementioned paragraphs, research studies using the CLASS found relationships between the assessed process quality and children's developmental outcomes (e.g., Pianta, Cox & Snow, 2007). Accordingly, we assume that the CLASS is a valid measuring instrument to assess process quality which in turn is an important factor for the development of children.

With regard to the actual levels of process quality in early child care settings, several international as well as national studies report only moderate scores for several to all dimensions of process quality (e.g., Eckhardt & Egert, 2017, 2018; Kammermeyer, Roux & Stuck, 2016; Pakarinen et al., 2010; Pianta, La Paro & Hamre, 2008; Tietze et al. 2012; for an international overiew see Slot, 2018). However, as good to high quality seems to be of even greater benefit for the children's development (Burchinal et al., 2009), it seems crucial to identify contributing factors.

Referring to this matter, Tietze and Lee (2009) argue that up to 25-50% of process quality can be explained by structural and orientational quality. Accordingly, this implies that 50-75% of process quality can be explained by further factors. Tietze and Lee (2009) remark that this result mirrors the experience known from pedagogical practice that, under identical framework conditions, two child care workers can create qualitatively different processes (p. 48).

Regarding the question which variables should be considered as contributing factors to high process quality, prior research points into the direction that, among others, the personality of teachers may be an influencing factor for effective interactions between teachers and children (Mayr & Neuweg, 2006; Urban, 1984). As Burchinal et al. (2008) put it, quality of care "is typically indexed by teacher sensitivity and warmth and by instructional quality" (p. 141). Because one aspect of process quality is defined as the interaction between caregivers and children, these results also hint at the importance of the teachers' personality for this kind of quality. However, up to now, there has only been little research regarding the association between process quality and child care workers' personality - even though several clues point this way (Autorengruppe Fachschulwesen, 2011; Thiersch, Höltershinken & Neumann, 1999). Additionally, lay theories have long been assuming that personality is an important factor in order to be a good teacher or child care worker. Therefore, in this thesis, we investigate whether there is a relation between the child care workers' personality and their process (or interactional) quality.

## 1.2 Pedagogical Professionals' Personality

Research regarding the personality of teachers reaches a long way back. In order to find an answer to the question what makes the ideal teacher, three broad paradigms have been pursued (Bromme & Haag, 2008; Krauss & Bruckmaier, 2014; Mayr & Neuweg, 2006): the *expert* paradigm, the *process-product* paradigm and the *personality* paradigm. In the expert paradimg, which has been pursued since the 1990s, researchers focus on trainable skills and professional knowledge, showing that in contrast to newcomers, expert teachers have developed automatic routines, are more flexible in their strategies and show high context-specific performance (König, 2010; Terhart, 2007). In the process-product paradigm, which has mainly been pursued during the 1970s and 1980s, researches focused on teacher-child-interaction with the underlying assumption that the teachers' behaviour (the process) affects their pupils' performance (the product). Results showed that albeit the teachers' behaviour is important, its effect depends on various context variables such as the pupils' academic level or the lesson's subject (Bromme & Haag, 2008; Krauss & Bruckmaier, 2014; Terhart, 2007).

The personality paradigm, i.e. the idea that the teachers' personality is a pivotal factor for their effectiveness as well as their pupils' success, was pursued even earlier, namely in the 1950s and 1960s (e.g., Getzels & Jackson, 1963; German editing in Pause, 1970). Although the results implied that good teachers show high levels of certain traits such as *Emotional Stability*, *Friendliness*, *Talkativeness*, *Openness* and *Agreeableness* (Pause, 1970), no generally valid personality profile of the ideal teacher could be established. Nonetheless, Pause (1970) suggested that the teacher's personality might be the most crucial as well as the most complex variable in teaching. This might be the reason why, even though the personality paradigm lost its relevance in the subsequent years, newer models reintegrated the teachers' personality as an important factor for teaching. For example, Helmke's Angebots-Nutzungs-Modell (2009, 2012)

contains relatively persisting, stable characteristics like the teachers' anticipations, dedications and even traits such as *Patience* and *Humour*.

Additionally, Brandstätter and Mayr (1994) discuss that for people interested in becoming a teacher, it is important to know whether their personality structure fits to the tasks of the occupation and whether they will later be satisfied with that occupation and be pedagogically successful, or whether their risk of failing is too high (Brandstätter & Mayr, 1994, p. 232). Even though they mention that it is difficult to identify relevant predictors of successful teachers, Brandstätter and Mayr (1994) refer to research studies like the ones conducted by Urban (1984, 1992), indicating that the structural characteristics of personality and the social skills rooted in these characteristics are crucial for a career as a teacher (Brandstätter & Mayr, 1994, p. 232).

In detail, Urban's studies (1984, 1992) showed that high levels of personality traits such as *Reservedness*, *Emotional Inhibition*, *Social Restraint*, and *Irritability* relate to the teachers' occupational satisfaction, burden and their practical competence in teaching. Mayr (1994) replicated Urban's results by finding that *Sociability*, *Stability* and *Self-control* were significantly correlated to pre-service teachers' satisfaction regarding their choice of occupation as well as their performance in professional practice.

However, there seem to be thresholds for some personality traits, as, for example, the teachers' performance and satisfaction abruptly dropped if their level of *Stability* or *Self-control* lay below a percentile rank of 25 (Mayr, 1994, p.122). Furthermore, very low levels of *Sociability*, *Stability* or *Self-control* had detrimental effects on all criteria. Corresponding to Urban's and Mayr's results, a more recent study conducted by Cramer and Binder (2015) yielded similar results by showing that *Extraversion*, *Agreeableness* and *Neuroticism* related to the teachers' burden as well as their burnout-risk. Furthermore, Fortmüller and Werderits (2010) showed that *Extraversion* correlated significantly with teaching characteristics such as the lessons' structure, climate and the pupils' overall satisfaction. In line with these results, *Warmth*, *Optimism*,

*Respect*, *Trust* and *Empathy* are named as some of the key features for teachers in Hattie's (2009, 2012) popular meta-meta-study, in which 800 meta studies were analyzed in terms of factors influencing students' learning success.

Corresponding to the aforementioned results, the *Lehrer- Persönlichkeits-Adjektivskalen* [Teacher-Personality-Adjective-Scales] (LPA), a measuring instrument constructed by Brandstätter and Mayr (1994), include pairs of opposing adjectives essential for teachers, such as *ruhig* (calm) vs. *lebhaft* (lively), *kühl* (brittle) vs. *warmherzig* (affectionate), *selbstsicher* (self-assured) vs. *scheu* (timid), *wechselhaft* (moody) vs. *selbstbeherrscht* (self-controlled), or *sorglos* (carefree) vs. *gewissenhaft* (conscientious).

However, whereas a plethora of studies has been conducted in school-based environments, only a few studies dedicated themselves to the question whether these results can be transferred into the area of early child care. Even studies focusing on child care workers' characteristics investigated mainly structural variables, such as the child care workers' quality of training, their years of experience, or their professional competencies (e.g., NICHD, 2002; Pianta et al., 2005). Some more recent studies conducted descriptive investigations of child care workers' personality. In a study conducted by Vorkapić (2012), croatian preschool teachers showed higher levels of *Extraversion, Agreeableness, Conscientiousness* and *Openness* but lower levels of *Neuroticism* than a normative sample. A study conducted by Smidt and Roux (2015) showed that German prospective child care workers rated themselves as more *open* and *agreeable* than a subsample from the German Socio-Economic-Panel. A recent study by Eckhardt and Egert (2018) showed that caregivers in different early child care settings in Germany showed high levels of *Agreeableness, Conscientiousness, Extraversion* and *Openness* and low to moderate levels of *Neuroticism* (p. 8).

However, even though the published information about the child care workers' personality is scarce, some studies hint at relations between the Big Five personality traits (McCrae & Costa,

1987) and process quality in preschool (Eckhardt & Egert, 2017, 2018; Tietze et al., 2012). A study conducted by Tietzte et al. (2012), the *Nationale Untersuchung zur Bildung, Betreuung und Erziehung in der frühen Kindheit* [National Study on Education, Learning and Upbringing in Early Childhood] (NUBBEK), showed that process quality in kindergarten was higher if child care workers were more extraverted. Newer analyses based on the NUBBEK data conducted by Eckhardt and Egert (2017, 2018) confirm these results by showing that adding the child care workers' personality into a linear regression model significantly improves the explanation of the process quality's variance. More specifically, they found significant linear relationships between the traits *Agreeableness*, *Conscientiousness* and *Openness* and the process quality as measured by different scales. Additionally, Eckhardt and Egert (2018) showed that whereas structural features were the most important factor in expalaining process quality in center-based child care, the child care workers' personality characteristics were the next important factor, explaining an additional 9% to 11% of $R^2$ in the regression analyses. Accordingly, Eckhardt and Egert (2018) concluded that "individual characteristics like personality traits of educators contribute significantly to explaining variations in process quality for young children" (p. 11).

This statement goes along with what seems to be public opinion, as various public sources demand certain personality characteristics as well as a certain behavior of child care workers. For example, german documents for the training of child care workers desire them to be *resilient*, *sensitive*, *communicative* and *responsible* (Bundesagentur für Arbeit, 2018; Thiersch et al., 1999). The fact that personal competences and a personal suitability is demanded for the training as well as the employment of child care workers (e.g., Autorengruppe Fachschulwesen, 2011; Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland, 2011) implies that people are still convinced that the child care workers' personality plays an important role for the interaction with children.

Another fact that reinforces this idea is that in the curricula designed for the child care workers' training, their personality development is considered an important factor (see Chapter 2 of this thesis or Röhler et al., 2018). In a study conducted by Röhler et al. (2018) lecturers and prospective child care workers were interviewed with regard to the personality development in their training. As a result, Röhler et al. (2018) remark that all respondents responsible for the curricula – in universities as well as professional schools – consider personality development as an especially notable element in the qualification of early child care professionals and characterize personality as an important if not pivotal aspect for professional action (p. 92). In detail, the respondents want a child care worker to be *self-reflective*, *biographical aware*, *sensitive*, *empathetic*, *communicative*, *humorous*, *tolerant*, *independent*, *mature* and *self-assured* (Röhler et al., p. 94). In sum, Röhler et al. (2018) refer to the pivotal positioning of personality development in the qualification guidelines and stress the importance of the child care workers' personality for interactions. In line with these statements, Eckhardt and Egert (2018) stress the importance of child care worker's personality by argueing that "in addition to beliefs, educator's personality and other individual personal characteristics need to be considered and should be included in a holistic model that guides further research to explain variations in child care quality and children's learning" (p.4).

Altogether, current studies (Eckhardt and Egert, 2017, 2018; Röhler et al., 2018) show that conducting research with regard to the personality of pedagogical professionals is still an active field of research. Nonetheless, only very few studies investigated the association between personality traits and process quality so far. In this thesis, we aim to conduct a profound investigation of this association by first asking experts wich personality traits they consider to be important for child care workers and then validating the results by examining the relationship between the named traits and the child care workers' process quality. In the next chapter, we describe the thesis' aims and research questions in detail.

## 1.3 The Present Dissertation - Aims and Research Questions

In the present thesis, we aim to identify important personality traits of early child care workers and examine their effect on process quality.

Our model extends a model constructed by Tietze and Lee (2009) in which structural and orientational quality affect process quality and family relations which in turn affect children and their families.

In Figure 1 we present our extension of this model. In line with Tietze and Lee (2009), we assume that relationships exits between structural, orientational and process quality which in turn influence the development of children's (outcome). However, we extend their model by assuming that the child care workers' personality (input) affects the quality variables (output). In this thesis, we focus on the relationship between the child care workers' personality and their process quality. In order to investigate this relationship, we conducted three studies which we will describe in detail in the next paragraph.

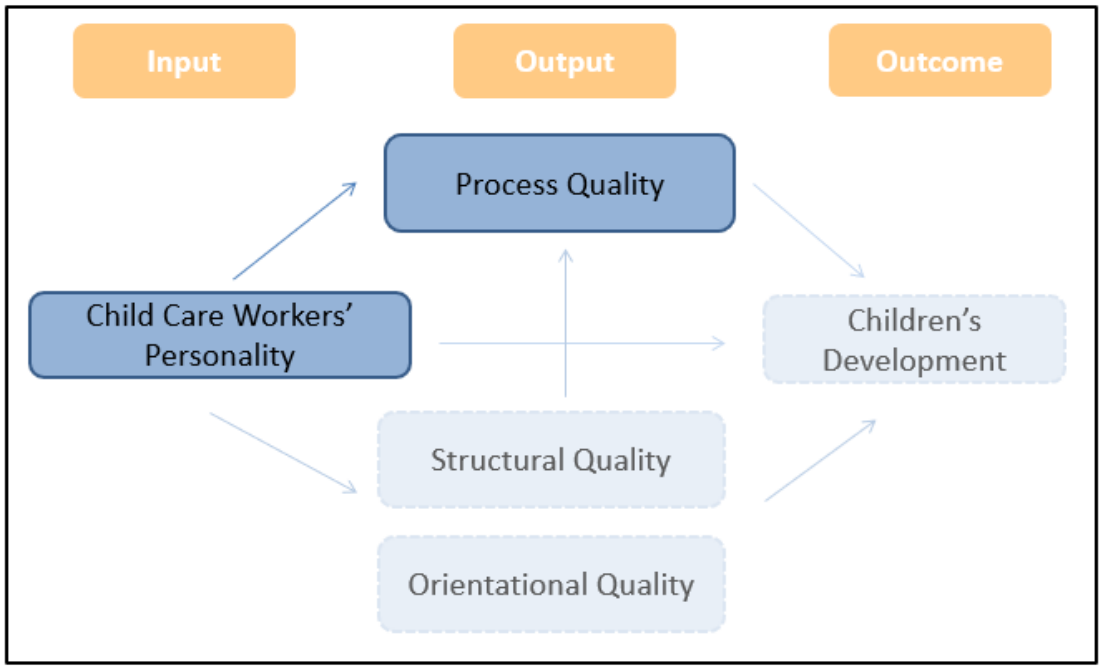


*Figure 1*. Thesis model showing the presumed linkage between child care workers' personality and process quality.

In our first study, we try to answer the question which personality traits are pivotal for the profession of a child care worker. Correspondingly, Chapter 2 focuses on a qualitative requirement analysis: In order to assess important traits for a child care worker, we interviewed two groups of subject matter experts (parents and child care workers) using an open online survey. Additionally, we performed an extensive content analysis of curricula for the training of child care workers and educational plans for preschools. In order to obtain pivotal personality traits, we then combined the data of the online survey and the data of the content analysis. We analyzed the data in order to answer the questions:

a) which traits are named most frequently and

b) whether or not there is consensus between the two groups of experts regarding important traits for child care workers.

In our second study, we try to answer the question how pronounced the reported pivotal personality traits should be for child care workers. Correspondingly, Chapter 3 focuses on a quantitative requirement analysis: First, we selected a set of 60 personality trait adjectives from the ones obtained in our first study. Subsequently, we surveyed three groups of experts (parents, child care workers and lecturers for the training of child care workers) with regard to the importance as well as the minimal, ideal and maximal levels of the selected traits. We analyzed the data in order to answer the questions:

a) what the ideal child care worker's personality trait profile looks like according to the experts and

b) whether or not there is consensus between the three expert groups regarding the minimal, ideal and maximal trait levels for child care workers.

Hence, we constructed personality trait profiles for each of the three expert groups. Additionally, we conducted Kruskal-Wallis- and Friedmann-tests in order to compare the experts' consensus.

In our third study, we try to answer the question whether the child care workers' personality relates to their process quality. Therefore, Chapter 4 focuses on a video assessment in which student raters judged child care workers' personality by watching short video clips (*Thin Slices* of their behavior, see Ambady & Rosenthal, 1992 or Chapter 4.1 of this thesis). We analyzed the data in order to answer the questions:

a) whether the experts' ideal profiles constructed in our second study correlate with process quality and

b) whether the child care workers' levels on higher-order personality factors predict their process quality.

Hence, we compared the child care workers' personality profiles to the experts' ideal profiles. Additionally, we conducted correlational analyses, factor analyses and regression analyses.

In Chapter 5, we provide a general discussion of this thesis. We summarize the results, discuss the limitations and present theoretical and practical implications.

# 2 Wanted: An Effective Child Care Worker - A Qualitative Requirement Analysis

What should a child care worker be like in order to provide high pedagogical quality? Or, to be more precise, which aspects of a child care worker's personality could be important for providing high interactional or process quality? And, moreover, do different expert groups agree with regard to which personality aspects are the most important ones?

To answer these questions, it seems crucial to

a) define what we understand as *personality* in this thesis and
b) determine how to assess the appropriate data.

Accordingly, we first adress the issue of relevant personality frameworks. Subsequently, we adress the issue of data collection by describing a renowned data collection method: the *requirement analysis*.

## 2.1 Personality Traits and Frameworks

Indisputably, the main task of child care workers is the social interaction with children. In order to assess how the child care workers' personality affects this interaction, we utilized the so-called *trait theory approach* (e.g., Eysenck, 1947) which implies that personality consists of various *traits*. These traits are known to be relatively consistent and stable, meaning they persist across different situations as well as over time (e.g., Rammsayer & Weber, 2016).

In this thesis, we assume that child care workers generate higher or lower interactional quality depending on their level of those traits that are relevant for social interaction. Accordingly, we present two renowned personality taxonomies including such traits: the *Five Factor Model* and the *Interpersonal Circumplex* model.

These days, the most prominent personality model seems to be the Five Factor Model (FFM) (Costa & McCrae, 1992b; Goldberg 1990; McCrae & Costa, 1999). As its name suggests, this model includes five factors to define human personality: *Extraversion* (e.g., being sociable, talkative and adventurous), *Agreeableness* (e.g., being cooperative, patient and trustful), *Conscientiousness* (e.g., being responsible, persistent and dependable), *Neuroticism* (e.g., being anxious, insecure and nervous), and *Openness* (e.g., being imaginative, curious and tolerant) (Costa and McCrae, 1992b; Goldberg, 1990). Throughout the last decades, these so-called *Big Five* have been replicated across various languages and cultures and have also been found to generalize across different types of methods and raters (for an overview, see John & Srivastava, 1999). For social interaction, *Agreeableness* and *Extraversion* seem to play a special role (Cuperman & Ickes, 2009; Costa, McCrae and the PAR Staff, 2010). Studies conducted by Tietze et al. (2012) as well as Eckhardt and Egert (2017, 2018) even demonstrated the importance of *Extraversion* and *Agreeableness* for early child care and education by finding relationships between the child care workers' traits and their process quality.

However, there is another taxonomy which is often applied in the social sciences, the so-called Interpersonal Circumplex (IPC) by Wiggins (1982). This model can be illustrated as a circle which is defined by two orthogonal axes, one representing *dominance* or *power* and one representing *love* or *warmth* (Foa, 1961; Leary, 1957). These two basic factors, often referred to as the *Big Two*, are regarded as fundamental dimensions of the human personality (Abele and Wojciszke, 2014; Judd, James-Hawkins, Yzerbyt, and Kashima, 2005). Even though these factors have been labeled differently in different studies (e.g., *Alpha*/*Warmth/Femininity/Morality* vs. *Beta*/*Dominance/Masculinity/Competence*; for an overview, see Abele & Wojciszke, 2014), they are often referred to with the terms *Communion* and *Agency* which were initially introduced by Bakan (1966). One prominent definition of the two factors is given by Abele, Uchronski, Suitner, and Wojciszke (2008). Regarding Communion, they remark that

> ‘Communion’ refers to a person’s striving to be part of a community, to establish close relationships with others, and to subordinate individual needs to the common good. ‘Communion’ manifests itself in empathy and understanding, in cooperation and caring for others, as well as in moral behavior. (Abele et al., 2008, p. 1204)

Regarding Agency, they remark that

> ‘Agency’ refers to a person’s striving to be independent, to control one’s environment, and to assert, protect, and expand one’s self. Agentic individuals are usually capable of high performance and are autonomous and individualistic; they like to lead and to dominate, are aspiring and strive to achieve their goals, even if they have to conquer obstacles. (Abele et al., 2008, p.1204)

With regard to the Big Two’s importance for social contexts, Locke (2011) reports that „from a psychometric perspective, factor analyses show that the dimensions of agency and communion account for a large proportion of the variance in ratings of interpersonal behaviors and traits” (p. 313-314). Wiggins (2003) adds to this explanation by stating that “virtually all types of interpersonal relatedness are included somewhere within the interpersonal circle. All forms of relating to one another can be represented in terms of the two fundamental dimensions of agency and communion that define the interpersonal circle” (p. 71).

Investigating the relation between the Big Five and Big Two models, several research studies showed that *Communion* and *Agency* can be regarded as two superordinate factors composed of the Big Five factors (Costa & McCrae, 1989; Digman, 1997; DeYoung, Weisberg, Quilty, Peterson, 2013; Blackburn, Renwick, Donnelly & Logan, 2004). For example, Locke (2011) states that “psychometric support comes from studies showing that extraversion and agreeableness (the interpersonal factors of the solidly supported five-factor model of personality) are rotational variants of agency and communion” (p. 314). According to Digman

(1997) and Rammsayer & Weber (2016), *Alpha/Communion* equals a meta-factor composed of the traits *Agreeableness, Conscientiousness* and *Emotional Stability* whereas *Beta/Agency* equals a meta-factor composed of the traits *Openness* and *Extraversion*.

Accordingly, both models provide a theoretical background for the understanding of personality in this thesis and suit to integrate our results into a broader context.

After defining our understanding of personality, we subsequently address the question how to assess crucial personality traits of child care workers by presenting a technique commonly used in the personnel selection process: the *requirement analysis*.

## 2.2 Requirement Analysis

The requirement analysis (also called *job analysis*) is a prominent method developed to identify occupational requirements as well as a person's characteristics in order to provide a good fit between the two. Requirement analyses can either focus on the job, on the worker, or on both. Because we were interested in the personality characteristics of child care workers in the present study, we chose a worker-oriented focus. For this kind of analysis, researchers commonly asses human attributes called the *KSAO*, referring to *knowledge*, *skills*, *abilities* and *other characteristics* (Schuler, 2006). In our study, we focused on personality traits (usually considered as a part of the *other characteristics* category), thus applying a trait-based approach.

Examples of existing trait-based measuremt instruments include the *Threshold Traits Analysis System* (TTA) (Lopez et al., 1981), the *Personality-Related Position Requirements Form* (PPRF) (Raymark, Schmit and Guion, 1997), and the *NEO Job Profiler* (Costa, McCrae & Kay, 1995). However, these instruments are usually designed to compare a number of different occupations and contain higher-order traits that can be assumed to be important for most jobs. For example, Sackett & Walmsley (2014) showed that the Big Five trait *Conscientiousness* is important for job performance in various occupations. Correspondingly, several studies showed that in order to be successful in various occpuations, different levels of the Big Five personality

traits (McCrae & Costa, 1987) appear to be more or less suitable (Fehr, 2006). In line with these findings, Barrick, Mount and Gupta (2003) showed that the Big Five relate to different vocational interests. For the social domain, they found correlations between vocational interests and *Agreeableness* as well as *Extraversion* (Barrick et al., 2003).

Although these results are important, they are limited insofar as they do not enhance our knowledge about traits specifically crucial for individual occupations.

In this thesis, we argue that since the main task of a child care worker is the social interaction with children, the personality traits affecting these interactions appear to be of special importance for this occupation. Presumably, child care workers might generate higher or lower interactional quality depending on their level of certain job-specific personality traits. Accordingly, the assessment of such job-specific trait requirements seems to be reasonable. For the assessment of teacher-specific personality traits in school, Brandtstätter and Mayr (1994) constructed the *Lehrer-Persönlichkeits-Adjektivskalen* [Teacher-Personality-Adjective-Scales; LPA]. However, being a school teacher differs from being a child care worker and, to our knowledge, a similar measure for the area of early child care does not yet exist. Therefore, we decided to start from scratch by conducting a trait-based worker-oriented requirement analysis for the occupation of early child care workers with the aim to identify important personality traits for this occupation.

In order to assess pivotal personality traits for a specific occupation, researches often consider the views of so-called *subject matter experts* (henceforth referred to as "SMEs") in requirement analyses (Schuler, 2006). These SMEs are people who are experts regarding the occupation that researchers want to investigate. In the field of early child care, we considered three important groups of SMEs.

(a) child care workers themselves, as they have been trained for and work in this occupation and are therefore predestined to provide information about the personality traits which are most important in their job,

(b) parents of children attending early child care, as they are the ones who are interested in and utilize the services of child care workers and

(c) lecturers at professional schools and politicians responsible for the training of child care workers, as they have put a lot of effort into the question what a child care worker should be like.

In order to answer our question which personality traits are pivotal for early child care workers and whether or not experts agree with regard to these traits, we planned, constructed and conducted appropriate requirement analyses. To do so, we followed Schuler's (2002) suggestion to combine a *qualitative* (Chapter 2) and a *quantitative* (Chapter 3) analysis. First, we conducted a *qualitative* requirement analysis characterized by analyzing written material (e.g., syllabi, job descriptions) and interviewing SMEs using an open-ended questionnaire. Subsequently we conducted a *quantitative* requirement analysis characterized by using standardized assessments such as a close-ended questionnaire and scales.

In the remainder of this chapter, we describe the procedure as well as the results of our qualitative online requirement analysis and discuss its implications and limitations.

## 2.3 Materials and Methods

### 2.3.1 Design

Our qualitative requirement analysis consisted of two parts. In part one, we interviewed child care workers and parents using an online survey with open-ended questions. In part two, we conducted a content analysis of relevant documents – such as syllabi for child care workers and educational plans for preschools - as a source of the lecturers' and the politicians' positions.

### 2.3.2 Surveys

Our online surveys for parents and child care workers were available during a limited period of five weeks between July and August in 2013.

The surveys for both groups were widely identical and consisted of the following parts:

(1) a welcoming text with information about the purpose of the study,

(2) a page to create a personal code,

(3) several questions regarding demographical data (e.g., age, level of education, children),

(4) an open question asking for the tasks a child care worker has to accomplish,

(5) an open question asking for important personality traits a child care worker should possess (max. naming 16 words),

(6) a request to select the five most important adjectives amongst the aforementioned ones,

(7) an open question asking for traits a child care worker should not possess (max. naming 16 words),

(8) three open questions about which other characteristics could be important, and

(9) a page thanking them for their attendance and giving them the possibility to participate in a lottery.

Additionally, we asked the group of child care workers several questions concerning their professional training as well as their occupation (e.g., years of experience, working hours per week, role in preschool). You can find an excerpt of the survey in Appendix A.1. We recruited the participants by contacting all *Kindergärten* [preschools] in the cities of Landau (Rheinland-Pfalz) and Karlsruhe (Baden-Württemberg), Germany. We contacted each institution by email, including information material and links to the surveys. In order to increase the attendance, we provided the possibility to take part in a lottery.

To reach even more participants, we additionally contacted the operators of releveant online discussion boards and published our links on their websites after being granted permission to do so. The discussion boards granting us permission are listed in Appendix A.2. In Chapter 2.3.4 we describe the ad-hoc-sample we reached in this way.

### 2.3.3 Content Analysis

To assess the opinions of child care workers as "on-the-job-experts" and parents as the ones who utilize their services seems obvious. However, experts like lecturers responsible for the training of child care workers and politicians responsible for their education have already put a lot of effort into the question what a child care worker should be like. In order to create a holistic overview, the positions of these SMEs should be considered as well. One effective approach to do so is to analyze relevant documents as we assume that they include the combined thoughts and positions of these two expert groups

Regarding these documents, it is important to know that to be approved by the German State, prospective child care workers usually have to attend a multiannual apprenticeship at so called *Fach*- or *Berufsschulen* [professional schools]. For this purpose, each federal state has its own curriculum, a so-called *Lehrplan* [syllabus], providing the framework according to which child care workers are trained at the professional schools. Nevertheless, many federal states stress

that besides obtaining a professional education, prospective child care workers' personal(ity) development is one main goal of their apprenticeship. Therefore, we assumed that the syllabi also refer to personality traits regarded as important by experts for the education of child care workers. Consequently, we conducted a qualitative content analysis of the professional schools' syllabi from all federal states ($N$ = 20).

Note that in terms of early child care and education, no uniform educational plan exists in Germany. Instead, each federal state has its own recommendations, called *Bildungsplan* [educational plan], providing the framework according to which children should be educated. Invented by committees for early childhood education, these plans address subjects and goals for children attending early child care settings and usually include statements and suggestions regarding child care workers. In order to add the committees' views, we included these educational plans into our content analysis ($N$ = 24).

Furthermore, we also embedded a set of generally valid recommendations for child care workers in Germany, for example, the recommendations provided by the *Kultusministerkonferenz* [Standing Conference of the Ministers of Education and Cultural Affairs] and the German employment agency ($N$ = 6). In order to compare German expert literature with international recommendations, we also analyzed the O*NET descriptions of preschool and kindergarten teachers ($N$ = 2).

Accordingly, we processed a total of $N$ = 52 documents altogether, henceforth referred to as "curricula". In the following paragraphs we describe the procedure as well as the results of this review. If you are interested in the exact files used, please see Appendix A.3.

In order to analyze the curricula, we used the software MAXQDA 11 (VERBI Software, 2012). Note that it was not the aim of this part of the study to simply replicate the adjectives collected in the surveys but instead to see whether or not the curricula referred to the same personality traits. Therefore, we analyzed the documents one after another in search of words and sentences

describing personality traits of child care workers. Using this method, we established a category system in the following (inductive) way: Each time a word or part of a sentence was found to describe a personality characteristic, we added it to the system (e.g. *kommunikativ (communicative), empathisch (empathetic), sollte nicht ironisch sein (should not be ironic)*). The arising category system was comprised of one to two words describing a category, in which we put corresponding words and sentences.

### 2.3.4 Participants

For the qualitative requirement analysis, we assessed the opinion of two groups of subject matter experts: parents and child care workers. For an easier understanding, we subsequently describe each sample separately.

***Parents.*** The group of parents consisted of 114 participants completing the survey at least as far as naming one positive personality trait adjective. For further data analysis, we excluded the data of one person who had no children. Thus, we entered the replies of 113 parents into further data analysis. Of this sample, 92% were female (4% chose not to answer this question). On average, the participants in this group were 34.93 years old ($SD$ = 6.06) and had 1.78 children ($SD$ = 0.82). The eductional degree most often named was *Universitätsabschluss* [university degree] with 45%, followed by *Abitur* [higher education entrance qualification] with 24%, *Realschulabschluss* [secondary school certificate] with 19%, *Promotion* [PhD certificate] with 4%, *Hauptschulabschluss* [secondary modern school qualification] with 3% and "other" with 6%. German was the mother tongue of 94% (4% chose not to answer this question). Of the participants, 71% were married, and another 23% lived in a stable partnership while 3% were single, 3% were divorced and 1% were widowed. Also, 77% of the participants stated they had children currently visiting early child care settings.

***Child Care Workers.*** The group of child care workers consisted of 61 participants completing the survey at least as far as naming one positive personality trait adjective. For further data analysis, we excluded the data of one person attending the survey twice. Thus, we entered the replies of 60 child care workers into further data analysis. Of this sample, 87% were female (2% chose not to answer this question). On average, the participants in this group were 35.29 years old (*SD* = 10.68). The educational degree most often named was *Realschulabschluss* [secondary school certificate] with 42%, *Universitätsabschluss* [university degree] with 15%, followed by *Abitur* [higher education entrance qualification] with 23%, and *other* with 17%. German was the mother tongue of 87% (12% chose not to answer this question). Of the participants, 30% were married, and another 35% lived in a stable partnership while 27% were single, and 2% either were divorced or living apart (5% chose not to answer this question). Also, 40% of the participants stated to have children themselves (2% chose not to answer this question). These parents among the child care workers had 2.33 children on average (*SD* = 1.09), and 12% stated that at least one of their children was currently attending an early child care setting. Regarding occupational questions, 78% of the child care workers stated to have been state-approved for their job. On average, they had been working in their job for 10.84 years (*SD* = 10.45) and worked for 34.64 hours per week (*SD* = 7.77). Furthermore, 82% said they were currently working in an early child care setting (2% chose not to answer this question). Also, 8% stated they had an advanced training as *Sprachförderkraft* [language promoter]. When asked for the teacher-child-ratio in their institution, they reported an average ratio of 8.11 (*SD* = 4.35).

Thus, altogether, we entered the data of $N_1$ = 113 parents and $N_2$ = 60 child care workers into further data analysis.

### 2.3.5 Analyses

Using the adjectives named by the participants, we created two lists for the parents and two for the child care workers. Whereas one list contained positively attributed words (e.g., *communicative, friendly, affectionate*…) the other one contained negatively attributed words (e.g., *ironic, aggressive*…). Subsequently, we conducted the following steps of data analysis for both lists separately:

First, we counted the frequencies of the named words. Afterwards, we summarized the adjectives with similar meanings, or more specifically, synonymous words according to the German dictionary *Duden*. Applying this procedure, we combined similar words into one word, therefore adding up their nominations to a summarized value. For example, the adjectives *gerecht* (*just)* (named by 14 parents) and *fair* (*fair)* (named by 6 parents) were combined into the word *gerecht* (*just)* with a new combined value of 20 nominations. Additionally, we eliminated words not describing personality traits but instead referring to characteristics such as competencies or appearance (e.g., *tätowiert* (*tattooed), gepierct* (*pierced), sportlich (sporty), team-orientiert (team-minded)*). Applying this strategy yielded the results presented in Figure 2, Figure 3, Figure 4, and Figure 5.

Analogously, we processed the categories of words extracted from the curricula: We shortened the raw item lists by summarizing synonyms and eliminating words not referring to consistent and stable traits. We present the results in Figure 6.

Additionally, we present an overview of the complete (German) raw trait lists in the Appendices A.4 to A.8 and the complete (German) trait lists after summarizing and eliminating all non-trait-words in the Appendices A.9 to A.13.

## 2.4 Results

Our analysis of the surveys and the curricula resulted in lists of positive and negative personality trait adjectives for each group. In a next step, we compared these lists by contrasting the ten words most often named by each group. We present these *Top Ten* lists below. Note that because of draws in the adjectives' nominations, some of the figures include more than ten words. The y-axis lists the German trait adjectives named by the sample while English translations can be found in brackets.

### 2.4.1 Surveys

***Positive Traits Lists.*** In Figure 2 and Figure 3 we illustrate the Top Ten positive trait adjecitves named by parents and child care workers in the survey after combining the words with synonymous meanings and eliminating non-trait adjectives. The most frequently named positive adjectives were *liebevoll* (*affectionate)* for parents (61%) and *empathisch* (*empathetic)* for child care workers (67%). However, both groups agreed on the following eight out of the positive Top Ten (or eleven because of a draw/tie in the parents' table) words: *empathisch* (*empathetic), geduldig (patient), offen (open), kreativ (creative), liebevoll (affectionate), konsequent (consistent), freundlich (friendly), intelligent (intelligent)*.

Beyond that, parents thought that child care workers should be *belastbar* (*resilient), ausgeglichen* (*even-tempered)* and *humorvoll* (*humorous)*. In contrast, child care workers stated they should be *flexibel* (*flexible)* and *authentisch* (*authentic)*. Nonetheless, all the positive Top Ten adjectives of one group could be found on the other group's complete adjectives list.

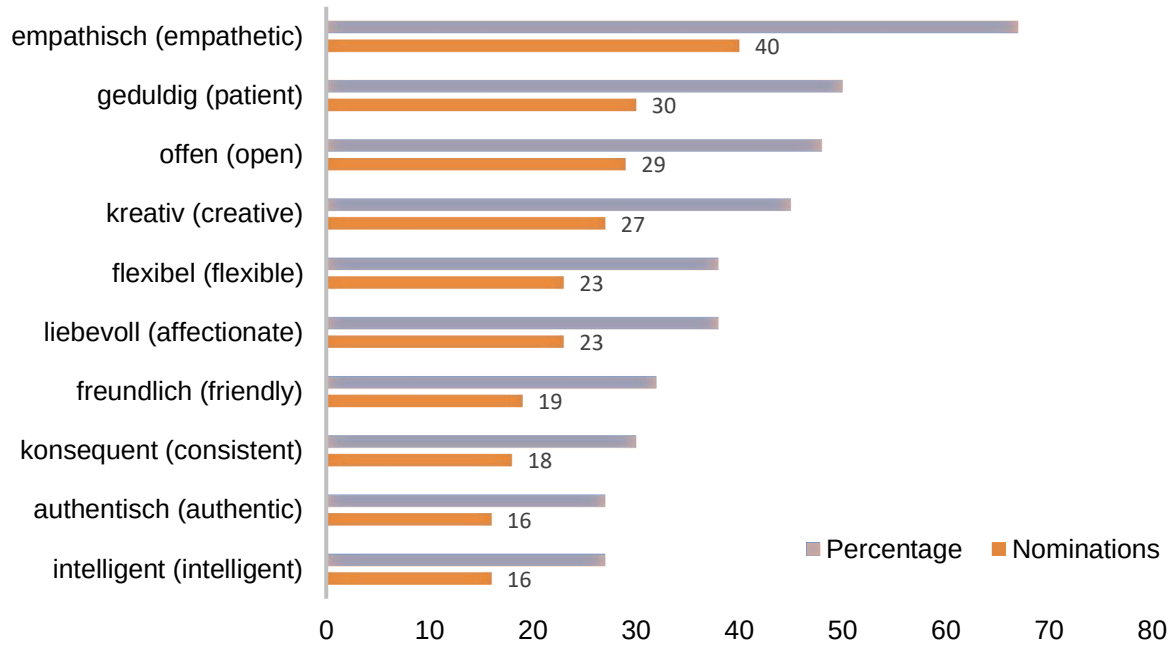


*Figure 2.* Top Ten positive traits named by child care workers (with combinations) (*N* = 60).

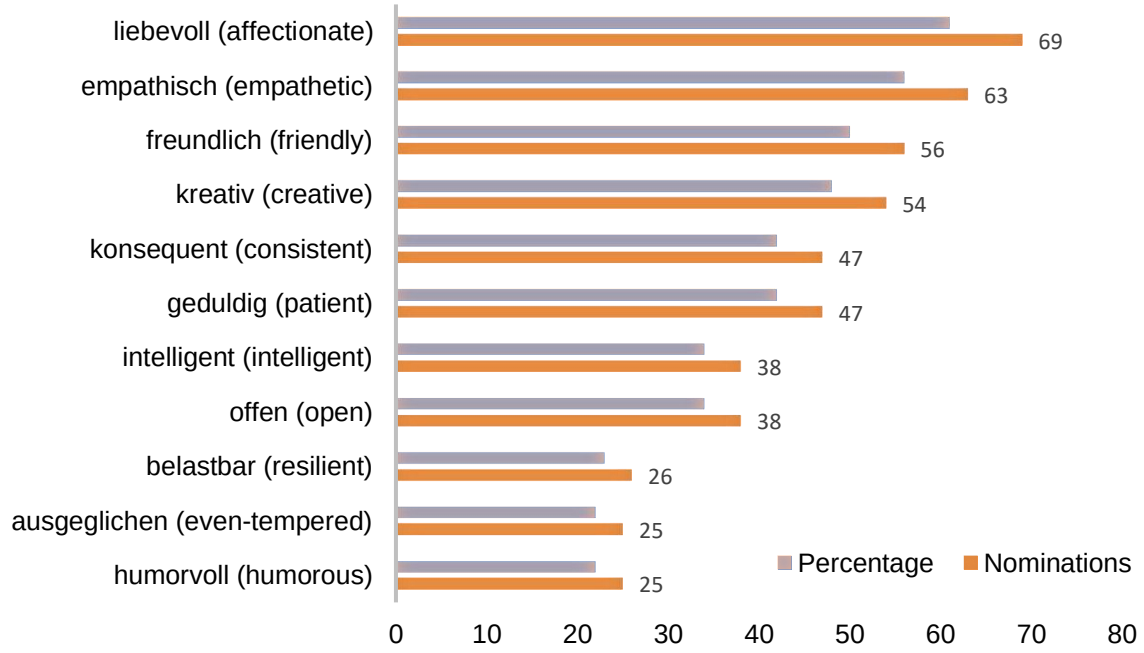


*Figure 3.* Top Ten positive traits named by parents (with combinations) (*N* = 113).

***Negative Traits Lists.*** In Figure 4 and Figure 5 we illustrate the Top Ten negative trait adjecitves named by parents and child care workers in the survey after combining the words with synonymous meanings and eliminating non-trait adjectives. The most frequently named negative adjective for parents (40%) as well as child care workers (49%) was the word *ungeduldig* (*impatient)*. In total, both groups agreed on seven out of the negative Top Ten (*uninteressiert* (*uninterested)*, *aggressive* (*aggressive)*, *faul* (*lazy)*, *ängstlich* (*anxious)*, *stur* (*stubborn)* and *launisch* (*moody)*).

Beyond that, parents thought that child care workers should not be *jähzornig* (*quick-tempered)*, *unfreundlich* (*unfriendly)*, *ungerecht (unjust)* and *voreingenommen* (*prejudiced)*. Child care workers stated they should not be *unflexibel* (*inflexible)*, *egoistisch (egoistic)* and *nicht belastbar* (*not resilient)*.

Again, note that all of the negative Top Ten words appeared in the other group's complete adjectives list.

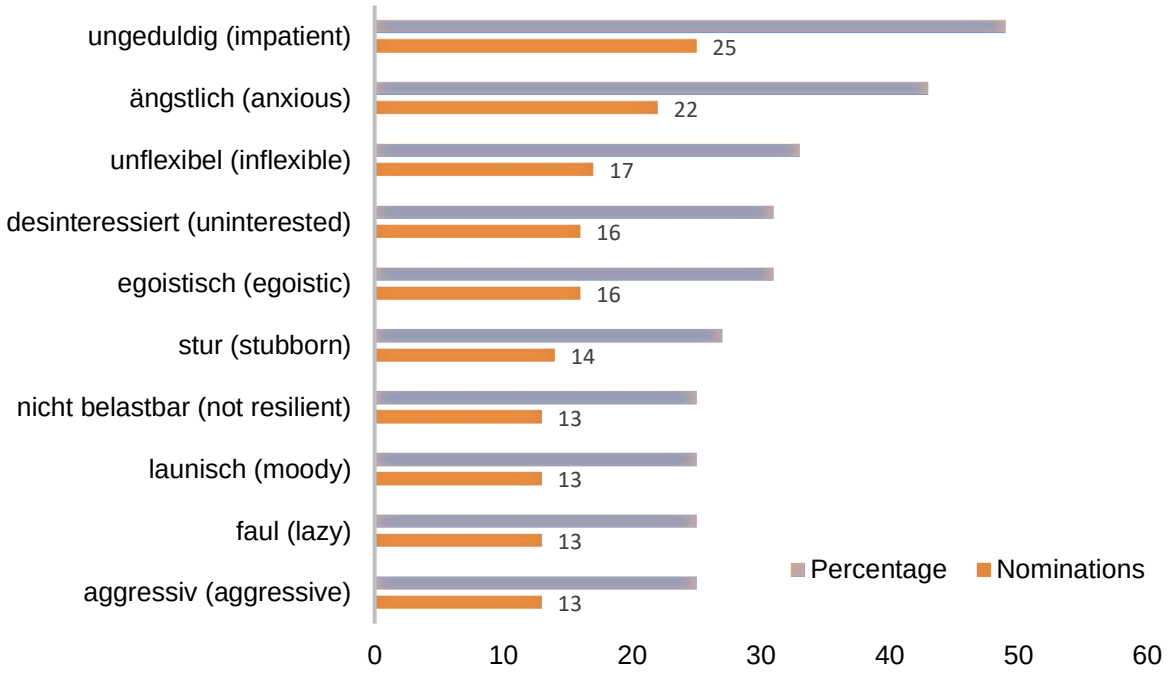


*Figure 4.* Top Ten negative traits named by child care workers (with combinations) (*N* = 51).

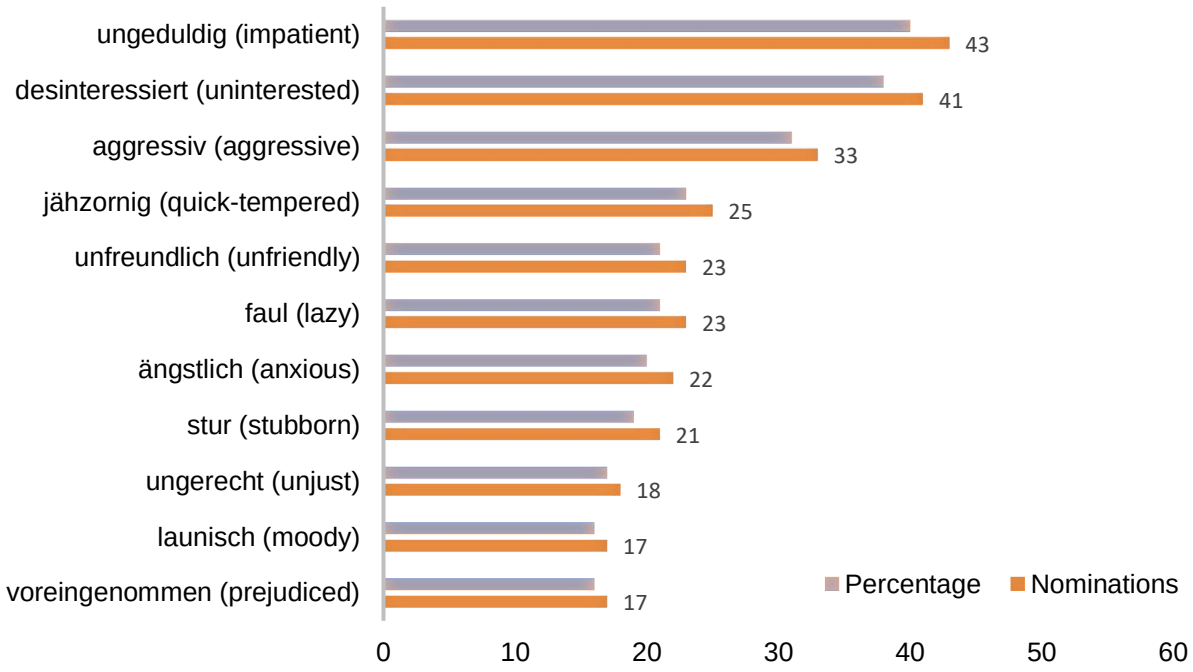


*Figure 5.* Top Ten negative traits named by parents (with combinations) (*N* = 108).

### 2.4.2 Curricula

In Figure 6 we present the Top Ten positive adjectives extracted from the curricula. In five cases (*offen* (*open*), *liebevoll* (*affectionate*), *kreativ* (*creative*), *empathisch* (*empathetic*), *geduldig (patient)*) the words matched with the positive Top Ten of the parents and child care workers.

However, according to the curricula, child care workers should also be *kooperativ* (*cooperative*), *kommunikativ* (*communicative*), *wertschätzend* (*appreciative*), *verantwortungsbewusst* (*responsible*), and *organisiert* (*organized*).

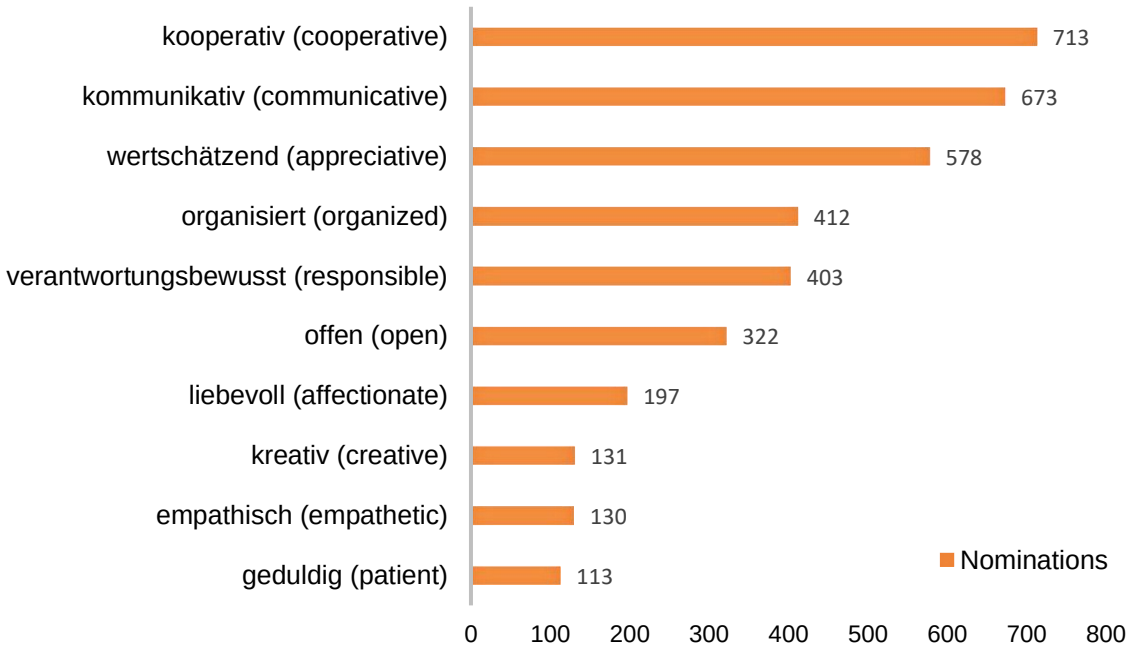


*Figure 6.* Top Ten positive traits mentioned in the curricula (with combinations) ($N$ = 52).

On account of too few negative trait adjectives emerging from the content analysis, it was not possible to construct a meaningful negative Top Ten list for the curricula.

## 2.5 Discussion

The most important result we found by means of our qualitative requirement analysis is that parents and child care workers named similar adjectives regarding the question which traits a child care worker should possess. Even though the order of the trait adjectives varied between the two groups, they agreed in eight out of the Top Ten most frequently named positive adjectives. Additionally, all the positive Top Ten adjectives mentioned by the parents and child care workers appeared in the complete adjectives lists of the other group (see Appendix A.9 and A.10). This indicates high consensus between the parents and child care workers.

For the negative trait adjectives, referring to traits a child care worker should not possess, we found similar results: The groups agreed on seven out of Top Ten adjectives. Again, all the

negative Top Ten adjectives mentioned by the parents and child care workers appeared in the complete adjectives lists of the other group, respectively (see Appendix A.11 and A.12).

In detail, the participating parents and child care workers agreed that child care workers should most notably be *empathisch* (*empathetic), geduldig (patient), offen (open), kreativ (creative), liebevoll (affectionate), consequent (consistent), freundlich (friendly),* and *intelligent (intelligent)*. Furthermore, they agreed that child care workers should not be *ungeduldig* (*impatient), uninteressiert* (*uninterested), aggressiv* (*aggressive), faul* (*lazy), ängstlich* (*anxious), stur* (*stubborn),* and *launisch* (*moody)*.

Note that these are the results of an open question survey (i.e., no words had been presented to choose from – with *intelligent* (*intelligent)* and *ängstlich* (*anxious)* being the only examples presented). Hence, the results show how similar parents and child care workers seem to think about which traits are crucial for child care workers. The high consensus between the two groups is an interesting finding insofar as it shows that provider and client of child care services have a similar view of what it needs in order to be a child care worker.

When comparing the results of the curricula and the surveys, five out of the Top Ten adjectives coincided (*offen (open), liebevoll (affectionate), empathisch (empathetic), kreativ (creative) and geduldig (patient)*). This result suggests at least partial consensus between the committees responsible for the curricula, parents and child care workers. However, the committees also seemed to consider traits that parents and child care workers did not report. One possible explanation for this finding is that parents and child care workers themselves might focus on the teacher-child-interaction when asked for traits important for the job. In contrast, the committees might also take the child care workers' additional tasks into account, such as organizational duties or the ability to work in a team. Moreover, the committees' focus might be affected by political agenda as well as social zeitgeist. However, this assumption has yet to be validated by future research studies.

With regard to the negative traits, the content analysis yielded a surprising result insofar as the curricula hardly contained any unfavorable traits for child care workers. One possible explanation for this finding might be that the committees take low levels of several traits for granted and therefore chose not to state them explicitely in the documents. For example, as it is absolutely vital for a child care worker not to be violent, this might be considered obvious and therefore might only be mentioned once or twice in the curricula. Additionally, rather unambiguous traits such as *violent* might require less definition than indistinct traits such as *empathetic*. Hence, the latter might generate several nominations simply because of the need to define its precise meaning. Still, as a consequence of the negative adjectives' absence, we could not create a negative Top Ten list for the curricula.

One limitation to be noted about this study is that the vast majority of the suerveyed parents (92%) and child care workers (87%) was female. However, the high proportion of female child care workers is not surprising, as about 96% of the child care workers in Germany are female (Destatis, 2017). One possible explanation for the high proportion of mothers taking part in our survey might either be that they are more active at online discussion boards where the study was announced or that they might enjoy taking surveys more than fathers. Whatever the case may be, this limits our study's results insofar as it is not clear whether fathers and male child care workers share the presented view.

After investigating the results yielded by the qualitative requirement analysis, several interesting questions arose. Might parents, child care workers and committees differ with regard to how pronounced the commonly mentioned traits should be? Or, in other words, did the participants possibly have ideal levels of these traits in their mind? And, furthermore, are the most frequently mentioned traits even valid insofar as they correlate with being an effective child care worker? In order to answer some of these questions, we conducted our subsequent quantitative requirement analysis.

# 3 Minimum, Optimum, Maximum

# - A Quantitative Requirement Analysis

After conducting our first study, we knew which personality traits parents and child care workers desired most in a child care worker. Yet, the questions remained

a) what the ideal child care worker's personality trait profile looks like according to the experts and

b) whether or not there is consensus between the expert groups regarding the minimal, ideal and maximal trait levels for child care workers.

In order to find answers to these questions, we again consulted the two subject matter expert groups (child care workers and parents). However, this time it was not possible to obtain the desired information by reading documents. Still, we wanted to take the position of people responsible for the training of child care workers into account. Hence, we decided to directly consult lecturers of professional schools as the third group of subject matter experts.

As we followed Schuler's (2002) suggestion to combine a qualitative and a quantitative requirement analysis (see Chapter 2.2), we needed to transform our qualitative data into a quantitative requirements survey. In the next sections, we first describe the data's editing before presenting our second study's methods and results.

## 3.1 Preliminary Analyses

In order to conduct a quantitative requirement analysis, we had to reduce the adjective lists obtained in our first study (see Chapter 2) to a reasonable amount of judgeable items.

With regard to an adequate number of judgeable personality traits, we decided to select 60 trait adjectives to be judged in the subsequent analysis. This number corresponds to the items in Costa and McCrae's short versions of their personality assessment systems NEO-FFI (Costa & McCrae, 1989) and NEO FFI-3 (McCrae & Costa, 2007). We considered this number as an adequate number of items since the aforementioned manuals state that 60 items can be judged in about 10 to 15 minutes. This seemed like a reasonable amount of time with regard to the fact that our participants had to judge four conditions (minimum, optimum and maximum levels as well as the traits' importance) in the survey.

The next point we considered was the adjectives' polarity. In our first study, we had asked the participants to name positive and negative traits. While most adjectives have a positive as well as a negative form in the German language - such as *flexibel* (*flexible)* and *unflexibel* (*inflexible)* - there are some adjectives whose opposites are not so obvious, for example *aggressiv* (*aggressive)* or *gewaltbereit* (*violent)*. In the end, we chose a ratio of 1 to 2 in favour of the positive traits. This decision was based on the assumption that judging the levels of negative adjectives might be more difficult than judging the levels of positive ones. Accordingly, we decided to choose a set of 40 positive and 20 negative trait adjectives.

To obtain this set, we applied the following criteria:

(1) the adjectives' overall frequency of nominations, (see Appendix B1. and B.3)

(2) the adjectives' consensus between the three groups (see Appendix B.2 and B.4), and

(3) the observability of the labeled trait.

We understood both, the adjectives' frequency as well as the groups' consensus, to be indicators of the adjectives' relevance for a child care worker. Furthermore, we used either a positive or a negative form of a word (e.g. *geduldig* (*patient)* or *ungeduldig* (*impatient)*). In the following sections, we describe the selection of the positive and negative adjectives separately.

### 3.1.1 Selection of the Positive Adjectives

In order to choose our 40 positive trait adjectives, we applied the aforementioned critera: the adjectives' frequency, the groups' consensus and the adjectives' observability.

Applying the criterion of frequency, we compared the Top Ten adjectives of the parents, the child care workers and the curricula. This analysis yielded 18 different adjectives in total (see Figure 2, Figure 3, Figure 4, Figure 5, and Figure 6). Out of these, we did not select the following three adjectives: (1) *offen (open)*, as we thought this adjective to be too broad and therefore feared misunderstanding, (2) *flexibel (flexible)*, as we decided to include its negative form *unflexibel (inflexible)* for the set of the negative traits and (3) *organisiert (organized)*, as we considered it as less important for teacher-child-interactions. Accordingly, we chose the remaining 15 adjectives for our set: *kooperativ* (*cooperative), kommunikativ (communicative), wertschätzend (appreciative), verantwortungsbewusst (responsible), liebevoll (affectionate), kreativ (creative), empathisch (empathetic), geduldig (patient), freundlich (friendly), konsequent (consistent), intelligent (intelligent), belastbar (resilient), ausgeglichen (even-tempered), humorvoll (humorous), authentisch (authentic).*

Applying the criterion of consensus (see Appendix B.2), we found that for 12 out of these 15 adjectives, consensus had been reached between the three groups insofar as each word appeared in the complete adjectives list of each group. The remaining three adjectives (*ausgeglichen* (*even-tempered), intelligent (intelligent), konsequent (consistent))* had been named by parents as well as by child care workers but had not been mentioned in the curricula.

Subsequently, we included another 15 adjectives by again applying the aforementioned criteria of frequency and consensus: First, we selected all adjectives with more than 15 overall nominations (see Appendix B.1) that showed consensus between at least two of the three groups (see Appendix B.3). With our main study already in mind, we then applied the criterium of observability by discarding adjectives that would be difficult to observe in a later video study.

After applying these criteria, the adjectives we selected for our set were: *ehrlich (honest), aufmerksam (attentive), tolerant (tolerant), selbstbewusst (self-assured), zuverlässig (reliable), kinderlieb (fond of children), spontan (spontaneous), fröhlich (lighthearted), optimistisch (optimistic), rücksichtsvoll (considerate), sensible (sensitive), vertrauensvoll (trustful), gerecht (just), neugierig (curious),* and *durchsetzungsstark (strong-willed).*

For 14 of these adjectives, consensus had been reached by all three groups. The word *kinderlieb (fond of children)* had achieved consensus between parents and child care workers.

In a next step, we included ten rarely and inconsistently named adjectives into the set. The reason to do so was the aim to validate the importance of the 30 frequently and consistently named trait adjectives. According to the aforementioned line of reasoning, we expected the 30 frequently named adjectives to be rated as more important for a child care worker than the rarely mentioned ones. This way, we implied a possibility for an internal validation of our assumption that the number of nominations of a trait corresponds to its actual perceived relevance.

The ten rarely mentioned adjectives we chose to include in our set for this purpose were: *energisch* (*energetic), stolz (proud), bescheiden (modest), distanziert (aloof), abenteurlustig (adventurous), konservativ (conservative), ehrgeizig (ambitious), eloquent (eloquent), emotional intelligent (emotionally intelligent),* and *anpassungsfähig* (*adaptable)*. Note that in this case, *rarely* meant that the adjectives showed equal to or less than 15 overall nominations. In addition, most of these adjectives lacked consensus.

In a final step, we used an additional criterion in order to validate our set of the selected positive trait adjectives. In our first study, the participants had had to indicate the five most important adjectives - the *Top Five* - out of the ones they had named before. Now, we used this rating as a validation of the positive adjectives' set by comparing our selected traits with the participants' Top Five. The comparison showed that all of our selected frequently named words had at least been named once in the Top Five-rating of the parents and/or the child care workers.

In Figure 7 we present the final set of our 40 selected positive trait adjectives as well as their overall nominations across the three groups. Note that the extreme differences between the adjectives' nominations (reaching from 1 to 722) can mostly be ascribed to the adjectives' presence or absence in the curricula.

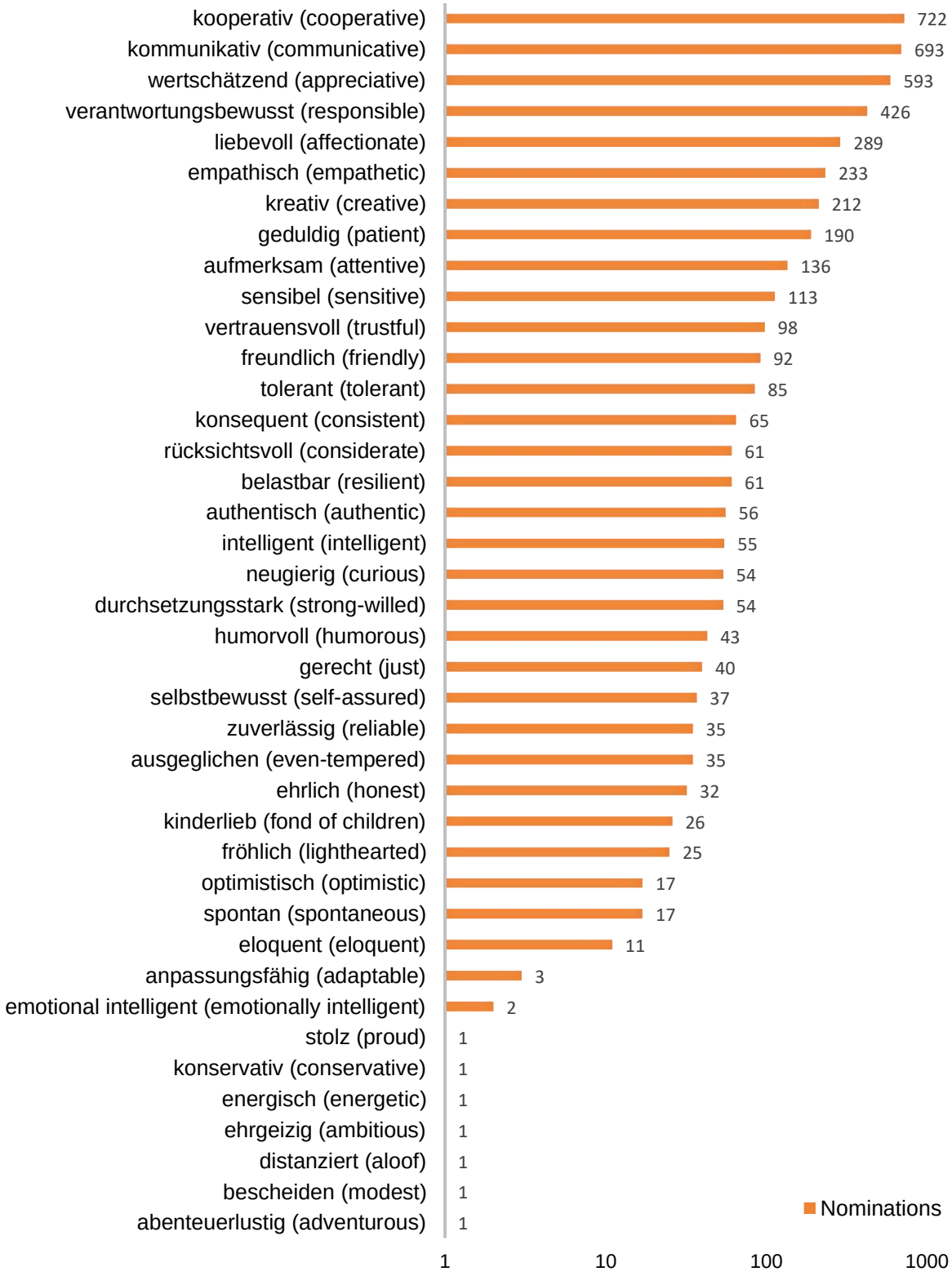


*Figure 7.* Set of 40 positive trait adjectives sorted by frequency across the three groups.

### 3.1.2 Selection of the Negative Adjectives

In order to reduce the data of the negative trait adjectives to 20 words, we used the same procedure as described for the positive traits: applying the criteria of frequency, consensus and observability. Out of the three groups' 15 different Top Ten adjectives, four were opposites of adjectives which we had already included in the set of the positive words *(ungeduldig (impatient), unfreundlich (unfriendly), ungerecht (unjust), nicht belastbar (not resilient))*. Accordingly, these words were excluded from further analysis. Another Top Ten adjective we excluded was *desinteressiert (disinterested)*. Even though this adjective is regarded as a trait in the NEO PI-R manual (Costa & McCrae, 1992), we assumed that it might not be understood as such by the participants and therefore might rather add to confusion.

The remaining Top Ten adjectives we selected for our set were: *aggressiv (aggressive), ängstlich (anxious), faul (lazy), stur (stubborn), egoistisch (egoistic), jähzornig (quick-tempered), voreingenommen (prejudiced), unflexibel (inflexible), introvertiert (introverted)* and *launisch (moody)*. Applying the criterion of consensus (see Appendix B.4), we found that for 8 of these ten adjectives, consensus had been reached between the groups of parents and child care workers insofar as each word appeared in the complete adjectives list of both groups. The word *voreingenommen (prejudiced)* had reached consensus by the parents and the curricula and the word *ängstlich (anxious)* had reached consensus by all groups. However, because we had used the adjective *ängstlich (anxious)* as an example in the online surveys, it should be handled with caution.

In a next step, we included two more adjectives with regard to frequency, consensus and observability. First, we selected all adjectives with more than 15 overall nominations (see Appendix B.3) that showed consensus between at least two of the three groups. With our main study already in mind, we again applied the criterium of observability by discarding adjectives that would be difficult to observe in a later video study. After applying these criteria, the two

adjectives we selected for our set were *abwertend (pejorative)* and *ignorant (narrow-minded).* Both words had reached consensus by the parents and the curricula.

Finally, we also included eight rarely and inconsistently named adjectives into the set of the negative traits. Again, we reasoned that these would be rated as less important for a child care worker in the subsequent quantitative analysis. These eight rarely named adjectives (showing equal to or less than 15 overall nominations) were: *gewaltbereit (violent), impulsive (impulsive), manipulative (manipulative), nachlässig (neglectful), naiv (naive), überfürsorglich (overprotective), verbissen (dogged),* and *verbittert (embittered)*.

As there had been no *Top Five*-rating question for the negative traits, we could not apply this criterion in the selection process of the negative adjectives.

In Figure 8, we present the set of the 20 selected negative adjectives as well as their overall nominations across the three groups. This time, the differences between the adjectives' nominations (reaching from 1 to 48) can mostly be ascribed to the adjectives' nominations by the groups of parents and child care workers.

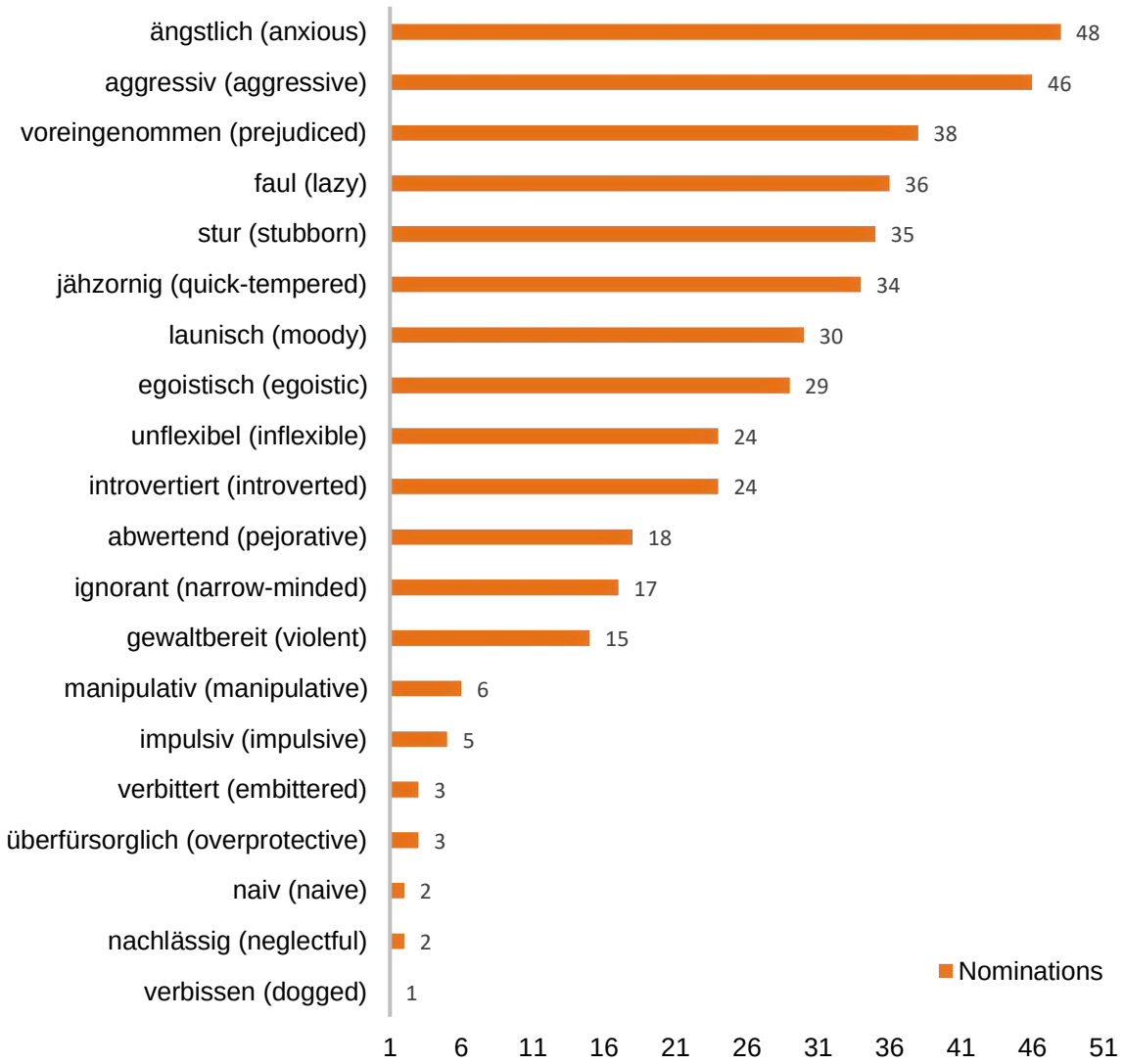


*Figure 8.* Set of 20 negative trait adjectives sorted by frequency across the three groups.

After selecting the two sets - one consisting of positive and one consisting of negative trait adjectives - we planned our quantitative requirement analysis which we describe in the next subchapter.

## 3.2 Materials and Methods

### 3.2.1 Design

We conducted our quantitative requirement analysis as an online study, available between December 2014 and January 2015. We recruited child care workers and parents by once again contacting all preschools in the cities of Landau in der Pfalz and Karlsruhe (Baden-Württemberg), Germany. Again, we contacted each *Kindergarten* [preschool] by email. In addition, we also sent them a printed flyer with information about the study. Furthermore, we again published the links to the surveys on relevant online discussion boards. We contacted the group of lecturers by sending printed flyers to professional schools in the federal states of Rheinland-Pfalz, Baden-Württemberg and Saarland. In order to increase attendance, we offered a voucher for an online mail-order company for the 50 first participants of each group that completed the survey. We describe the ad-hoc-sample reached in this way in section 3.2.2.

The online-survey included questions regarding the 60 adjectives we had selected in the preliminary analyses. However, rating 60 adjectives on several scales would have demanded a lot of the participants' time and possibly lowered their motivation to finish the survey. Therefore, we decided to construct two versions (A and B) of the survey. With the prerequisite that each version had to include 20 positive and 10 negative adjectives, we randomly assigned each adjective to either version A or version B. When taking the survey, the participants of each group were then assigned to either version A or B randomly.

Altogether, the surveys consisted of three parts. In the first part, we assessed demographic data. However, because the participants belonged to three different groups of SMEs, the demographic questions varied with regard to the professions of child care workers and lecturers. In the second part, we presented an example introducing participants to the subsequent questions (see Appendix B.5). For a given trait adjective (e.g., *organisiert (organized)*), the participants should

consecutively indicate three values on 7-point Likert scale: one for the *minimum,* representing the lowest limit a child care worker should reach at least, one for the *optimum*, representing the level of an ideal child care worker, and one for the *maximum*, representing a limit that should not be exceeded by a child care worker. Additionally, the example included a characterization of a person being *sehr organisiert* (*very organized)* versus *überhaupt nicht organisiert* (*not organized at all)*. After this example, the participants had to answer 20 questions of this kind for the positive trait adjectives. Subsequently, we presented another example informing them that some of the following words were now formulated in a negative way, for example *kontaktscheu (shy)*. Additionally, the example included a characterization of a person being *sehr kontaktscheu (very shy)* versus *überhaupt nicht kontaktscheu (not shy at all)*. At the end of the example, we reminded the participants to continue their rating in the same way they had done before. Afterwards, they had to answer 10 questions for the negative trait adjectives.

In the third part of the survey, the participants were asked to rate each adjective on a 7-point Likert scale again, but this time regarding its role (or importance) for a child care worker. They were instructed to judge whether the presented adjective played *a very big role* to *no role at all*. By again referencing to the adjective *organisiert (organized)*, we explained that *playing a very big role* meant that in order to be an effective child care worker, it is very important whether a person is organized or not. In contrast, *playing no role at all* implied that it does not matter whether a child care worker is organized or not. For the negative traits, the participants received another example, informing them that negatively formulated traits such as *kontaktscheu (shy)* could as well play *a very big role* or *no role at all* for an effective child care worker.

### 3.2.2 Participants

For the quantitative requirement analysis, we assessed the opinion of three groups of subject matter experts: parents, child care workers and lecturers for the training of child care workers. For an easier understanding of how we arrived at the groups' final sample sizes, we first outline our exclusion criteria before describing each sample in detail.

***Exclusion criteria.*** With regard to the subsequent data analysis, we first excluded the entire datasets of those participants who had attended the same survey twice. For the remaining datasets, we applied the following criteria: We excluded datasets from one part of the analyses if a participant had (a) not at least answered half of the items or (b) had seemingly not understood the questions in this part of the survey right. As we applied the exclusion criteria for each part of the survey, some participants' data was deleted from one part of the analyses but not from others. In the following paragraphs, we describe the exclusion criteria for each part in detail.

For the *minimum/optimum/maximum*-part of the survey, we excluded datasets if the participants (a) did not judge at least half of the item sets or (b) made at least four mistakes in judging the item sets logically correct. A participant was excluded from the analysis due to not judging items logically correct if at least four different item sets were erroneous (i.e., the maximum being smaller than the optimum, the minimum being greater than the maximum or the minimum being greater than the optimum).

For the *role*-part of the survey, we excluded datasets if the participants (a) did not judge at least half of the items or (b) judged more than half of the negative items as *not important* (i.e., rating it with a score of 1 or 2). In this case, we argue that judging most of the negative trait adjectives as irrelevant indicates misunderstanding of the instruction.

Applying the aforementioned exclusion criteria to the positive and negative trait adjectives resulted in varying sample sizes for each part of the survey but prevented participants to be excluded from the entire analysis due to making mistakes in only one part of the survey but not in others.

In Table 2 we present the number of the excluded datasets as well as the final sample sizes for each part of the survey. In the following sections, we describe the overall samples of the three groups in detail.

Table 2

*Number of Excluded Datasets and Final Sample Sizes per Part of Survey*.

| Part of the Survey | Parents | | Child Care Workers | | Lecturers | |
|---|---|---|---|---|---|---|
| | Excluded | *N* | Excluded | *N* | Excluded | *N* |
| Complete Data Set | 10 | 73 | 2 | 76 | 6 | 64 |
| Pos. Min./Opt./Max. | 7 | 66 | 14 | 62 | 13 | 51 |
| Pos. Role | 4 | 69 | 1 | 75 | 8 | 56 |
| Neg. Min./Opt./Max. | 32 | 41 | 35 | 41 | 42 | 22 |
| Neg. Role | 16 | 57 | 17 | 59 | 15 | 49 |

*Note*. Pos. Min./Opt./Max. = Minimum/Optimum/Maximum-Part for the Positive Adjectives; Neg.Min./Opt./Max. = Minimum/Optimum/Maximum-Part of the Negative Adjectives; Pos. Role = Role-Part of the Positive Adjectives; Neg. Role = Role Part of the Negative Adjectives; *N* = Final Sample Size for each Part.

***Parents.*** The group of parents consisted of 83 participants who had answered at least one rating question of the survey. Of these, we excluded the complete datasets of ten participants who had either taken part in the same survey twice or had not been included in at least one part of the survey due to the aforementioned exclusion criteria. This led to a final overall sample size of *N* = 73 parents. Of these, 96% were female. On average, the participants

in this group were 34.60 years old (*SD* =5.03) and had 1.82 children (*SD* = .77). The degree most often named was *Abitur* [general qualification for university entrance] with 55%, followed by *Realschulabschluss* [secondary school certificate] with 29%, *Fachhohschulreife* [university of applied sciences entrance qualification] with 15% and *Hauptschulabschluss* [secondary modern school qualification] with 1%. German was the mother tongue of 99% and 95% of the parents stated they had children currently attending *Kindergarten* [preschool].

***Child Care Workers.*** The group of child care workers consisted of 78 participants who had answered at least one rating question of the survey. Of these, we excluded the datasets of two participants who had not been included in at least one part of the survey due to the aforementioned exclusion criteria. This led to a final overall sample size of *N* = 76 child care workers. Of these, 95% were female and 1% did not answer the question. On average, the participants in this group were 39.35 years old (*SD* = 11.40). The degree most often named was *Realschulabschluss* [secondary school certificate] with 47%, followed by *Fachhohschulreife* [university of applied sciences entrance qualification] with 29% and *Abitur* [general qualification for university entrance] with 21% (3% chose not to answer this question). German was the mother tongue of 96% and 51% of the child care workers stated to have children themselves, 1.89 children on average (*SD* = 1.03). Additionally, 11% of them stated that at least one of their children was currently attending *Kindergarten* [preschool]. Regarding occupational questions, 83% of the child care workers declared to have been state-approved for their job (3% chose not to answer this question). On average, they had been working in their job for 14.29 years (*SD* = 11.63) and 82.9% stated they were currently working in an early child care setting (3% chose not to answer this question). Moreover, 15% of them reported they had received advanced training as *Sprachförderkraft* [language promoter].

***Professional School Lecturers.*** The sample of lecturers at a professional school for the training of child care workers consisted of 70 participants who had answered at least one rating question of the survey. Of these, we excluded the datasets of six participants who had either

taken part in the same survey twice or had not been included in at least one part of the survey due to the aformenetioned exclusion criteria. This led to a final overall sample size of $N = 64$ lecturers. Of these, two participants had taken part in both versions of the survey (A and B). Even though they were not excluded from further analysis, their second dataset was erased from demographical analysis. Therefore, 62 lecturers were analyzed for demographical data. Of this sample, 76% were female (2% chose not to answer this question). On average, the participants in this group were 45.24 years old ($SD = 9.26$). The degree most often named was *Abitur* [higher education entrance qualification] with 86%, followed by *Fachhochschulreife* [university of applied sciences entrance qualification] with 15%. German was the mother tongue of 97% and 65% stated to have children themselves, 1.80 children on average ($SD = 0.65$). Additionally, 16% of them stated that at least one of their children was currently attending *Kindergarten* [preschool]. Regarding occupational questions, the lecturers had been working in their job for 8.45 years ($SD = 6.78$) on average. Moreover, 95% stated they were currently working as a lecturer in a professional school for the training of child care workers (3% chose not to answer this question).

### 3.2.3 Analyses

In order to analyze possible differences within the groups themselves as well as between the groups' judgments, we used non-parametric methods because (a) the groups differed in their sample sizes, (b) for the greater part, our data was not normally distributed according to the Shapiro-Wilks-test ($p < .05$), (c) in some cases, the variances between the three groups were not homogenous according to the Levene-test ($p < .05$), and (d) for many adjectives, our data included outliers. Before running further analyses, we first examined possible statistical differences between the three groups with regard to the demographical variables *Age* and *Sex*. In order to investigate the nominal scaled variable *Sex*, we conducted the chi-square test of

homogeneity; for the continous variable *Age* we conducted a Kruskal-Wallis-Test. Subsequently, we ran the following analyses for the negative and the positive traits separately:

***Friedman-Tests.*** In order to examine within-group differences in the judgment of the traits' minimum, optimum and maximum levels, we computed Friedman-tests for each of the three groups with an alpha level of 5%. For this test, we edited our data by averaging the scores across each group's participants, using the resulting mean scores for analysis. Whensoever receiving significant results, we conducted subsequent pairwise comparisons with a Bonferroni correction for multiple tests. We present the results in the form of medians.

***Kruskal-Wallis-Tests.*** In order to examine between-group differences in the judgment of the traits' minimum, optimum and maximum levels, we analyzed the data using Kruskal-Wallis-tests with a Dunn-Bonferroni (Dunn, 1964) correction for pairwise post-hoc comparisons. Accordingly, we report adjusted *p*-values. Due to computing lots of analyses, we accounted for alpha error inflation by adjusting the alpha level to 1%. For the Kruskal-Wallis-test results, we present mean ranks as well as medians. We computed effect sizes according to the recommendation of Field (2013, p. 248) as well as Fritz, Morris and Richler (2012, p. 12) by dividing the corresponding *z*-score by the root of *N* to obtain *r* and by dividing $z^2$ by *N* to obtain $\eta^2$.

***Item-Level.*** In order to investigate which adjectives the groups rated highest and lowest, we examined the single items' means. Furthermore, we divided the 7-point Likert scale into seven sections for the minimum, optimum and maximum parts, labeling the scores 1.00 – 1.50 as *extremely low*, 1.50 – 2.50 as *very low*, 2.50 – 3.50 as *low*, 3.50 – 4.50 as *medium*, 4.50 – 5.50 as *high*, 5.50 - 6.50 as *very high* and 6.50 – 7.00 as *extremely high* (illustrated in Figure 9). For the role or importance parts, we divided the Likert scale into three sections, labeling the scores 1.00 – 3.00 as *low*, 3.00 – 5.00 as *medium* and 5.00 – 7.00 as *high* (illustrated in Figure 10).

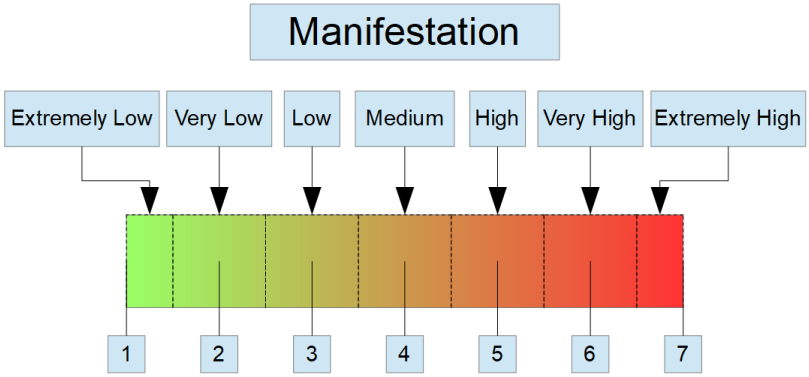


*Figure 9.* Labeled sections of the 7-point Likert scale for the minimum, optimum and maximum conditions.

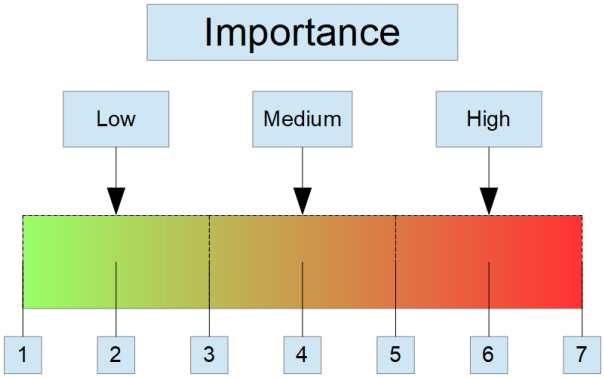


*Figure 10.* Labeled sections of the 7-point Likert scale for the role/importance conditions.

***Personality Profiles.*** In order to examine the groups' consensus, we constructed personality profiles based on the groups' overall means. Then, we had a look at three measures of the profiles' similarity: (a) correlations between the profiles, (b) pairwise absolute differences between the overall means and (c) the mean absolute difference between items. We express the distances and average differences in percent with regard to the 7-point Likert scale. Additionally, we computed intraclass correlations using the groups' average means and the most restrictive intraclass correlation coefficient, one-way random.

In the following subchapter, we present the results of this study.

## 3.3 Results

First, we describe the results for the statistical differences between the three groups. Subsequently, we report the results for the positive and negative trait adjectives separately.

### 3.3.1 Demographic Variables

In order to detect possible differences between the groups' *sex*, we conducted a chi-square test of homogeneity. As reported in Chapter 3.2.2, the group sizes were unequal. All expected cell counts were greater than five. The group of child care workers ($N$ = 75) included three male (4%) and 72 female participants (96%), compared to two males (3%) and 70 females (97%) in the group of parents ($N$ = 72) and 14 males (23%) and 47 females (77%) in the group of lecturers ($N$ = 61), yielding a statistically significant difference in proportions ($p < .001$). Post-hoc pairwise comparisons using the z-test of two proportions with a Bonferroni correction showed that the proportion of males was significantly higher and the proportion of females significantly lower in the group of lecturers than in the groups of child care workers ($p < .05$) and parents ($p < .05$). There was no difference between the groups of parents and child care workers ($p > .05$).

Since the variable *age* was not normally distributed for the group of child care workers, as assessed by the Shapiro-Wilk-test ($p < .001$), we conducted one-way Kruskal-Wallis-tests in order to detect possible differences between the groups. Results showed significant differences between the groups of lecturers ($N$ = 62, $Mdn$ = 46.00, $M$ = 45.24, mean rank = 139.90), child care workers ($N$ = 75, $Mdn$ = 38.00, $M$ = 39.35, mean rank = 101.86) and parents ($N$ = 72, $Mdn$ = 34.00, $M$ = 34.60, mean rank = 78.22) with $\chi^2(2, N = 209) = 35.017$, $p = 0.001$). Pairwise post-hoc tests using Dunn-Bonferroni-corrections showed that (a) the group of parents was significantly younger than the group of lecturers ($p < .001$), and (b) the group of child care workers was significantly younger than the group of lecturers ($p = .001$).

The difference between child care workers and parents was marginally significant ($p = .053$).

## 3.3.2 Positive Traits

### *3.3.2.1 Friedman-Tests*

For the positive traits' minimum, optimum and maximum levels, we found significant within-group differences for the lecturers ($\chi^2(2) = 80.00$, $p < .001$), parents ($\chi^2(2) = 80.00$, $p < .001$) and child care workers ($\chi^2(2) = 80.00$, $p < .001$). Pairwise comparisons with a Bonferroni correction for multiple tests yielded significant differences between

- the minimum and optimum levels for child care workers ($p < .001$), parents ($p < .001$) and lecturers ($p < .001$)
- the optimum and maximum levels for child care workers ($p < .001$), parents ($p < .001$) and lecturers ($p < .001$)
- the minimum and maximum levels for child care workers ($p < .001$), parents ($p < .001$) and lecturers ($p < .001$)

with $Mdn_{min} = 4.47$, $Mdn_{opt} = 5.80$, $Mdn_{max} = 6.47$ for child care workers, $Mdn_{min} = 4.51$, $Mdn_{opt} = 5.76$, $Mdn_{max} = 6.57$ for parents and $Mdn_{min} = 4.44$, $Mdn_{opt} = 5.96$, $Mdn_{max} = 6.58$ for lecturers.

### *3.3.2.2 Minimum-Levels*

***Kruskal-Wallis-Test.*** For the minimum levels of the positive traits, the test yielded no significant results.

***Item-Level.*** As presented in Table 3, the adjectives showing the highest means were *zuverlässig (reliable)* for the groups of child care workers and parents, and *wertschätzend (appreciative)* for the group of lecturers. The groups rated these adjectives with *very high* scores. In contrast, the word showing the lowest mean was *konservativ (conservative)* in each group. All groups rated this adjective with *very low* scores. Altogether, the groups rated most (75% - 78%) of the presented adjectives with *medium* to *high* minimum levels; they assigned no adjectives *extremely high* or *extremely low* scores.

Table 3

*Positive Traits' Minimum Means and Standard Deviations by Group*

| Adjective | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| abenteuerlustig (adventurous) | 3.16 | 1.44 | 3.29 | 1.59 | 2.92 | 1.15 |
| anpassungsfähig (adaptable) | 3.72 | 1.22 | 4.03 | 1.14 | 3.96 | 1.37 |
| aufmerksam (attentive) | 4.90 | 1.16 | 5.09 | 1.06 | 4.96 | 1.06 |
| ausgeglichen (even-tempered) | 4.14 | 1.13 | 4.68 | 1.14 | 4.42 | 1.14 |
| authentisch (authentic) | 5.36 | 1.39 | 4.74 | 1.14 | 4.92 | 0.98 |
| belastbar (resilient) | 4.91 | 1.35 | 5.18 | 1.17 | 4.92 | 1.02 |
| bescheiden (modest) | 2.75 | 1.37 | 2.91 | 1.21 | 2.63 | 1.10 |
| distanziert (aloof) | 2.59 | 1.34 | 2.37 | 1.18 | 2.55 | 1.05 |
| durchsetzungsstark (strong-willed) | 3.91 | 1.07 | 4.50 | 1.26 | 3.77 | 0.76 |
| ehrgeizig (ambitious) | 3.36 | 1.22 | 2.76 | 1.23 | 3.08 | 0.98 |
| ehrlich (honest) | 5.21 | 1.49 | 5.38 | 1.41 | 5.04 | 1.06 |
| eloquent (eloquent) | 3.90 | 1.27 | 3.84 | 1.11 | 3.38 | 1.01 |
| emotional intelligent (emotionally intelligent) | 4.50 | 1.17 | 4.52 | 1.15 | 5.13 | 1.15 |
| empathisch (empathetic) | 4.86 | 1.03 | 4.72 | 0.99 | 5.32 | 0.85 |
| energisch (energetic) | 2.83 | 1.20 | 2.91 | 1.20 | 2.96 | 1.11 |
| freundlich (friendly) | 5.27 | 1.28 | 5.18 | 1.22 | 4.84 | 0.94 |
| fröhlich (lighthearted) | 4.07 | 1.16 | 4.34 | 1.31 | 4.38 | 1.24 |
| geduldig (patient) | 4.83 | 1.10 | 4.94 | 1.09 | 4.72 | 1.17 |
| gerecht (just) | 4.79 | 1.13 | 4.93 | 1.20 | 4.80 | 1.32 |
| humorvoll (humorous) | 3.79 | 1.24 | 4.16 | 1.30 | 4.17 | 0.96 |
| intelligent (intelligent) | 4.31 | 1.09 | 4.21 | 1.34 | 3.80 | 1.00 |
| kinderlieb (fond of children) | 5.28 | 1.36 | 5.74 | 1.06 | 5.48 | 1.08 |
| kommunikativ (communicative) | 4.52 | 1.48 | 4.10 | 1.23 | 4.45 | 0.96 |
| konsequent (consistent) | 4.46 | 1.20 | 4.63 | 1.01 | 4.18 | 1.14 |
| **konservativ (conservative)** | **2.04** | **1.08** | **2.03** | **1.12** | **1.75** | **0.90** |
| kooperativ (cooperative) | 4.55 | 1.30 | 4.56 | 1.08 | 4.79 | 1.02 |
| kreativ (creative) | 3.41 | 1.38 | 3.90 | 1.45 | 4.00 | 1.32 |
| liebevoll (affectionate) | 5.21 | 1.22 | 5.31 | 1.42 | 4.88 | 0.93 |
| neugierig (curious) | 3.88 | 1.32 | 3.59 | 1.37 | 4.12 | 1.20 |
| optimistisch (optimistic) | 3.76 | 1.46 | 4.19 | 1.06 | 4.50 | 0.88 |
| rücksichtsvoll (considerate) | 4.50 | 1.37 | 4.59 | 1.10 | 4.52 | 1.05 |
| selbstbewusst (self-assured) | 4.16 | 1.27 | 4.03 | 1.27 | 3.92 | 1.25 |
| sensibel (sensitive) | 4.48 | 1.29 | 4.18 | 1.29 | 4.12 | 1.31 |
| spontan (spontaneous) | 3.69 | 1.47 | 3.81 | 1.14 | 3.72 | 1.06 |
| stolz (proud) | 3.00 | 1.17 | 2.47 | 1.21 | 2.68 | 0.99 |
| tolerant (tolerant) | 5.09 | 1.28 | 4.91 | 1.30 | 4.81 | 1.02 |
| verantwortungsbewusst (responsible) | 5.38 | 1.01 | 5.65 | 1.12 | 5.52 | 1.05 |
| vertrauensvoll (trustful) | 4.86 | 1.25 | 4.97 | 1.26 | 4.79 | 1.22 |
| **wertschätzend (appreciative)** | 5.14 | 1.33 | 4.94 | 1.03 | **5.71** | **0.95** |
| **zuverlässig (reliable)** | **5.56** | **1.08** | **5.82** | **1.06** | 5.35 | 1.06 |

*Note.* $N$ = 26-33 for Child Care Workers, $N$ = 27-34 for Parents, and $N$ = 20-26 for Lecturers; boldface words and numbers highlight the adjectives with the highest and lowest means per group.

***Personality Profiles.*** The graphical analyses illustrated in Figure 11 as well as the correlational analyses presented in Table 4 showed high correlations between the three groups' profiles ($p < .001$). As Table 5 shows, the pairwise differences between the groups' overall means lay in the range between <1% and 1% of the Likert scale while the mean difference between items lay in the range between 4% and 5% of the Likert scale. With regard to the intraclass correlation, there was high consensus between the three groups (ICC = .979, CI 964-988, $p$ <.001 for average measures with $\alpha$ = .978).

Table 4

*Correlations Between the Groups' Profiles for the Positive Traits' Minimum Levels*

| | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *r* | $r_s$ | *r* | $r_s$ | *r* | $r_s$ |
| Child Care Workers | - | - | .948*** | .941*** | .935*** | .920*** |
| Parents | | | - | - | .935*** | .908*** |
| Lecturers | | | | | - | - |

*Note*. *r* = Pearson correlation; $r_s$ = Spearman correlation.

*** $p < .001$

Table 5

*Differences Between the Groups for the Positive Traits' Minimum Levels*

| | Parents - Lecturers | Parents - Child Care Workers | Lecturers - Child Care Workers |
|---|---|---|---|
| Difference of Overall Means | 0.05 (1%) | 0.05 (1%) | <0.01 (<1%) |
| Mean Difference of Items | 0.28 (5%) | 0.24 (4%) | 0.27 (4%) |

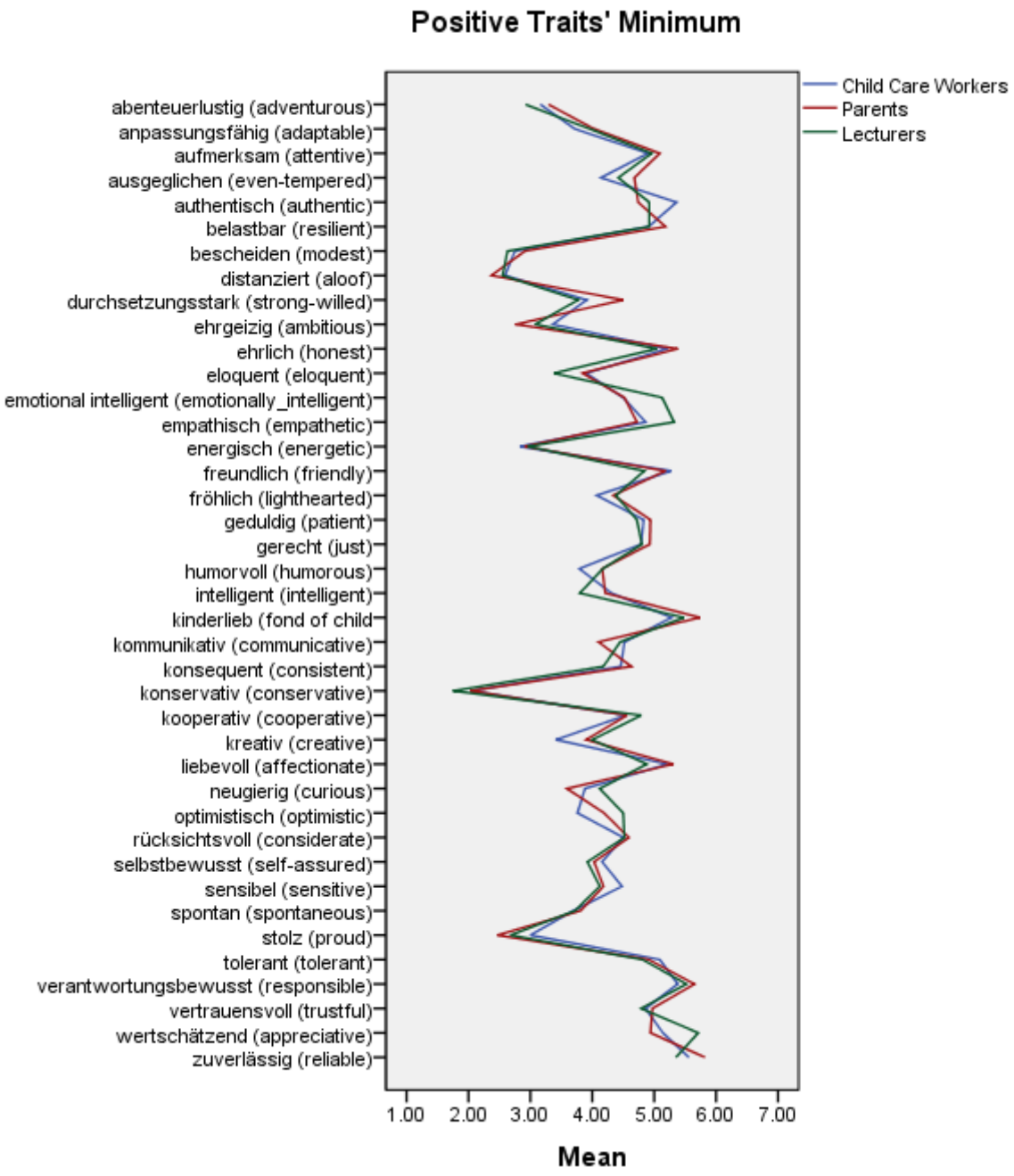


*Figure 11.* Profiles of the positive traits' minimum ratings.

#### *3.3.2.3 Optimum-Levels*

***Kruskal-Wallis-Test.*** For the optimum levels of the positive traits, we found significant differences between the groups of lecturers ($N$ = 20-26), child care workers ($N$ = 26-33) and parents ($N$ = 27-34) for the following adjectives:

(a) *empathisch (empathetic)* ($\chi^2(2, N = 86) = 13.91$, $p = 0.001$) with a mean rank of 32.02 for the parents, 46.95 for the child care workers and 54.20 for the lecturers,

(b) *wertschätzend (appreciative)* ($\chi^2$ (2, $N$ = 84) = 10.38, $p$ = 0.006), with a mean rank of 35.69 for the parents, 39.68 for the child care workers and 53.90 for the lecturers, and

(c) *emotional intelligent (emotionally intelligent)* ($\chi^2$ (2, $N$ = 83) = 12.33, $p$ = 0.002), with a mean rank of 34.71 for the child care workers, 38.26 for the parents and 55.33 for the lecturers.

Pairwise post-hoc tests using Dunn-Bonferroni-corrections yielded the following results:

(a) For *empathisch (empathetic)*, parents ($N$ = 32, *Mdn* = 6.00, $M$ = 5.72) differed significantly in their assessment from lecturers ($N$ = 25, *Mdn* = 7.00, $M$ = 6.52) ($p$ = .001) with an effect size of $\eta^2$ = .227 and a medium effect of $r$ = .48, showing that the lecturers judged the optimum level higher than parents did.

(b) For *wertschätzend (appreciative)*, the parents ($N$ = 31, *Mdn* = 6.00, $M$ = 6.19) differed significantly from the lecturers ($N$ = 25, *Mdn* = 7.00, $M$ = 6.80) ($p$ = .005) with an effect size of $\eta^2$ = .174 and a medium effect of $r$ = .42, showing that the lecturers judged the optimum level higher than parents did.

(c) For *emotional intelligent (emotionally intelligent)*, the lecturers ($N$ = 24, *Mdn* = 7.00, $M$ = 6.67) differed significantly from the child care workers ($N$ = 28, *Mdn* = 6.00, $M$ = 5.89) ($p$ = .003) with an effect size of $\eta^2$ = .211 and a medium effect of $r$ = .46, showing that the lecturers judged the optimum level higher than the child care workers did.

***Item-Level.*** As presented in Table 6, the adjective showing the highest mean in each group was *zuverlässig (reliable)*. The groups rated this adjective with *extremely high* scores. In contrast, the word showing the lowest mean in each group was *konservativ (conservative)*. The groups rated this adjective with *low* scores. The only other adjective rated with *low* scores was *distanziert (aloof)* by the parents. Altogether, the groups rated most (60%-65%) of the presented adjectives with *very high* optimum levels; the groups assigned no adjectives *very low* or *extremely low* scores.

Table 6

*Positive Traits' Optimum Means and Standard Deviations by Group*

| Adjective | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| abenteuerlustig (adventurous) | 5.03 | 0.91 | 4.88 | 1.12 | 4.92 | 0.70 |
| anpassungsfähig (adaptable) | 5.29 | 1.01 | 5.58 | 0.76 | 5.36 | 0.99 |
| aufmerksam (attentive) | 6.42 | 0.76 | 6.44 | 0.56 | 6.36 | 0.64 |
| ausgeglichen (even-tempered) | 5.66 | 0.90 | 5.97 | 0.75 | 6.17 | 0.87 |
| authentisch (authentic) | 6.45 | 0.75 | 5.88 | 0.98 | 6.42 | 0.70 |
| belastbar (resilient) | 6.22 | 0.97 | 6.56 | 0.56 | 6.50 | 0.66 |
| bescheiden (modest) | 4.03 | 1.45 | 4.39 | 0.75 | 4.00 | 1.21 |
| distanziert (aloof) | 3.70 | 1.41 | 3.33 | 1.18 | 3.65 | 1.35 |
| durchsetzungsstark (strong-willed) | 5.52 | 0.91 | 5.68 | 0.91 | 5.42 | 0.70 |
| ehrgeizig (ambitious) | 4.85 | 1.00 | 4.45 | 0.90 | 4.69 | 0.68 |
| ehrlich (honest) | 6.33 | 0.85 | 6.29 | 0.87 | 6.28 | 0.74 |
| eloquent (eloquent) | 5.35 | 1.02 | 5.16 | 1.05 | 5.08 | 0.88 |
| emotional intelligent (emotionally intelligent) | 5.89 | 0.96 | 6.06 | 0.81 | 6.67 | 0.48 |
| empathisch (empathetic) | 6.24 | 0.83 | 5.72 | 0.89 | 6.52 | 0.51 |
| energisch (energetic) | 4.07 | 1.10 | 4.16 | 1.08 | 4.35 | 1.37 |
| freundlich (friendly) | 6.33 | 0.89 | 6.41 | 0.66 | 6.32 | 0.80 |
| fröhlich (lighthearted) | 5.59 | 1.05 | 5.77 | 0.67 | 5.67 | 0.96 |
| geduldig (patient) | 6.14 | 0.74 | 6.16 | 0.73 | 6.20 | 0.71 |
| gerecht (just) | 5.93 | 0.90 | 6.23 | 0.73 | 6.32 | 0.69 |
| humorvoll (humorous) | 5.38 | 0.90 | 5.59 | 0.95 | 5.96 | 0.68 |
| intelligent (intelligent) | 5.94 | 1.01 | 5.56 | 0.96 | 5.84 | 0.94 |
| kinderlieb (fond of children) | 6.31 | 0.71 | 6.61 | 0.62 | 6.48 | 0.71 |
| kommunikativ (communicative) | 5.93 | 0.84 | 5.62 | 0.94 | 6.00 | 0.90 |
| konsequent (consistent) | 5.82 | 0.67 | 5.75 | 0.88 | 5.68 | 1.13 |
| **konservativ (conservative)** | **3.04** | **1.11** | **3.19** | **1.08** | **2.96** | **1.33** |
| kooperativ (cooperative) | 6.00 | 0.71 | 5.87 | 0.92 | 6.38 | 0.65 |
| kreativ (creative) | 5.17 | 1.17 | 5.67 | 1.03 | 5.88 | 0.93 |
| liebevoll (affectionate) | 6.30 | 0.77 | 6.44 | 0.72 | 6.12 | 0.78 |
| neugierig (curious) | 5.61 | 1.09 | 5.09 | 1.00 | 5.84 | 0.90 |
| optimistisch (optimistic) | 5.31 | 1.20 | 5.59 | 0.76 | 5.96 | 0.75 |
| rücksichtsvoll (considerate) | 5.75 | 1.11 | 5.88 | 0.84 | 5.84 | 0.90 |
| selbstbewusst (self-assured) | 5.77 | 1.02 | 5.50 | 0.93 | 5.71 | 0.86 |
| sensibel (sensitive) | 5.55 | 1.09 | 5.76 | 0.90 | 5.54 | 0.90 |
| spontan (spontaneous) | 5.41 | 1.24 | 5.30 | 0.95 | 5.32 | 0.95 |
| stolz (proud) | 4.57 | 1.17 | 4.00 | 0.98 | 4.40 | 1.08 |
| tolerant (tolerant) | 6.24 | 0.75 | 6.25 | 0.80 | 6.04 | 0.96 |
| verantwortungsbewusst (responsible) | 6.50 | 0.57 | 6.65 | 0.65 | 6.72 | 0.54 |
| vertrauensvoll (trustful) | 6.24 | 0.83 | 6.09 | 0.96 | 6.08 | 0.93 |
| wertschätzend (appreciative) | 6.32 | 0.82 | 6.19 | 0.83 | 6.80 | 0.41 |
| **zuverlässig (reliable)** | **6.69** | **0.47** | **6.79** | **0.41** | **6.81** | **0.40** |

*Note.* $N$ = 26-32 for Child Care Workers, $N$ = 27-34 for Parents, and $N$ = 20-26 for Lecturers; boldface words and numbers highlight the adjectives with the highest and lowest means per group.

***Personality Profiles.*** The graphical analyses illustrated in Figure 12 as well as the correlational analyses presented in Table 7 showed high correlations between the three groups ($p < .001$). As Table 8 shows, the pairwise differences between the groups' overall means lay in the range between <1% and 2% of the Likert scale while the mean difference between items accounted for 4% of the Likert scale for all groups. With regard to the intraclass correlation, there was high consensus between the three groups (ICC = .979, CI 965-988, $p$ <.001 for average measures with $\alpha = .981$).

Table 7

*Correlations Between the Groups' Profiles for the Positive Traits' Optimum Levels*

| | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *r* | $r_s$ | *r* | $r_s$ | *r* | $r_s$ |
| Child Care Workers | - | - | .944*** | .881*** | .952*** | .882*** |
| Parents | | | - | - | .941*** | .861*** |
| Lecturers | | | | | - | - |

*Note*. *r* = Pearson correlation; $r_s$ = Spearman correlation.
*** $p < .001$

Table 8

*Differences Between the Groups for the Positive Traits' Optimum Levels*

| | Parents - Lecturers | Parents - Child Care Workers | Lecturers - Child Care Workers |
|---|---|---|---|
| Difference of Overall Means | 0.19 (2%) | 0.01 (<1%) | 0.11 (2%) |
| Mean Difference of Items | 0.24 (4%) | 0.23 (4%) | 0.21 (4%) |

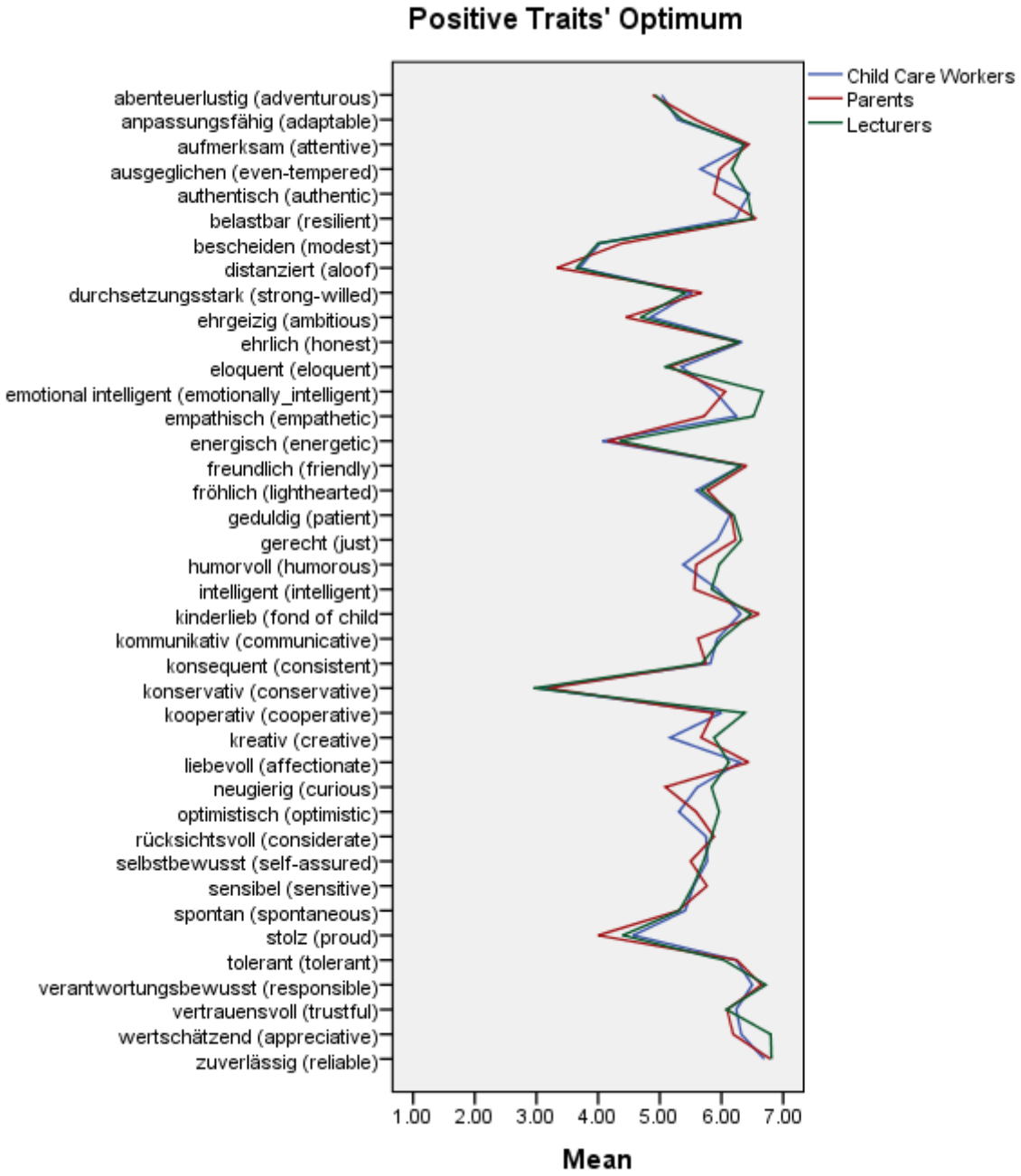


*Figure 12.* Profiles of the positive traits' optimum rating.

#### *3.3.2.4 Maximum-Levels*

***Kruskal-Wallis-Test.*** For the maximum levels of the positive traits, we found significant differences between the groups of parents ($N$ = 31-32), child care workers ($N$ = 28-29) and lecturers ($N$ = 23-24) for the following adjectives:

(a) *kreativ (creative)*, ($\chi^2$ (2, $N$ = 84) = 10.14, $p$ = .006) with a mean rank of 33.36 for the child care workers, 44.05 for the parents and 51.54 for the lecturers,

(b) *humorvoll (humorous)*, ($\chi^2$ (2, $N$ = 84) = 9.88, $p$ = .007) with a mean rank of 32.53 for the child care workers, 50.11 for the parents and 44.48 for the lecturers, and

(c) *emotional intelligent (emotionally intelligent)*, ($\chi^2$ (2, $N$ = 82) = 15.08, $p$ = .001) with a mean rank of 32.07 for the child care workers, 42.97 for the parents and 51.00 for the lecturers.

Pairwise post-hoc tests using Dunn-Bonferroni-corrections yielded the following results:

(a) For *kreativ (creative)*, the child care workers ($N$ = 29, Mean rank = 33.36, *Mdn* = 6.00, $M$ = 6.10) differed significantly ($p$ = 0.005) from the lecturers ($N$ = 24, Mean rank = 51.54, *Mdn* = 7.00, $M$ = 6.79), with an effect size of $\eta^2$ = .186 and a medium effect of $r$ = .43, showing that the lecturers judged the maximum level higher than the child care workers did.

(b) For *humorvoll (humorous)*, the parents ($N$ = 32, Mdn = 7.00, $M$ = 6.56) differed significantly ($p$ = .006) from the child care workers ($N$ = 29, *Mdn* = 6.00, $M$ = 6.03) with an effect size of $\eta^2$ = .158 and a medium effect of $r$ = .40, showing that the parents judged the maximum level higher than the child care workers did.

(c) For *emotional intelligent (emotionally intelligent)*, the child care workers ($N$ = 28, Mean rank = 32.07, *Mdn* = 6.00, $M$ = 6.63) differed significantly ($p$ < .001) from the lecturers ($N$ = 23, Mean rank = 51.00, *Mdn* = 7.00, $M$ = 7.00) with an effect size of $\eta^2$ = .289 and a large effect of $r$ = .54, showing that the lecturers judged the maximum level higher than the child care workers did.

***Item-Level***. As presented in Table 9, the adjectives showing the highest means were *zuverlässig (reliable).* The groups rated this adjective with *extremely high* scores. In contrast, the word showing the lowest mean in each group was *konservativ (conservative)*. The groups rated this adjective with *medium* scores. Altogether, the groups rated most (88%-90%) of the presented adjectives with *very high* to *extremely high* maximum level scores; they assigned no adjective *low*, *very low* or *extremely low* scores.

Table 9

*Positive Traits' Maximum Means and Standard Deviations by Group*

| Adjective | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| abenteuerlustig (adventurous) | 6.03 | 0.87 | 6.03 | 0.90 | 5.92 | 0.91 |
| anpassungsfähig (adaptable) | 5.86 | 1.03 | 6.43 | 0.57 | 6.20 | 0.82 |
| aufmerksam (attentive) | 6.90 | 0.31 | 6.94 | 0.24 | 6.88 | 0.34 |
| ausgeglichen (even-tempered) | 6.45 | 0.74 | 6.63 | 0.56 | 6.77 | 0.69 |
| authentisch (authentic) | 6.84 | 0.51 | 6.53 | 0.93 | 6.76 | 0.52 |
| belastbar (resilient) | 6.66 | 0.79 | 6.88 | 0.41 | 6.83 | 0.39 |
| bescheiden (modest) | 4.94 | 1.76 | 5.48 | 1.00 | 5.04 | 1.60 |
| distanziert (aloof) | 4.77 | 1.34 | 4.30 | 1.27 | 4.45 | 1.28 |
| durchsetzungsstark (strong-willed) | 6.16 | 0.72 | 6.29 | 0.76 | 6.20 | 0.65 |
| ehrgeizig (ambitious) | 5.97 | 1.05 | 5.67 | 0.92 | 5.54 | 0.76 |
| ehrlich (honest) | 6.72 | 0.68 | 6.76 | 0.50 | 6.63 | 0.65 |
| eloquent (eloquent) | 6.13 | 0.96 | 6.16 | 1.05 | 6.25 | 0.74 |
| emotional intelligent (emotionally intelligent) | 6.36 | 0.91 | 6.74 | 0.58 | 7.00 | 0.00 |
| empathisch (empathetic) | 6.66 | 0.72 | 6.22 | 0.97 | 6.79 | 0.41 |
| energisch (energetic) | 5.00 | 1.10 | 5.28 | 1.14 | 5.26 | 1.21 |
| freundlich (friendly) | 6.75 | 0.67 | 6.85 | 0.36 | 6.72 | 0.46 |
| fröhlich (lighthearted) | 6.28 | 0.70 | 6.56 | 0.67 | 6.30 | 0.97 |
| geduldig (patient) | 6.69 | 0.54 | 6.77 | 0.43 | 6.83 | 0.38 |
| gerecht (just) | 6.50 | 0.88 | 6.70 | 0.47 | 6.72 | 0.54 |
| humorvoll (humorous) | 6.03 | 0.73 | 6.56 | 0.67 | 6.43 | 0.59 |
| intelligent (intelligent) | 6.71 | 0.53 | 6.64 | 0.65 | 6.56 | 0.58 |
| kinderlieb (fond of children) | 6.62 | 0.56 | 6.94 | 0.25 | 6.63 | 0.58 |
| kommunikativ (communicative) | 6.55 | 0.57 | 6.41 | 0.63 | 6.77 | 0.43 |
| konsequent (consistent) | 6.48 | 0.58 | 6.53 | 0.72 | 6.14 | 0.89 |
| **konservativ (conservative)** | **4.08** | **1.32** | **4.25** | **1.14** | **3.88** | **1.30** |
| kooperativ (cooperative) | 6.52 | 0.57 | 6.66 | 0.65 | 6.91 | 0.29 |
| kreativ (creative) | 6.10 | 1.11 | 6.58 | 0.62 | 6.79 | 0.51 |
| liebevoll (affectionate) | 6.76 | 0.50 | 6.88 | 0.34 | 6.64 | 0.57 |
| neugierig (curious) | 6.18 | 0.98 | 6.03 | 0.83 | 6.36 | 0.70 |
| optimistisch (optimistic) | 5.97 | 1.27 | 6.59 | 0.56 | 6.48 | 0.59 |
| rücksichtsvoll (considerate) | 6.28 | 0.99 | 6.62 | 0.55 | 6.28 | 0.79 |
| selbstbewusst (self-assured) | 6.48 | 0.57 | 6.29 | 0.87 | 6.43 | 0.73 |
| sensibel (sensitive) | 6.26 | 0.82 | 6.36 | 0.74 | 6.19 | 0.69 |
| spontan (spontaneous) | 6.21 | 1.05 | 6.16 | 0.90 | 6.04 | 0.56 |
| stolz (proud) | 5.43 | 1.14 | 5.18 | 1.06 | 5.52 | 1.23 |
| tolerant (tolerant) | 6.66 | 0.55 | 6.75 | 0.51 | 6.60 | 0.65 |
| verantwortungsbewusst (responsible) | 6.94 | 0.25 | 6.88 | 0.41 | 6.88 | 0.34 |
| vertrauensvoll (trustful) | 6.72 | 0.53 | 6.69 | 0.54 | 6.63 | 0.58 |
| wertschätzend (appreciative) | 6.82 | 0.48 | 6.81 | 0.48 | 6.96 | 0.21 |
| **zuverlässig (reliable)** | **6.97** | **0.18** | **6.97** | **0.17** | **7.00** | **0.00** |

*Note.* $N$ = 27-31 for Child Care Workers, $N$ = 29-34 for Parents, and $N$ = 20-26 for Lecturers; boldface words and numbers highlight the adjectives with the highest and lowest means per group.

***Personality Profiles.*** The graphical analyses illustrated in Figure 13 as well as the correlational analyses presented in Table 10 showed high correlations between the three groups' profiles ($p < .001$). As Table 11 shows, the pairwise differences between the groups' overall means lay in the range between <1% and 2% of the Likert scale while the mean difference between items accounted for 4% of the Likert scale for all groups. With regard to the intraclass correlation, there was high consensus between the three groups (ICC = .974, CI 957-986, $p < .01$ for average measures with $\alpha = .976$).

Table 10

*Correlations Between the Groups' Profiles for the Positive Traits' Maximum Levels*

| | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *r* | $r_s$ | *r* | $r_s$ | *r* | $r_s$ |
| Child Care Workers | - | - | .916*** | .815*** | .934*** | .782*** |
| Parents | | | - | - | .943*** | .802*** |
| Lecturers | | | | | - | - |

*Note.* $r$ = Pearson correlation; $r_s$ = Spearman correlation.

*** $p < .001$

Table 11

*Differences Between the Groups for the Positive Traits' Maximum Levels*

| | Parents - Lecturers | Parents - Child Care Workers | Lecturers - Child Care Workers |
|---|---|---|---|
| Difference of Overall Means | 0.02 (<1%) | 0.09 (1%) | 0.07 (1%) |
| Mean Difference of Items | 0.19 (3%) | 0.21 (4%) | 0.19 (3%) |

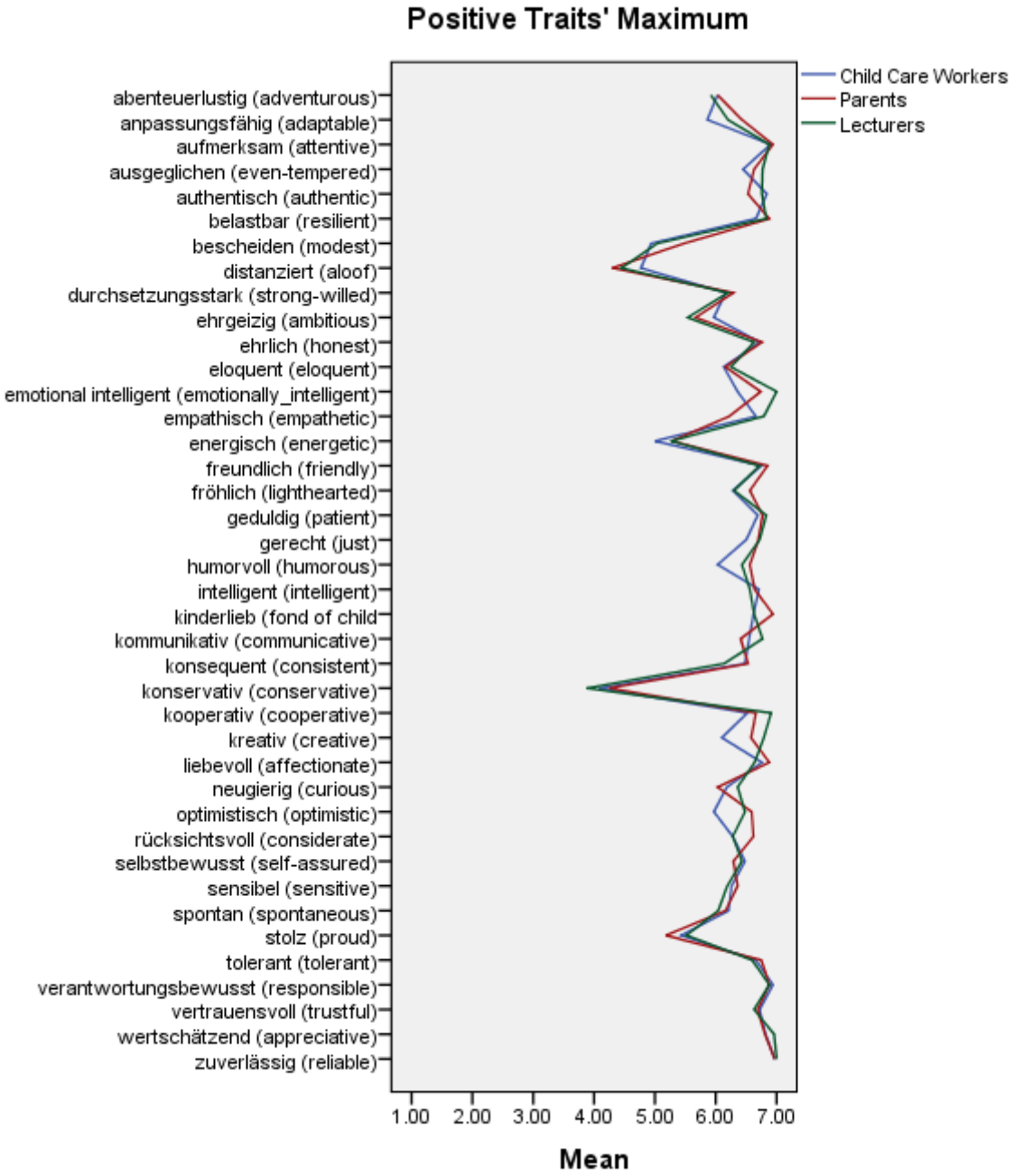


*Figure 13.* Profiles of the positive traits' maximum rating.

### *3.3.2.5 Importance/Role*

***Kruskal-Wallis-Tests.*** For the importance of the positive trait adjectives, we found significant differences between the groups of lecturers ($N$ = 26-29), child care workers ($N$ = 37-38) and parents ($N$ = 34-35) for the following adjectives:

(a) *empathisch (empathetic)*, ($\chi^2$ (2) = 14.10, $p$ = .001) with a mean rank of 50.41 for the child care workers, 39.54 for the parents and 63.00 for the lecturers,

(b) *kommunikativ (communicative)*, ($\chi^2$ (2) = 13.91, $p$ = .001) with a mean rank of 51.46 for the child care workers, 37.46 for the parents and 62.92 for the lecturers,

(c) *neugierig (curious)*, ($\chi^2$ (2) = 11.88, $p$ = .003) with a mean rank of 56.74 for the child care workers, 37.43 for the parents and 59.40 for the lecturers,

(d) *kooperativ (cooperative)*, ($\chi^2$ (2) = 15.94, $p$ = .000) with a mean rank of 58.24 for the child care workers, 35.31 for the parents and 57.74 for the lecturers,

(e) *spontan (spontaneous)*, ($\chi^2$ (2) = 15.87, $p$ = .000) with a mean rank of 62.74 for the child care workers, 36.80 for the parents and 49.65 for the lecturers,

(f) *wertschätzend (appreciative)*, ($\chi^2$ (2) = 10.10, $p$ = .006) with a mean rank of 51.18 for the child care workers, 41.17 for the parents and 59.83 for the lecturers.

Pairwise post-hoc tests using Dunn-Bonferroni-corrections yielded the following results:

(a) For *empathisch (empathetic)*, the group of lecturers ($N$ = 27, Mean rank = 63.00, *Mdn* = 7.00, $M$ = 6.89) differed significantly from the parents ($N$ = 35, Mean rank = 39.54, *Mdn* = 6.00, $M$ = 6.06) ($p$ = 0.001), with an effect size of $\eta^2$ = .227 and a medium effect of $r$ = .48, showing that they judged this trait as more important than parents did.

(b) For *kommunikativ (communicative)*, the lecturers ($N$ = 26, *Mdn* = 7.00, $M$ = 6.54) differed significantly from the parents ($N$ = 35, *Mdn* = 6.00, $M$ = 5.54) ($p$ = 0.001), with an effect size of $\eta^2$ = .223 and a medium effect of $r$ = .47, showing that they judged this trait as more important than the parents did.

(c) For *kooperativ (cooperative)*, the parents ($N$ = 35, *Mdn* = 5.00, $M$ = 5.34) differed significantly from the child care workers ($N$ = 37, *Mdn* = 6.00, $M$ = 6.16) ($p$ = 0.001), with an effect size of $\eta^2$ = .179 and a medium effect of $r$ = .38, and from the lecturers ($N$ = 27, *Mdn* = 6.00, $M$ = 6.15) ($p$ = .004), with an effect size of $\eta^2$ = .169 and a medium effect of $r$ = .42, showing that they judged this trait as less important than the other two groups did.

(d) For *neugierig (curious)*, the parents ($N$ = 34, Mean rank = 37.34, *Mdn* = 5.00, $M$ = 4.69) differed significantly from the lecturers ($N$ = 29, Mean rank = 59.40, *Mdn* = 6.00, $M$ = 5.70) ($p$ = .007), with an effect size of $\eta^2$ = .149 and a medium effect $r$ = .39, showing that they judged this trait as less important than the child care workers did.

(e) For *spontan* (spontaneous), the parents ($N$ = 35, Mean rank = 36.90, *Mdn* = 5.00, $M$ = 4.69) differed significantly from the child care workers ($N$ = 37, Mean rank = 62.74, *Mdn* = 6.00, $M$ = 5.70) ($p$ < .001), with an effect size of $\eta^2$ = .220 and a medium effect of $r$ = .47, showing that they judged this trait as less important than the child care workers did.

(f) For *wertschätzend (appreciative)*, the parents ($N$ = 35, Mean rank = 41.17, *Mdn* = 7.00, $M$ = 6.31) differed significantly from the lecturers ($N$ = 27, Mean rank = 59.83, *Mdn* = 7.00, $M$ = 6.89) ($p$ = .005) with an effect size of $\eta^2$ = .160 and a medium effect of $r$ = .40, showing that they judged this trait as less important than the child care workers did.

***Item-Level.*** As presented in Table 12, the adjectives showing the highest means were *wertschätzend (appreciative)* for the group of child care workers, *zuverlässig (reliable)* for the group of parents, and *wertschätzend (appreciative)* as well as *empathisch (empathetic)* for the group of lecturers. The groups rated these adjectives with *high* scores. In contrast, the word showing the lowest mean in each group was *konservativ (conservative)*. The child care workers and parents rated this adjective with *low* scores, the lecturers rated it with *medium* scores. Altogether, the groups rated most (73% - 83%) of the presented adjectives as *very important*.

Table 12

*Positive Traits' Role Means and Standard Deviations by Group*

| Adjective | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| abenteuerlustig (adventurous) | 4.47 | 1.41 | 4.38 | 1.60 | 4.24 | 1.43 |
| anpassungsfähig (adaptable) | 5.03 | 1.09 | 5.14 | 1.09 | 4.78 | 1.28 |
| aufmerksam (attentive) | 6.61 | 0.55 | 6.29 | 0.84 | 6.45 | 0.51 |
| ausgeglichen (even-tempered) | 5.76 | 0.93 | 5.69 | 1.16 | 5.96 | 0.92 |
| authentisch (authentic) | 6.58 | 0.79 | 5.97 | 1.09 | 6.31 | 0.76 |
| belastbar (resilient) | 6.45 | 0.72 | 6.53 | 0.66 | 6.41 | 0.87 |
| bescheiden (modest) | 3.18 | 1.50 | 3.74 | 1.29 | 3.32 | 1.33 |
| distanziert (aloof) | 4.30 | 1.49 | 3.43 | 1.38 | 4.00 | 1.80 |
| durchsetzungsstark (strong-willed) | 5.08 | 1.12 | 5.76 | 0.99 | 5.14 | 0.95 |
| ehrgeizig (ambitious) | 4.21 | 1.36 | 3.82 | 1.47 | 4.07 | 1.10 |
| ehrlich (honest) | 5.26 | 0.79 | 5.44 | 0.75 | 5.52 | 0.69 |
| eloquent (eloquent) | 5.03 | 1.32 | 4.88 | 1.17 | 4.59 | 1.15 |
| emotional intelligent (emotionally intelligent) | 6.19 | 0.97 | 6.03 | 1.01 | 6.59 | 0.57 |
| **empathisch (empathetic)** | 6.49 | 0.84 | 6.06 | 1.26 | **6.89** | **0.32** |
| energisch (energetic) | 4.14 | 1.11 | 4.06 | 1.19 | 4.07 | 1.41 |
| freundlich (friendly) | 6.21 | 0.93 | 6.56 | 0.75 | 6.28 | 0.59 |
| fröhlich (lighthearted) | 5.51 | 0.93 | 5.31 | 0.93 | 5.41 | 1.19 |
| geduldig (patient) | 6.16 | 0.90 | 6.14 | 0.85 | 6.63 | 0.69 |
| gerecht (just) | 6.03 | 0.97 | 6.34 | 0.80 | 6.26 | 0.90 |
| humorvoll (humorous) | 5.46 | 1.02 | 5.23 | 1.26 | 5.74 | 0.94 |
| intelligent (intelligent) | 5.26 | 1.08 | 4.88 | 1.34 | 5.24 | 1.12 |
| kinderlieb (fond of children) | 6.08 | 1.16 | 6.57 | 0.81 | 6.26 | 1.23 |
| kommunikativ (communicative) | 6.19 | 0.78 | 5.54 | 1.22 | 6.54 | 0.65 |
| konsequent (consistent) | 5.86 | 0.92 | 5.85 | 0.70 | 5.74 | 1.26 |
| **konservativ (conservative)** | **2.86** | **1.25** | **2.71** | **1.07** | **3.07** | **1.66** |
| kooperativ (cooperative) | 6.16 | 0.73 | 5.34 | 1.08 | 6.15 | 0.77 |
| kreativ (creative) | 5.00 | 1.33 | 5.06 | 1.30 | 5.26 | 0.90 |
| liebevoll (affectionate) | 6.53 | 0.60 | 6.62 | 0.60 | 6.31 | 0.76 |
| neugierig (curious) | 5.58 | 1.20 | 4.71 | 1.36 | 5.72 | 1.03 |
| optimistisch (optimistic) | 5.43 | 1.07 | 5.34 | 1.08 | 5.63 | 1.18 |
| rücksichtsvoll (considerate) | 5.84 | 1.22 | 6.32 | 0.64 | 5.93 | 0.92 |
| selbstbewusst (self-assured) | 5.45 | 1.01 | 5.09 | 1.08 | 5.38 | 1.01 |
| sensibel (sensitive) | 5.82 | 1.25 | 5.35 | 1.45 | 5.59 | 1.12 |
| spontan (spontaneous) | 5.70 | 0.97 | 4.69 | 0.96 | 5.15 | 1.06 |
| stolz (proud) | 3.32 | 1.51 | 2.97 | 1.17 | 3.14 | 1.15 |
| tolerant (tolerant) | 6.16 | 0.97 | 6.18 | 1.00 | 6.17 | 0.89 |
| verantwortungsbewusst (responsible) | 6.66 | 0.58 | 6.64 | 0.74 | 6.86 | 0.35 |
| vertrauensvoll (trustful) | 6.54 | 0.87 | 6.20 | 0.90 | 6.04 | 1.19 |
| **wertschätzend (appreciative)** | **6.70** | **0.46** | 6.31 | 0.90 | **6.89** | **0.32** |
| **zuverlässig (reliable)** | 6.61 | 0.72 | **6.82** | **0.52** | 6.69 | 0.54 |

*Note.* $N$ = 36-38 for Child Care Workers, $N$ = 34-36 for Parents, and $N$ = 26-29 for Lecturers; boldface words and numbers highlight the adjectives with the highest and lowest means per group.

***Personality Profiles.*** The graphical analyses illustrated in Figure 14 as well as the correlational analyses presented in Table 13 showed high correlations between the three groups' profiles ($p < .001$). As Table 14 shows, the pairwise differences between the groups' overall means lay in the range between <1% and 2% of the Likert scale while the mean difference between items accounted for 4% of the Likert scale for all groups. With regard to the intraclass correlation, there was high consensus between the three groups (ICC = .977, CI 961-987, p <.001 for average measures with $\alpha = .979$).

Table 13

*Correlations Between the Groups' Profiles for the Positive Traits' Role*

| | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *r* | $r_s$ | *r* | $r_s$ | *r* | $r_s$ |
| Child Care Workers | - | - | .925*** | .871*** | .971*** | .946*** |
| Parents | | | - | - | .928*** | .867*** |
| Lecturers | | | | | - | - |

*Note*. *r* = Pearson correlation; $r_s$ = Spearman correlation.
*** $p < .001$

Table 14

*Differences Between the Groups for the Positive Traits' Role*

| | Parents - Lecturers | Parents - Child Care Workers | Lecturers – Child Care Workers |
|---|---|---|---|
| Difference of Overall Means | 0.16 (3%) | 0.15 (2%) | 0.01 (<1%) |
| Mean Difference of Items | 0.35 (6%) | 0.33 (5%) | 0.21 (3%) |

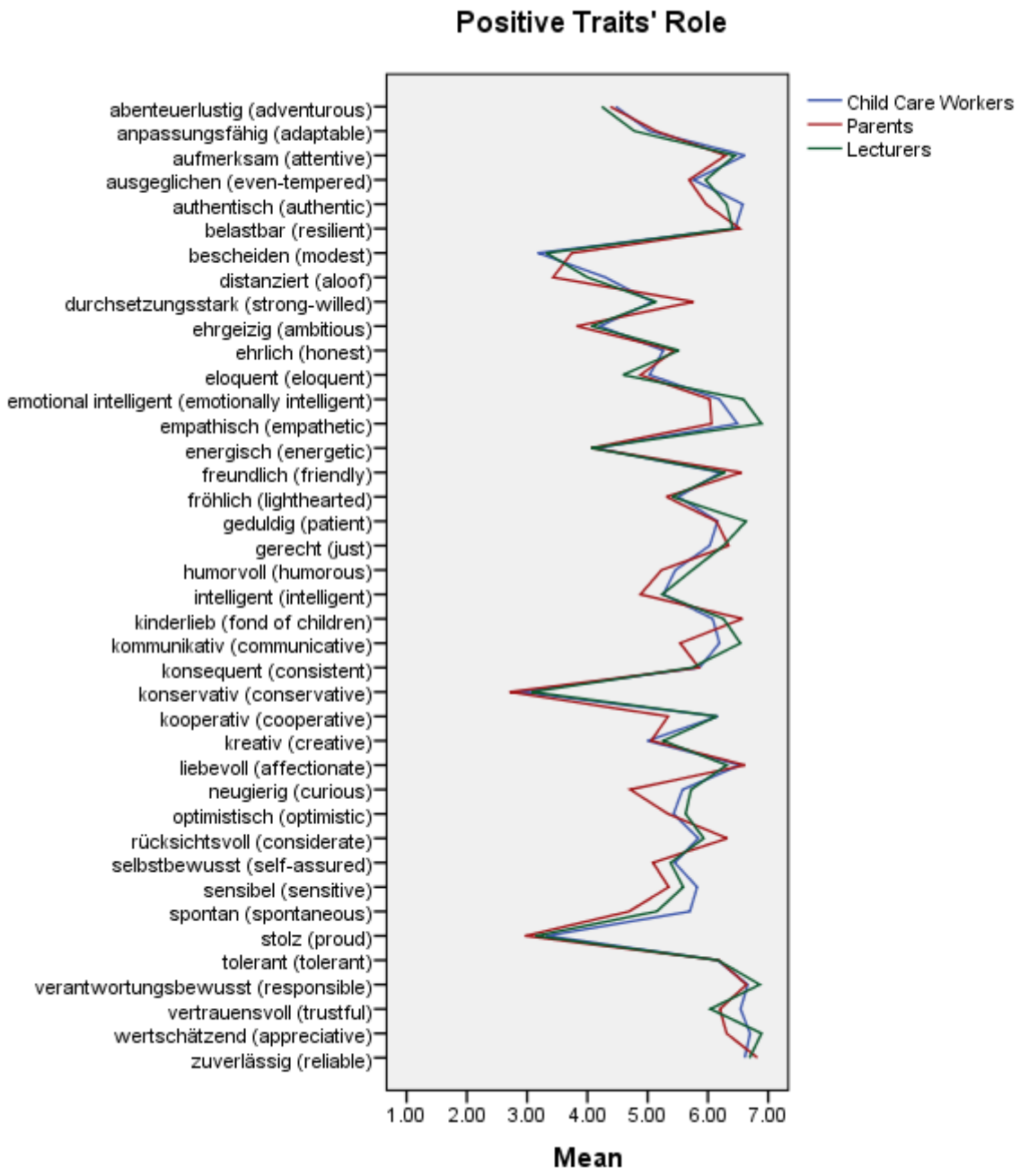


*Figure 14.* Profile of the positive traits' role rating.

## 3.3.3 Negative Traits

### *3.3.3.1 Friedman-Tests*

We found significant effects for the lecturers ($\chi^2(2) = 35.35$, $p < .001$), parents ($\chi^2(2) = 37.08$, $p < .001$) and child care workers ($\chi^2(2) = 37.52$, $p < .001$). Pairwise comparisons with a Bonferroni correction for multiple tests yielded significant differences between

- the minimum and optimum levels for the child care workers ($p = .013$) and parents ($p = .022$); we found a trend ($p = .053$) for the lecturers
- the minimum and maximum levels for the child care workers ($p < .001$), parents ($p < .001$) and lecturers ($p < .001$)
- the optimum and maximum levels for the child care workers ($p = .006$), parents ($p = .005$) and lecturers ($p = .003$)

with $Mdn_{min} = 1.38$, $Mdn_{opt} = 1.67$, $Mdn_{max} = 2.14$ for the child care workers, $Mdn_{min} = 1.20$, $Mdn_{opt} = 1.40$, $Mdn_{max} = 2.13$ for the parents and $Mdn_{min} = 1.04$, $Mdn_{opt} = 1.20$, $Mdn_{max} = 1.73$ for the lecturers.

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### *3.3.3.2 Minimum Levels*

***Kruskal-Wallis-Test.*** For the minimum levels of the negative traits, the tests yielded no significant results.

***Item-Level.*** As presented in Table 15, the adjectives showing the highest means were *ängstlich* (*anxious)* for the group of child care workers, *überfürsorglich* (*overprotective)* for the group of parents, and *egoistisch* (*egoistic)* for the group of lecturers. The groups rated these adjectives with *very low* scores. In contrast, each of the three groups rated the adjective *gewaltbereit (violent)* with the lowest score possible. Additionally, the parents rated the words *aggressiv* (*aggressive), faul (lazy),* and *verbittert* (*embittered)* and the lecturers rated the words *faul* (*lazy), voreingenommen (prejudiced), abwertend (pejorative), launisch (moody),*

*überfürsorglich (overprotective), naiv (naive), nachlässig (neglectful), verbissen (dogged)* and *verbittert* (*embittered)* with the lowest score possible. Altogether, the groups rated the minimum levels of all of the presented adjectives as *very low* to *extremely low*.

Table 15

*Means and Standard Deviations for the Negative Traits' Minimum Levels*

| Adjective | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| **abwertend (pejorative)** | 1.10 | 0.31 | 1.15 | 0.67 | **1.00** | **0.00** |
| **aggressiv (aggressive)** | 1.15 | 0.49 | **1.00** | **0.00** | 1.09 | 0.30 |
| **ängstlich (anxious)** | **1.95** | **1.47** | 1.35 | 0.49 | 1.13 | 0.35 |
| **egoistisch (egoistic)** | 1.68 | 0.89 | 1.32 | 0.75 | **1.50** | **0.71** |
| **faul (lazy)** | 1.06 | 0.24 | **1.00** | **0.00** | **1.00** | **0.00** |
| **gewaltbereit (violent)** | **1.00** | **0.00** | **1.00** | **0.00** | **1.00** | **0.00** |
| ignorant (narrow-minded) | 1.11 | 0.32 | 1.22 | 0.73 | 1.08 | 0.29 |
| impulsiv (impulsive) | 1.56 | 0.81 | 1.39 | 0.78 | 1.38 | 0.52 |
| introvertiert (introverted) | 1.47 | 1.23 | 1.41 | 0.80 | 1.22 | 0.44 |
| jähzornig (quick-tempered) | 1.05 | 0.22 | 1.05 | 0.23 | 1.08 | 0.29 |
| **launisch (moody)** | 1.21 | 0.54 | 1.10 | 0.30 | **1.00** | **0.00** |
| manipulativ (manipulative) | 1.53 | 1.43 | 1.15 | 0.37 | 1.22 | 0.44 |
| **nachlässig (neglectful)** | 1.16 | 0.50 | 1.32 | 1.00 | **1.00** | **0.00** |
| **naiv (naive)** | 1.61 | 1.42 | 1.32 | 0.58 | **1.00** | **0.00** |
| stur (stubborn) | 1.72 | 1.23 | 1.13 | 0.34 | 1.09 | 0.30 |
| **überfürsorglich (overprotective)** | 1.70 | 0.98 | **1.50** | **0.69** | **1.00** | **0.00** |
| unflexibel (inflexible) | 1.32 | 0.48 | 1.20 | 0.41 | 1.10 | 0.32 |
| **verbissen (dogged)** | 1.53 | 1.22 | 1.26 | 0.56 | **1.00** | **0.00** |
| **verbittert (embittert)** | 1.21 | 0.42 | **1.00** | **0.00** | **1.00** | **0.00** |
| **voreingenommen (prejudiced)** | 1.44 | 1.25 | 1.19 | 0.75 | **1.00** | **0.00** |

*Note.* $N$ = 16-21 for Child Care Workers, $N$ = 16-21 for Parents, and $N$ = 8-12 for Lecturers; boldface words and numbers highlight the adjectives with the highest and lowest means per group.

***Personality Profiles***. The graphical analyses illustrated in Figure 15 as well as the correlational analyses presented in Table 16 showed high Pearson and Spearman correlations between the child care workers' and the parents' profiles ($p < .001$). The child care workers' and the lecturers' profiles correlated only marginally ($p = .067$ and .076). The parents' and the lecturers' profiles did not correlate significantly ($p = .116$ and .161). As Table 17 shows, the pairwise differences between the groups' overall means lay in the range between 1% and 3% of the Likert scale while the mean difference between the items lay in the range between 3% and 5% of the Likert scale. With regard to the intraclass correlation, there was low consensus between the three groups (ICC = .444, CI -159-762, $p = .058$ for average measures with $\alpha = .704$). When we excluded the group of lecturers from the analysis, the consensus between the parents and child care workers increased considerably (ICC = .551, CI -.114-.821, $p = .042$ for average measures with $\alpha = .733$).

Table 16

*Correlations Between the Groups' Profiles for the Negative Traits' Minimum Levels*

| | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *r* | $r_s$ | *r* | $r_s$ | *r* | $r_s$ |
| Child Care Workers | - | - | .682** | .662** | .418† | .406† |
| Parents | | | - | - | .363 | .326 |
| Lecturers | | | | | - | - |

*Note*. *r* = Pearson correlation; $r_s$ = Spearman correlation.

** $p < .01$, † $p < .10$

Table 17

*Differences Between the Groups for the Negative Traits' Minimum Levels*

| | Parents – Lecturers | Parents - Child Care Workers | Lecturers – Child Care Workers |
|---|---|---|---|
| Difference of Overall Means | 0.14 (2%) | 0.04 (1%) | 0.18 (3%) |
| Mean Difference of Items | 0.27 (5%) | 0.17 (3%) | 0.29 (5%) |

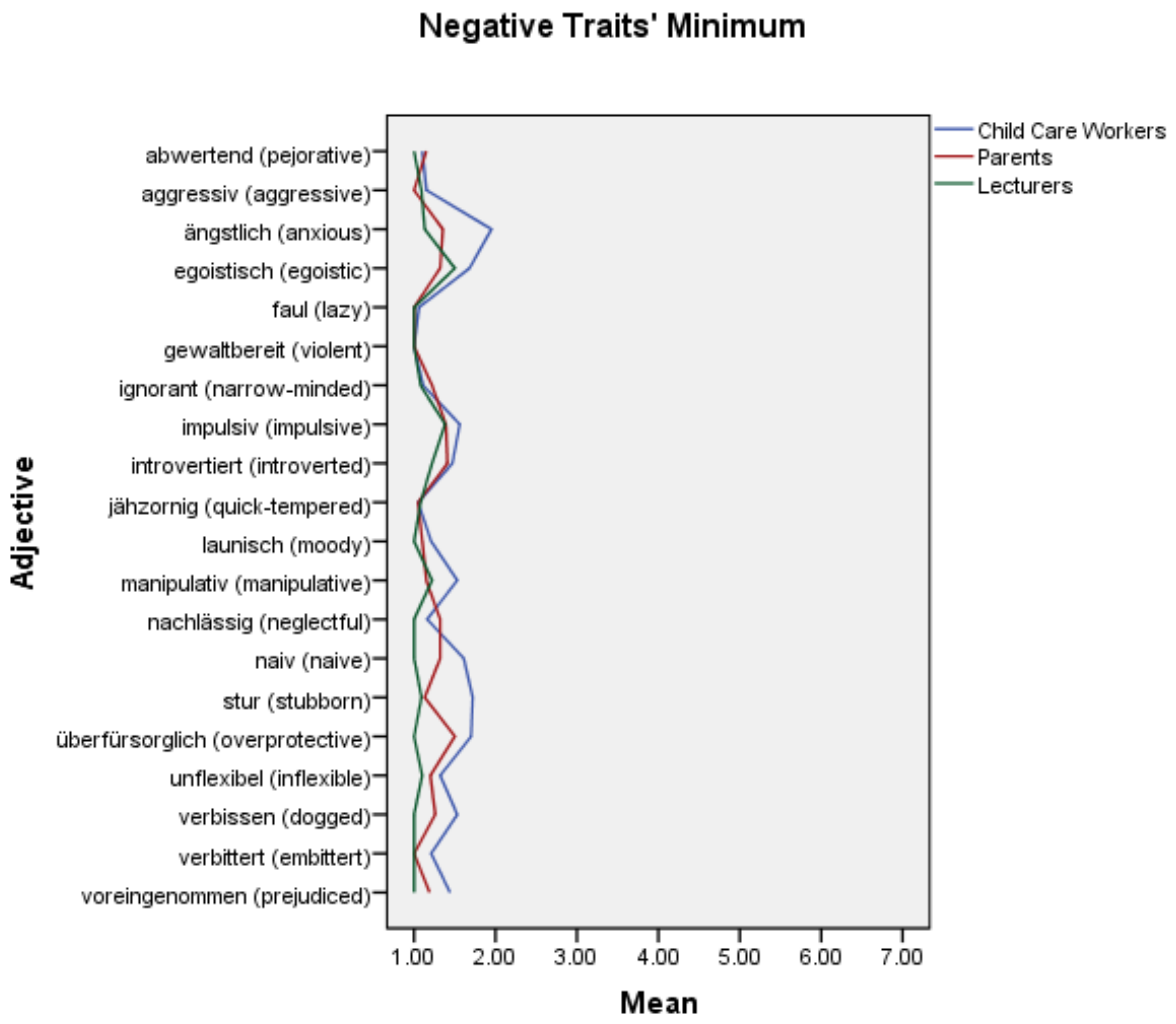


*Figure 15.* Profile of the negative traits' minimum rating.

#### *3.3.3.3 Optimum-Levels*

***Kruskal-Wallis-Test.*** For the optimum levels of the negative traits, the tests yielded no significant results.

***Item-Level.*** As presented in Table 18, the adjectives showing the highest means were *ängstlich* (*anxious)* for the group of child care workers, *überfürsorglich* (*overprotective)* and *impulsiv* (*impulsive)* for the group of parents, and *egoistisch* (*egoistic)* for the group of lecturers. The groups rated these adjectives with *very low* scores. In contrast, each of the three groups rated the adjective *gewaltbereit (violent)* with the lowest score possible. Additionally, the parents rated the word *aggressiv* (*aggressive)* and the lecturers rated the words *jähzornig (quick-tempered)* and *verbittert (embittered)* with the lowest score possible. Altogether, the groups rated the optimum levels of all the presented adjectives as *very low* to *extremely low*.

Table 18

*Means and Standard Deviations for the Negative Traits' Optimum Levels*

| Adjective | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| abwertend (pejorative) | 1.20 | 0.52 | 1.20 | 0.70 | 1.20 | 0.42 |
| **aggressiv (aggressive)** | 1.15 | 0.49 | **1.00** | **0.00** | 1.18 | 0.40 |
| **ängstlich (anxious)** | **2.35** | **1.50** | 1.94 | 0.75 | 1.88 | 0.99 |
| **egoistisch (egoistic)** | 2.11 | 1.05 | 1.74 | 0.99 | **2.20** | **0.92** |
| faul (lazy) | 1.28 | 0.46 | 1.21 | 0.42 | 1.20 | 0.42 |
| **gewaltbereit (violent)** | **1.00** | **0.00** | **1.00** | **0.00** | **1.00** | **0.00** |
| ignorant (narrow-minded) | 1.21 | 0.42 | 1.33 | 0.97 | 1.17 | 0.39 |
| **impulsiv (impulsive)** | 2.25 | 1.13 | **2.00** | **1.03** | 2.00 | 0.93 |
| introvertiert (introverted) | 2.12 | 1.32 | 1.71 | 0.92 | 1.67 | 0.87 |
| **jähzornig (quick-tempered)** | 1.15 | 0.37 | 1.05 | 0.23 | **1.00** | **0.00** |
| launisch (moody) | 1.42 | 0.77 | 1.33 | 0.58 | 1.20 | 0.42 |
| manipulativ (manipulative) | 1.74 | 1.48 | 1.50 | 0.83 | 1.22 | 0.44 |
| nachlässig (neglectful) | 1.37 | 0.60 | 1.42 | 1.22 | 1.10 | 0.32 |
| naiv (naive) | 1.94 | 1.63 | 1.74 | 0.73 | 1.50 | 0.53 |
| stur (stubborn) | 2.22 | 1.35 | 1.56 | 0.73 | 1.18 | 0.40 |
| **überfürsorglich (overprotective)** | 2.05 | 1.10 | **2.00** | **0.86** | 1.44 | 0.53 |
| unflexibel (inflexible) | 1.67 | 0.77 | 1.55 | 0.60 | 1.60 | 0.70 |
| verbissen (dogged) | 1.68 | 1.25 | 1.37 | 0.68 | 1.18 | 0.40 |
| **verbittert (embittert)** | 1.26 | 0.56 | 1.10 | 0.30 | **1.00** | **0.00** |
| voreingenommen (prejudiced) | 1.67 | 1.46 | 1.25 | 0.77 | 1.09 | 0.30 |

*Note.* $N$ = 16-21 for Child Care Workers, $N$ = 16-21 for Parents, and $N$ = 8-12 for Lecturers; boldface words and numbers highlight the adjectives with the highest and lowest means per group.

***Personality Profiles.*** The graphical analyses illustrated in Figure *16* as well as the correlational analyses presented in Table 19 showed high correlations between the three groups' profiles ($p < .001$). As Table 20 shows, the pairwise differences between the groups' overall means lay in the range between 2% and 5% of the Likert scale while the mean difference between items lay in the range between 3% and 5% of the Likert scale. With regard to the intraclass correlation, there was medium consensus between the three groups (ICC = .868, CI 725-943, $p$ <.001 for average measures with $\alpha$ = .925).

Table 19

*Correlations between the Groups' Profiles for the Negative Traits' Optimum Levels*

| | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *r* | $r_s$ | *r* | $r_s$ | *r* | $r_s$ |
| Child Care Workers | - | - | .912*** | .922*** | .761*** | .745*** |
| Parents | | | - | - | .801*** | .800*** |
| Lecturers | | | | | - | - |

*Note*. *r* = Pearson correlation; $r_s$ = Spearman correlation.

*** $p < .001$

Table 20

*Differences Between the Groups for the Negative Traits' Optimum Levels*

| | Parents – Lecturers | Parents - Child Care Workers | Lecturers – Child Care Workers |
|---|---|---|---|
| Difference of Means | 0.10 (2%) | 0.19 (3%) | 0.29 (5%) |
| Mean Difference of Items | 0.17 (3%) | 0.21 (3%) | 0.30 (5%) |

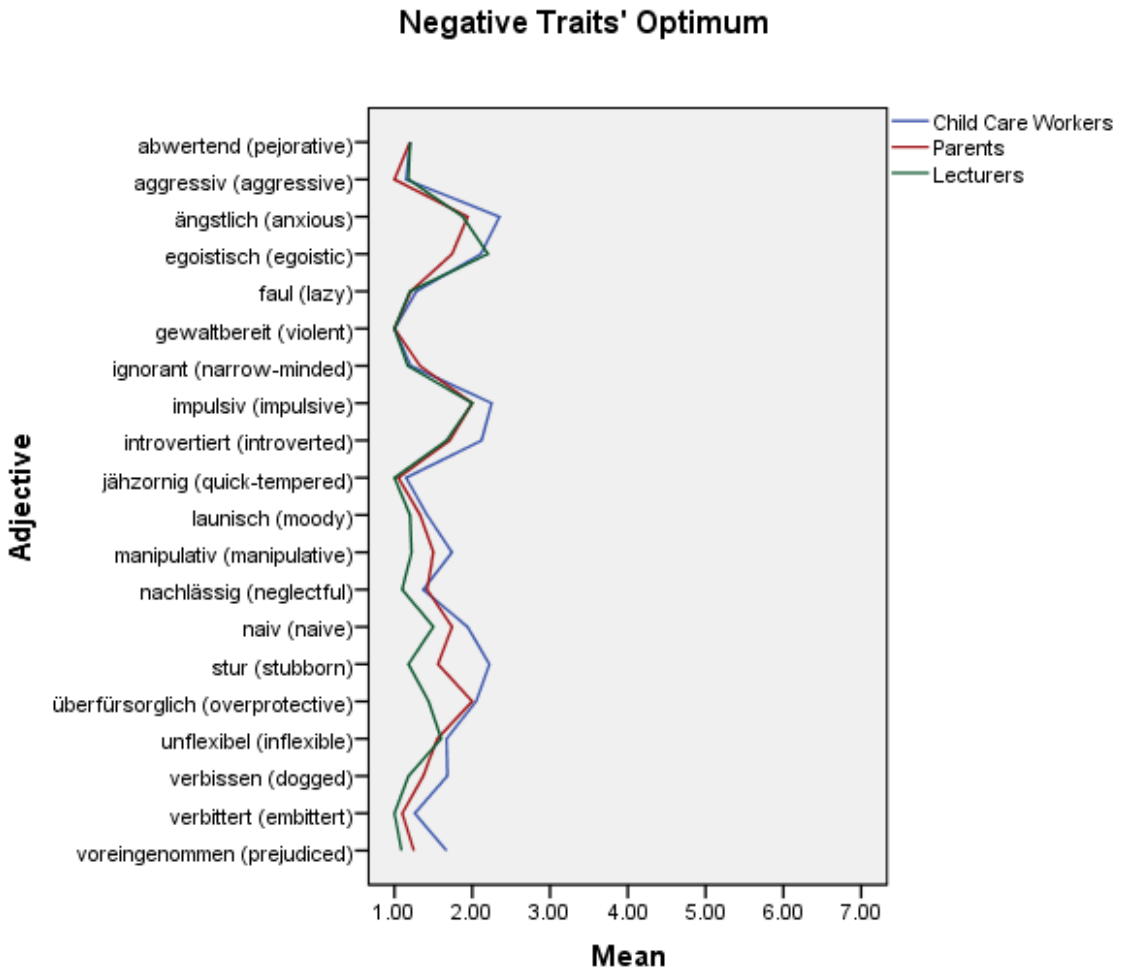


*Figure 16.* Profiles of the negative traits' optimum rating.

#### *3.3.3.4 Maximum-Levels*

***Kruskal-Wallis-Test.*** For the maximum levels of the negative traits, the tests yielded no significant results.

***Item-Level.*** As presented in Table 21, the adjectives showing the highest means were *ängstlich* (*anxious)* for the group of child care workers, *überfürsorglich (overprotective)* and *ängstlich (anxious)* for the group of parents, and *egoistisch* (*egoistic)* for the group of lecturers. The groups rated these adjectives with *low* scores. In contrast, each of the three groups rated the adjective *gewaltbereit (violent)* with the lowest score possible. Altogether, the groups rated the maximum levels of most of the presented adjectives (65%-80%) as *very low* to *extremely low*; they rated no adjective's maximum level higher than *low*.

Table 21

*Negative Traits' Maximum Means and Standard Deviations by Group*

| Adjective | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| abwertend (pejorative) | 1.50 | 0.89 | 1.60 | 0.94 | 1.30 | 0.48 |
| aggressiv (aggressive) | 1.35 | 0.75 | 1.11 | 0.32 | 1.45 | 0.69 |
| **ängstlich (anxious)** | **3.05** | **1.85** | **3.00** | **1.17** | 2.75 | 1.67 |
| **egoistisch (egoistic)** | 2.63 | 1.42 | 2.47 | 1.31 | **3.10** | **1.20** |
| faul (lazy) | 1.78 | 0.94 | 2.11 | 1.29 | 1.90 | 1.10 |
| **gewaltbereit (violent)** | **1.00** | **0.00** | **1.00** | **0.00** | **1.00** | **0.00** |
| ignorant (narrow-minded) | 1.63 | 0.83 | 1.72 | 1.27 | 1.42 | 0.90 |
| impulsiv (impulsive) | 2.81 | 1.47 | 2.83 | 1.54 | 3.00 | 2.07 |
| introvertiert (introverted) | 2.82 | 1.81 | 2.47 | 1.28 | 2.67 | 1.66 |
| jähzornig (quick-tempered) | 1.40 | 0.68 | 1.26 | 0.65 | 1.17 | 0.58 |
| launisch (moody) | 2.06 | 1.11 | 2.14 | 1.06 | 2.00 | 1.05 |
| manipulativ (manipulative) | 2.16 | 1.57 | 2.15 | 1.39 | 1.56 | 0.73 |
| nachlässig (neglectful) | 1.95 | 1.31 | 1.95 | 1.51 | 1.60 | 0.97 |
| naiv (naive) | 2.61 | 1.72 | 2.74 | 1.10 | 2.50 | 1.20 |
| stur (stubborn) | 2.61 | 1.75 | 2.25 | 1.00 | 1.73 | 1.10 |
| **überfürsorglich (overprotective)** | 2.70 | 1.30 | **3.00** | **1.21** | 2.67 | 1.22 |
| unflexibel (inflexible) | 2.22 | 1.22 | 2.45 | 1.05 | 2.40 | 1.43 |
| verbissen (dogged) | 2.32 | 1.57 | 1.95 | 1.03 | 1.73 | 1.27 |
| verbittert (embittert) | 1.67 | 0.97 | 1.57 | 0.87 | 1.20 | 0.42 |
| voreingenommen (prejudiced) | 2.11 | 1.84 | 1.75 | 1.00 | 1.64 | 0.92 |

*Note.* $N$ = 16-21 for Child Care Workers, $N$ = 16-21 for Parents, and $N$ = 8-12 for Lecturers; boldface words and numbers highlight the adjectives with the highest and lowest means per group.

***Personality Profiles.*** The graphical analyses illustrated in Figure 17 as well as the correlational analyses presented in Table 22 showed high correlations between the three groups' profiles ($p < .001$). As Table 23 shows, the pairwise differences between the groups' overall means as well as the mean difference between the items lay in the range between 2% and 5% of the Likert scale, respectively. With regard to the intraclass correlation, there was high consensus between the three groups (ICC = .955, CI 906-981, $p < .001$ for average measures $\alpha$ = .962).

Table 22

*Correlations Between the Groups' Profiles for the Negative Traits' Maximum Levels*

| | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *r* | $r_s$ | *r* | $r_s$ | *r* | $r_s$ |
| Child Care Workers | - | - | .932*** | .939*** | .869*** | .896*** |
| Parents | | | - | - | .894*** | .921*** |
| Lecturers | | | | | - | - |

*Note*. *r* = Pearson correlation; $r_s$ = Spearman correlation.

*** $p < .001$

Table 23

*Differences Between the Groups for the Negative Traits' Maximum Levels*

| | Parents – Lecturers | Parents - Child Care Workers | Lecturers – Child Care Workers |
|---|---|---|---|
| Abs. Difference of Means | 0.11 (2%) | 0.18 (3%) | 0.28 (5%) |
| Mean of Abs. Differences | 0.15 (2%) | 0.21 (3%) | 0.29 (5%) |

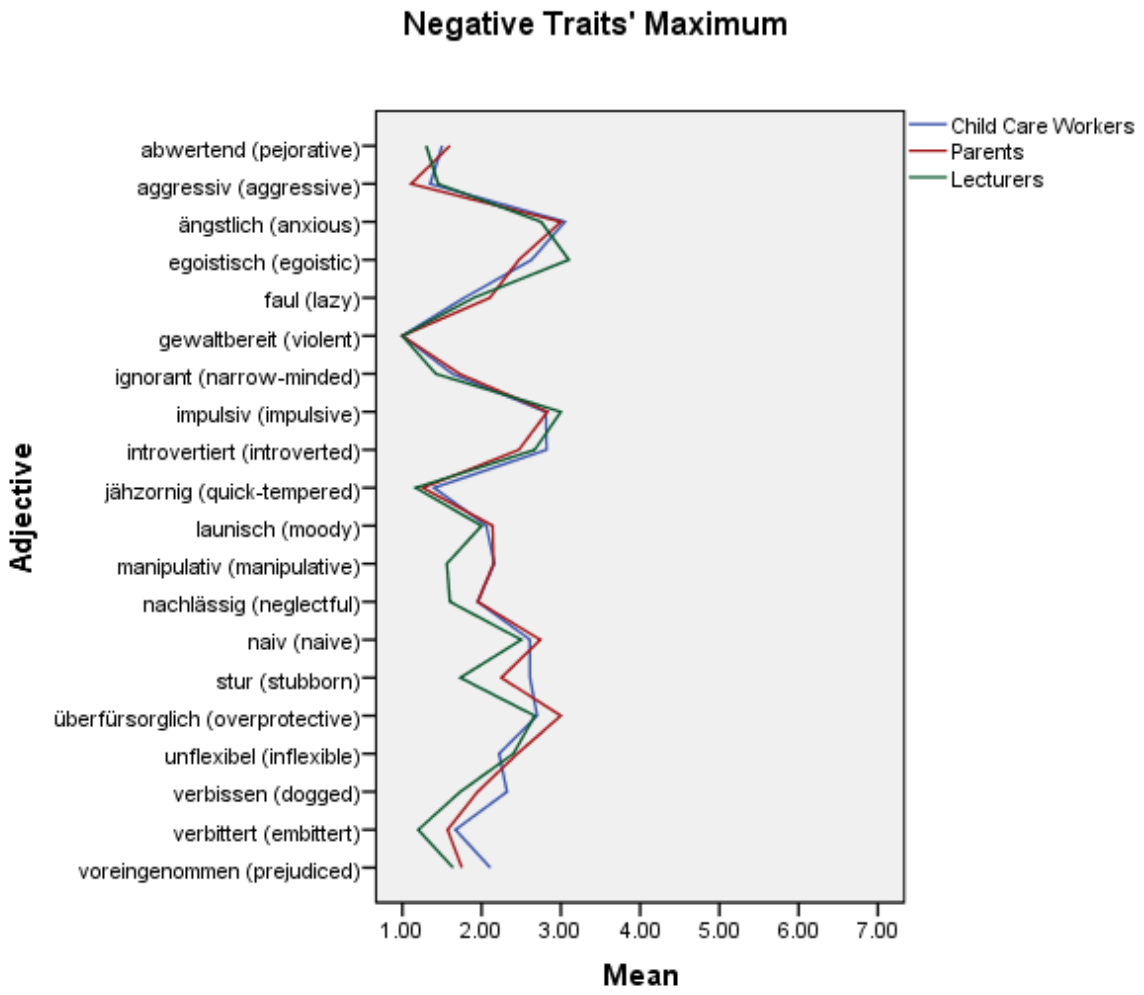


*Figure 17.* Profiles of the negative traits' maximum rating.

### *3.3.3.5 Importance/Role*

***Kruskal-Wallis-Test.*** For the importance of the negative traits, we found significant differences between the groups of lecturers ($N$ = 22-26), child care workers ($N$ = 28-30) and parents ($N$ = 28-29) for the following adjectives:

(a) *überfürsorglich (overprotective)*, ($\chi^2(2) = 10.144$, $p = .006$) with a mean rank of 43.88 for the child care workers, 32.78 for the parents and 53.38 for the lecturers,

(b) *verbittert (embittered)*, ($\chi^2 (2) = 12.85$, $p = .002$) with a mean rank of 35.68 for the child care workers, 38.78 for the parents and 56.15 for the lecturers.

Pairwise post-hoc tests using Dunn-Bonferroni-corrections yielded the following results:

(a) For *überfürsorglich (overprotective)*, the groups of lecturers ($N$ = 26, Mean rank = 53.38, *Mdn* = 6.00, $M$ = 5.70) and parents ($N$ = 29, Mean rank = 32.78, *Mdn* = 5.00, $M$ = 4.66) differed significantly ($p = .004$) with an effect size of $\eta^2 = .183$ and therefore a medium effect of $r = 0.43$, showing that the lecturers judged this adjective as more important than the parents did.

(b) For *verbittert (embittered)*, the groups of lecturers ($N$ = 26, Mean rank = 56.15, *Mdn* = 7.00, $M$ = 6.73) and child care workers ($N$ = 30, Mean rank = 35.68, *Mdn* = 6.00, $M$ = 5.53) differed significantly ($p = 0.002$) with an effect size of $\eta^2 = .202$ and therefore a medium effect of $r = .40$, showing that the lecturers judged the adjective as more important than the child care workers did.

***Item-Level.*** As presented in Table 24 the adjectives showing the highest means were *aggressive (aggressive)* and *gewaltbereit (violent)* for the group of child care workers, *aggressive (aggressive)* for the group of parents, and *abwertend (pejorative)* and *verbittert (embittered)* for the group of lecturers. The groups rated these adjectives with *high* scores. In contrast, the words showing the lowest means were *naiv (naïve)* for the parents and lecturers

and *ängstlich (anxious)* for the child care workers. The groups rated these adjectives with *medium* scores. Altogether, the groups rated most of the presented adjectives (80-95%) as *very important*; they rated no adjective as *less important*.

Table 24

*Negative Adjectives' Role Means and Standard Deviations by Group*

| Adjective | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| **abwertend (pejorative)** | 6.43 | 0.90 | 6.52 | 0.69 | **6.73** | **0.72** |
| **aggressiv (aggressive)** | **6.66** | **1.17** | **6.93** | **0.27** | 6.57 | 0.95 |
| **ängstlich (anxious)** | **4.67** | **1.71** | 4.83 | 1.23 | 5.27 | 1.56 |
| egoistisch (egoistic) | 4.90 | 1.60 | 5.38 | 1.15 | 5.35 | 1.32 |
| faul (lazy) | 5.67 | 1.47 | 5.55 | 1.02 | 5.92 | 1.06 |
| **gewaltbereit (violent)** | **6.66** | **1.20** | 6.79 | 0.64 | 6.70 | 1.26 |
| ignorant (narrow-minded) | 6.00 | 1.25 | 6.21 | 1.08 | 6.18 | 1.01 |
| impulsiv (impulsive) | 5.41 | 1.40 | 5.18 | 1.45 | 5.17 | 1.37 |
| introvertiert (introverted) | 5.28 | 1.53 | 4.68 | 1.65 | 5.48 | 1.20 |
| jähzornig (quick-tempered) | 6.28 | 1.28 | 6.64 | 0.84 | 6.30 | 1.29 |
| launisch (moody) | 5.69 | 1.00 | 5.62 | 1.12 | 6.00 | 1.13 |
| manipulativ (manipulative) | 5.53 | 1.20 | 6.03 | 1.27 | 6.23 | 1.14 |
| nachlässig (neglectful) | 5.79 | 1.29 | 6.07 | 1.09 | 6.09 | 1.38 |
| **naiv (naive)** | 4.77 | 1.38 | **4.24** | **1.06** | **4.96** | **1.78** |
| stur (stubborn) | 5.21 | 1.63 | 5.36 | 1.30 | 5.45 | 1.22 |
| überfürsorglich (overprotective) | 5.17 | 1.29 | 4.66 | 1.14 | 5.69 | 1.23 |
| unflexibel (inflexible) | 5.67 | 1.35 | 5.17 | 0.89 | 5.62 | 1.24 |
| verbissen (dogged) | 5.21 | 1.82 | 5.64 | 1.39 | 5.43 | 1.56 |
| **verbittert (embittert)** | 5.53 | 1.74 | 5.93 | 1.16 | **6.73** | **0.60** |
| voreingenommen (prejudiced) | 6.10 | 1.14 | 6.29 | 0.76 | 5.96 | 1.15 |

*Note.* $N$ = 28-30 for Child Care Workers, $N$ = 28-29 for Parents, and $N$ = 22-26 for Lecturers; boldface words and numbers highlight the adjectives with the highest and lowest means per group.

***Personality Profiles.*** The graphical analyses illustrated in Figure 18 as well as the correlational analyses presented in Table 25 showed high correlations between the three groups' profiles ($p < .001$). As Table 26 shows, the pairwise differences between the groups' overall means lay in the range between 1% and 4% of the Likert scale while the mean difference between items lay in the range between 5% and 6% of the Likert scale. With regard to the intraclass correlation, there was high consensus between the three groups (ICC = .924, CI 841-967, $p <.001$ for average measures with $\alpha = .938$).

Table 25

*Correlations Between the Groups' Profiles for the Negative Traits' Role*

| | Child Care Workers | | Parents | | Lecturers | |
|---|---|---|---|---|---|---|
| | *r* | $r_s$ | *R* | $r_s$ | *r* | $r_s$ |
| Child Care Workers | - | - | .891*** | .872*** | .834**** | .810*** |
| Parents | | | - | - | .852*** | .807*** |
| Lecturers | | | | | - | - |

*Note*. *r* = Pearson correlation; $r_s$ = Spearman correlation.

*** $p < .001$

Table 26

*Differences Between the Groups for the Negative Traits' Role*

| | Parents – Lecturers | Parents - Child Care Workers | Lecturers – Child Care Workers |
|---|---|---|---|
| Difference of Overall Means | 0.21 (3%) | 0.05 (1%) | 0.26 (4%) |
| Mean Difference of Items | 0.35 (6%) | 0.31 (5%) | 0.31 (5%) |

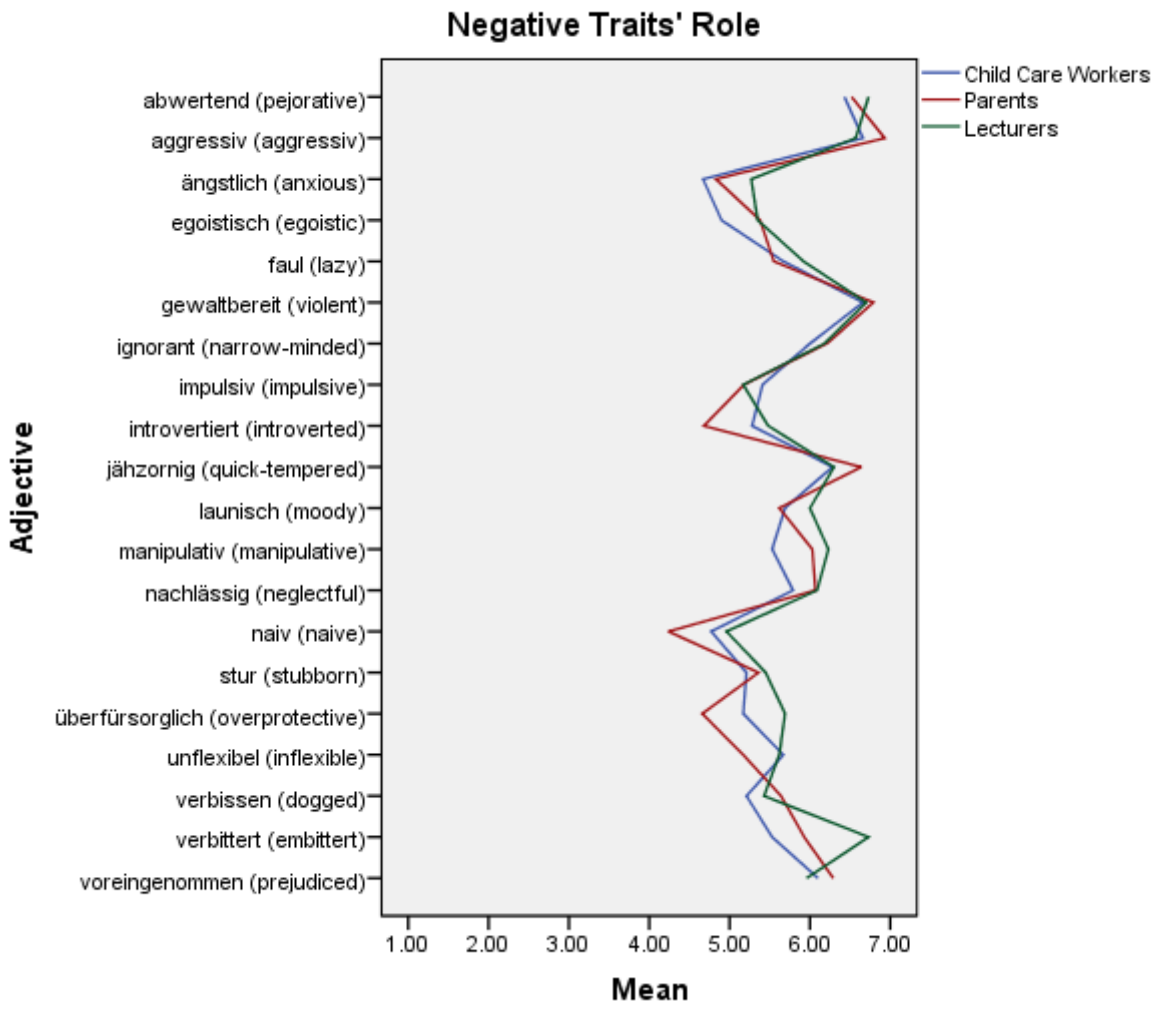


*Figure 18.* Profiles of the negative traits' role rating.

## 3.4 Discussion

We conducted this study in order to answer the questions which personality traits three groups of SMEs - parents, child care workers and lecturers at professional schools - consider as important for a child care worker and how pronounced these experts want these traits' minimum, optimum and maximum levels to be. In the following paragraphs, we summarize the results and disuss them in detail.

The first question we investigated in this study was whether the three expert groups differentiated between the three levels (minimum, optimum and maximum) of the presented trait adjectives. The summarized results we present in Table 27 show that the groups differentiated sufficiently well between the levels, with the exception that the lecturers rated the minimum and optimum levels of the negative traits quite similar. One possible explanation for this finding is that the lecturers considered the minimum manifestations of the negative traits as ideal, implying that they purposefully did not differentiate between the minimum and optimum levels. However, another possible explanation is that the lecturers' small sample size smeared out a possible difference between their judgments.

Table 27

*Differentiation of the Three Levels Within Each Group*

| Condition | Parents | Lecturers | Child Care Workers |
|---|---|---|---|
| Neg. Minimum – Optimum | ✓ | X | ✓ |
| Neg. Optimum – Maximum | ✓ | ✓ | ✓ |
| Neg. Minimum – Maximum | ✓ | ✓ | ✓ |
| Pos. Minimum – Optimum | ✓ | ✓ | ✓ |
| Pos. Optimum – Maximum | ✓ | ✓ | ✓ |
| Pos. Minimum – Maximum | ✓ | ✓ | ✓ |

*Note.* X = no group differences; ✓ = group differences.

The next question we investigated was wether the three groups differed from each other within each of the three levels. The summarized results we present in Table 28 show that for the negative traits, the three groups did not differ with regard to any trait within any level condition. Likewise, they did not differ with regard to the positive traits' minimum levels. For the positive traits' optimum and maximum levels, they did not differ with regard to 37 out of the 40 positive adjectives. For the remaining adjectives, they differed insofar as the lecturers wanted child care workers to be more *empathisch (empathetic)* and *wertschätzend (appreciative)* than the parents did and more *emotional intelligent (emotionally intelligent)* than the child care workers did. Furthermore, the lecturers accepted child care workers to be more *emotional intelligent (emotionally intelligent)* and *kreativ (creative)* than the child care workers did. Also, the parents accepted child care workers to be more *humorvoll (humorous)* than the child care workers did. In this context, it is interesting to note that the lecturers assigned several words higher optimum and maximum levels than the parents and child care workers did, indicating that they desired and allowed higher levels compared to parents and child care workers themselves.

With regard to the negative as well as the positive traits' importance (role), the groups agreed on 34 out of the presented 40 positive adjectives and on 18 out of the presented 20 negative adjectives. For the remaining adjectives, we found significant group differences. The lecturers rated the trait adjective *verbittert (embittered)* as significantly more important for a child care worker than the child care workers themselves did and they rated *überfürsorglich (overprotective)* as significantly more important than parents did. Additionally, the lecturers rated the adjectives *kooperativ (cooperative)*, *empathisch (empathetic)*, *wertschätzend (appreciative)*, *kommunikativ (communicative)* and *neugierig (curious)* as significantly more important than the parents did. Furthermore, the child care workers rated *kooperativ (cooperative)* and *spontan (spontaneous)* as significantly more important than the parents did. Accordingly, the child care workers and the parents seemed to share a more similar view with

regard to the traits' importance than the child care workers and the lecturers or the parents and the lecturers did. One possible explanation why the lecturers judged the importance as well as the optimum and maximum levels of some traits different than the other two groups could be a different understanding of these adjectives or traits. In order to test this explanation, we run factorial analyses. However - maybe because of the small sample sizes - they did not yield any informative results.

Table 28

*Group-Differences Within each Level Condition*

| Condition | Group Differences | Adjectives |
|---|---|---|
| Neg. Minimum | X | |
| Neg. Optimum | X | |
| Neg. Maximum | X | |
| Neg. Role | ✓ | *verbittert (embittered)*<br>*überfürsorglich (overprotective)* |
| Pos. Minimum | X | |
| Pos. Optimum | ✓ | *empathisch (empathetic)*<br>*wertschätzend (appreciative)*<br>*emotional intelligent (emotionally intelligent)* |
| Pos. Maximum | ✓ | *kreativ (creative)*<br>*humorvoll (humorous)*<br>*emotional intelligent (emotionally intelligent)* |
| Pos. Role | ✓ | *kooperativ (cooperative)*<br>*empathisch (empathetic)*<br>*wertschätzend (appreciative)*<br>*kommunikativ (communicative)*<br>*neugierig (curious)*<br>*spontan (spontaneous)* |

*Note.* X = no group differences; ✓ = group differences.

The next question we investigated was how similar the three groups rated the minimum, optimum and maximum levels of the presented personality traits. Therefore, we first had a detailed look at the item-level. The summarized results we present in Table 29 show that for all conditions (minimum, optimum, maximum) of the presented negative adjectives, each group desired child care workers to show *low* to *extremely low* trait levels. This result is not surprising as it matches very well with common expectations. However, it also shows that according to subject matter experts, it is acceptable for a child care worker to be - for example - a little bit *ängstlich (anxious), überfürsorglich (overprotective)* or *egoistisch (egoistic)*. In contrast, all participants rated the trait adjective *gewaltbereit* (*violent)* with a score of 1.00 across the three level conditions. Accordingly, all participants shared the view that a child care worker should possess an extremely low level of readiness to use violence. This result is not surprising, but it shows that the participants generally understood the instructions of our questionnaire. Furthermore, the groups desired a child care worker to only show *very low* to *extremely low* levels of the traits *aggressiv* (*aggressive)* and *jähzornig (quick-tempered)*. At first sight, it might seem surprising that some participants did not rate these adjectives with the lowest score possible. However, as our sample sizes were small, it should be noted that only one or two participants judging the trait with a higher score affected the mean score considerably.

For the positive adjectives, each group desired child care workers to show mainly *medium* to *extremely high* trait manifestations, depending on the condition. The adjectives showing the highest scores throughout the three conditions were *zuverlässig* (*reliable)* and *verantwortungsbewusst* (*responsible).* For these traits, each group desired child care workers to show *high* minimum levels as well as *extremely high* optimum and maximum levels. In contrast, the adjectives showing the lowest scores across the three conditions were *konservativ* (*conservative)* and *distanziert (aloof).* For these traits, each group desired child care workers to only show *low* minimum and optimum levels and *medium* maximum levels.

Regarding the presented traits' importance, the groups shared the same view for the presented positive as well as negative traits. They rated all of the negative adjectives as *important* to *very important* for a child care worker. Furthermore, each group rated the traits *gewaltbereit (violent), aggressive (aggressive), ignorant (narrow-minded), abwertend (pejorative)* and *jähzornig (quick-tempered)* as especially important while at the same time desiring *very low* to *extremely low* minimum, optimum and maximum levels. Hence, these seem to be especially crucial personality traits for the suitability of child care workers. For the positive adjectives, the groups rated 39 of the presented 40 words as *important* to *very important*. The only adjective rated as *less important* by parents and child care workers was *konservativ (conservative)*. This adjective also showed the lowest importance score in each group.

Table 29

*Desired Manifestation and Role Levels per Condition*

| Condition | Manifestation-Level | Role/Importance |
|---|---|---|
| Neg. Minimum | *Very low - Extremely low* | - |
| Neg. Optimum | *Very low – Extremely low* | - |
| Neg. Maximum | *Low - Extremely low* | - |
| Neg. Role | - | *Less important – Very important* |
| Pos. Minimum | *Low – High* | - |
| Pos. Optimum | *Low – Extremely high* | - |
| Positive Maximum | *Medium – Extremely high* | - |
| Positive Role | - | *Less important – Very important* |

Furthermore, these results validated our set of the 60 trait adjectives which we had selected from the nominations in our first study (see Chapter 2). However, the rarely named adjectives that we had selected in order to confirm the relevance of the words' frequency (see Chapter 3.1) were judged as important by the SMEs nonetheless. One possible explanation for this finding

is that some people participated in our first as well as in our second study. This was possible because we sent our invitations for both studies partly to the same preschools and online message boards. Altogether, 29% of the parents and 23% of the child care workers participated in both studies. These participants might have judged the importance of the trait adjectives presented to them in our second study high because they had also named them in our first study. On the other hand, the two studies lay 1 ½ years apart. Therefore, we assume that memory effects only had a small influence on the participants' judgment.

Finally, we had a look at how similar the groups rated the minimum, optimum and maximum profiles of the presented personality traits. The summarized results we present in Table 30 show that for the optimum and maximum conditions of the negative adjectives as well as for all the conditions of the positive adjectives, the personality profiles provided by the three groups showed similar shapes. Furthermore, the differences between their overall means were negligible (reaching from less than 1% to 5% of the 7-point Likert scale). One possible explanation for these results is that people might have a distinct opinion regarding desired optimum and maximum levels for a trait and maybe even more so for the minimum levels of a positive trait. In contrast, this might not be true for a negative trait's minimum level as people might think that negative traits should not be present at all in the personality of a child care worker. Our analyses of the negative traits' minimum profiles showed that only the profiles of the parents and the child care workers showed similar shapes. The lecturers' profile correlated only marginally with the child care workers' profile and not at all with the parents' profile. Corresponding to the intraclass correlation results, this indicates that the lecturers might have a different view regarding the minimum levels of the presented negative traits. One explanation for the low consensus between the groups might be found in the participants' comments at the end of the questionnaire. They revealed that a lot of the participants had had difficulties with judging the negative traits. Still, judging a negative trait's optimum and utmost manifestation

might not be so problematic, as people might have a distinct idea of a negative trait's upper limit by implying that levels lying above a certain maximum are detrimental. However, according to the aforementioned reasons, answering the questions about the negative traits' minimum levels might have been especially difficult and consequently explain the differences in the judgements.

With regard to the traits' importance, the three groups' profiles correlated highly for the negative as well as the positive adjectives. Additionally, the differences between the groups' overall means were small (reaching from 1% to 4% of the 7-point Likert scale) and the consensus was high.

Table 30

*Correlations and Mean-Differences Between the Groups*

| Condition | Parents – Child Care Workers | Parents – Lecturers | Lecturers – Child Care Workers | Overall Mean Difference | Intraclass-Correlation |
|---|---|---|---|---|---|
| Neg. Minimum | ✓ | X | (✓) | 2-5% | Low |
| Neg. Optimum | ✓ | ✓ | ✓ | 2-5% | Moderate |
| Neg. Maximum | ✓ | ✓ | ✓ | 1-3% | High |
| Neg. Role | ✓ | ✓ | ✓ | 1-4% | High |
| Pos. Minimum | ✓ | ✓ | ✓ | < 1% | High |
| Pos. Optimum | ✓ | ✓ | ✓ | 1-2% | High |
| Pos. Maximum | ✓ | ✓ | ✓ | < 1%-1% | High |
| Pos. Role | ✓ | ✓ | ✓ | < 1% | High |

*Note.* X = no significant correlation; ✓ = significant correlation; (✓) = marginally significant correlation

With regard to noteworthy limitations of this study, we point out the small sample size. As we let each participant judge only half of our two item sets, the subgroups' sample sizes were small, reaching from 8 to 34 participants for the three level conditions and 22 to 38 participants for the role rating. Accordingly, our results should be interpreted and generalized with care.

Further limitations concern possible covariates such as the participants' gender and age. As reported in chapter 3.3.1, the three expert groups differed with regard to both aforementioned variables. Of the participants, 96% of the child care workers, 97% of the parents and 77% of the lecturers were female. However, we already discussed that the high proportion of mothers and female child care workers in our samples is not surprising (see Chapter 2.5). Furthermore, 48% to 57% of the lecturers for university and professional training in Germany are male (Institut für Arbeitsmarkt- und Berufsforschung, 2018). Accordingly, the distribution of gender in our three samples resembles this data.

Comparing the groups' age, we found that the group of lecturers was significantly older than the group of parents and child care workers. This result might mirror the long time lecturers for professional schools need to qualify themselves through years of education and training. Unfortunately, due to the small sample sizes and the data's violation of the required prerequisites, it was not possible to run adequate analyses in order to investigate those variables' influence.

Nonetheless, the results of this study showed that the three expert groups widely agreed on how important the presented traits are and how pronounced they should be. Still, we did not yet know whether the experts' ratings were valid insofar as child care workers' matching this personality profile indeed showed higher process quality. In order to answer this question, we conducted our third study which we present in the following chapter.

# 4 What They Want and What They get - A Video Study

After conducting our second study, we knew that parents, child care workers and lecturers shared very similar opinions on how pronounced a child care worker's traits should be. Yet, the questions remained

a) whether the experts' ideal profiles constructed in our second study correlated with process quality and

b) whether the child care workers' levels on higher-order personality factors predicted their process quality.

In order to answer these questions, we conducted our third study. Therefore, we first had to assess the personality of actual child care workers. As various approaches to assess personality exist, we subsequently describe the method used in this thesis. Furthermore, we reflect possible relationships between the child care workers' personality and their process quality. Afterwards, we present our methods and results and conclude the chapter by discussing the study.

## 4.1 Thin-Slice Judgments of Personality

In the literature, various approaches exist to assess personality. In the field of classroom research, one common approach is to assess the teachers' personality via self-assessment. Another approach is to let external observers judge others' personality. In support of this approach, Hattie (2012) argues that with regard to their key features, "teachers must show warmth in observable ways rather than simply indend to do so or believe that it is important" (p.140). Accordingly, we assume that in our case, the perspective of social observers might be of greater importance than how child care workers themselves describe their personality.

In studies precedent to this thesis, Kammermeyer, Roux and Stuck (2013, 2016) had assessed process quality using the CLASS (Pianta et al., 2008) and by letting external observers judge video clips of child care workers during their interaction with children. Consequently, we also relied on external observers' ratings for the present study. In contrast to the child care workers' self-report, external judgments minimize distortive tendencies such as social desirability.

In order to have the observers rate the child care workers' personality, we applied a method called *Thin Slices of Behaviour* (Ambady & Rosenthal, 1992). This refers to a method in which raters judge a person's personality by only seeing short excerpts of his or her expressive behavior in video clips between one and five minutes of length (Ambady, Krabbenhoft & Hogan, 2006). Ambady, Bernieri, & Richeson (2000) point out that, in order to do so, raters seem to rely on verbal as well as nonverbal cues, such as facial expressions and gestures. The *Thin Slices* approach has been validated by Ambady and Rosenthal (1992) and has recently been addressed by Rammsayer and Weber (2016) who remark that unfamiliar observers can judge a person's personality more frequently correct than chance would predict, even by only seeing a short excerpt of the person's behavior (p. 207). Likewise, a study by Pretsch (2012) in which the method was used to judge teachers' personality traits showed that observers can validly rate these traits.

We therefore implemented this method in our third study, using 60-second video clips of child care workers. According to Carney, Colvin & Hall (2007), 60-second clips provide a good ratio between assessment accuracy and the length of the presented information. To conduct our study, we invited students to rate the personality of a sample of 54 child care workers.

In the next section, we address the question whether it seems plausible to assume only linear relations between the reported personality traits and the child care workers' process quality.

## 4.2 Interaction and Non-Linearity

Up to now, most research studies in pedagogical contexts focused on linear relations between personality traits such as the Big Five and outcome variables such as the children's development. However, some studies' results suggest that personality traits are interactive insofar as combinations of them have varying impacts on the outcomes (e.g., Allen et al., 2017; Costa & McCrae, 1992; Swickert, Hittner, Foster, 2010). As Costa, McCrae and the PAR Staff (2010) remark in their NEO Personality Inventory-3 Interpretive Report:

> Broad personality factors are particularly pervasive influences, and combinations of factors provide insight into major aspects of people's lives, defining what can be called *personality styles*. For example, for many years, psychologists have known that interpersonal interactions can be conceptualized in terms of a circular ordering or circumplex, defined by the two axes of Dominance and Love, or by the alternative axes of Extraversion and Agreeableness. These two factors define a *Style of Interactions.* (p. 10; emphasis in original)

This interaction between Extraversion and Agreeableness is illustrated in Figure 19. In comparison, the interaction between Agency and Communion is illustrated in Figure 20.

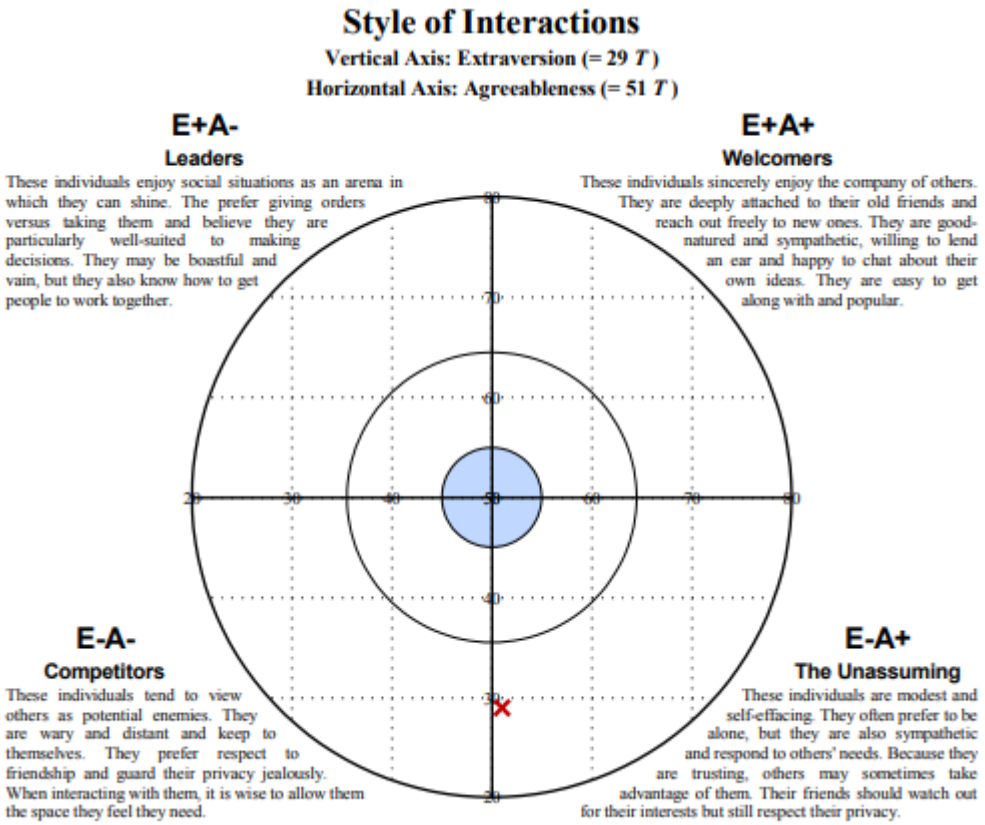


*Figure 19.* The NEO Style of Interactions Graph of Costa, McCrae and the PAR Staff (2010, p. 13). Reproduced by special permission of the publisher, Psychological Assessment Resources, Inc. (PAR), 16204 North Florida Avenue, Lutz, Florida 33549, from the NEO Personality Inventory-3 by Paul T. Costa Jr., PhD and Robert R. McCrae, PhD, Copyright 1978, 1985, 1989, 1991, 1992, 2010 by PAR. Further reproduction is prohibited without permission of PAR.

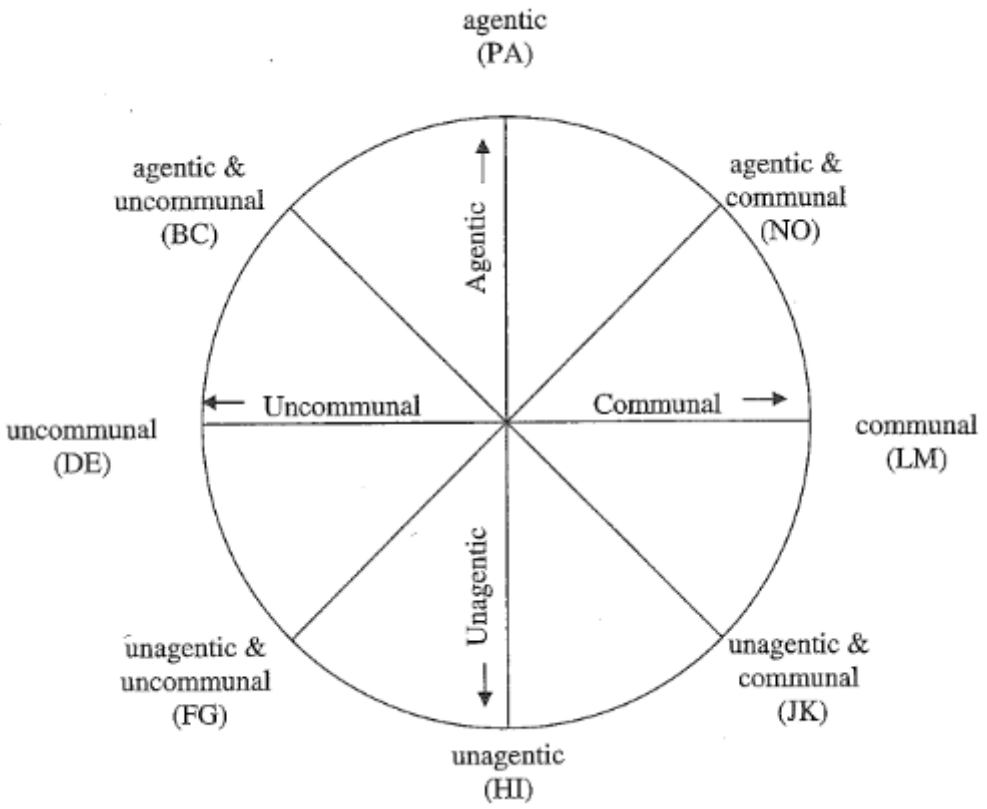


*Figure 20.* The Interpersonal Circumplex as illustrated by Locke (2006, p. 384). Republished with permission of Springer Publishing Company, Inc., from Locke, K. D., 2006, "Interpersonal circumplex measures" in S. Strack (Ed.), *Differentiating normal and abnormal personality* (pp. 383-400). Permission conveyed through Copyright Clearance Center, Inc.

Accordingly, we assume that single personality traits affect the interaction between child care workers and children but that the combination of several traits does so as well. As mentioned before, we suppose that child care workers generate higher or lower process quality depending on their level of traits relevant for social interaction. However, we also take these traits' interaction into consideration. For example, an extraverted child care worker might interact more frequently with children than an introverted one does - but the effect of this interaction might depend on the child care worker's level of Agreeableness. It is easy to imagine that those child care workers who score high on Extraversion as well as Agreeableness (called "Welcomers" by Costa et al., 2010) might show different teacher-child-interactions compared to those child care workers who score high on Extraversion but low on Agreeableness (called

"Leaders" by Costa et al., 2010). Similar effects might, for example, as well apply for those child care workers who score high on Communion and low on Agency (called "unassuming-ingenuous" by Wiggings, 2003) compared to those child care workers who score low on both factors (called "aloof-introverted" by Wiggings, 2003).

Furthermore, we investigate linear as well as non-linear relations between the child care workers' traits and their process quality. As, for example, an extremely high level of Conscientiousness is known to influence work behavior and well-being in a detrimental way and even correlates with clinic abnormalities (Le et al., 2011; Widiger, 2005), curvilinear relationships between personality traits and outcome variables seem to be possible. Additionally, research has already shown that higher trait levels are not always better – indicating that there might exist thresholds for certain traits in order to be of benefit (Borkenau, Zaltauskas & Leising, 2009). Accordingly, we presume that for most personality traits, the ideal level is a medium one.

## 4.3 Materials and Methods

### 4.3.1 Video Recordings

The video recordings used in the context of a secondary analysis in this study originally stem from Kammermeyer, Roux, and Stuck (2013, 2016). The recordings featured child care workers from a randomized sample of 61 early child day care centers in the federal state of Rheinland-Pfalz [Rhineland-Palatine], Germany. Because of missing data and double recordings of some of the child care workers, the sample size was reduced to 54 videos.

### 4.3.2 Personality Questionnaire

In order to assess the presented child care workers' personality, the raters had to judge each person with regard to our set of the 60 personality traits that we had constructed in our preliminary studies. By conducting the requirement analyses described in Chapter 2 and Chapter 3, we had constructed this set of 40 positive and 20 negative trait adjectives (see Figure 7 and Figure 8).

### 4.3.3 Procedure

For our third study, each participant had to take part in three measurement sessions. In each session, each participant sat in front of an individual computer on which we presented a standardized questionnaire. We constructed and presented this questionnaire using the programme Inquisit 4 (Millisecond, 2015). Before starting the questionnaire, we informed the participants about the following sequence of the survey:

(1) First, they were going to see a video clip of one minute length in which they were supposed to observe the shown child care worker.
(2) Afterwards, they had to judge 60 personality traits (i.e, the 60 adjectives we identified in our preliminary studies) of the shown child care worker on a 7-point Likert scale.
(3) Subsequently, they were going to see the next video and judge the next child care worker in the same way.

In each of the three measurement sessions, we randomized the presentation and assessment of the filmed child care workers insofar as for each measurement, 18 child care workers were presented in a random order to each participant. In this way, the participants judged 18 child care workers per measurement session, resulting in the assessment of 54 child care workers altogether. During each assessment, we recorded the participants' response latencies regarding the judgment of the traits.

### 4.3.4 Participants

Our sample comprised 23 students recruited via email invitation at the University of Koblenz-Landau, Campus Landau, in April and May, 2015.

***Exclusion criteria.*** Before analyzing the collected data, we excluded single data points with regard to anomalous response latencies. As recommended by Akrami, Hedlund, and Ekehammer (2007), we considered all data points with response latencies over 40 seconds and under 1.2 seconds as anomalous. Generally, it seems implausible that raters give an elaborate judgment of a personality trait after less than 1.2 seconds since they need time to perceive a word, process its meaning and use an input device (e.g., a computer mouse) in order to give a corresponding answer on a 7-pointed scale. However, because our participants had to judge the same set of 60 items over and over again, we assumed they would become more experienced with the process and therefore faster over time. For this reason, we lowered the suggested criterion down to 750 milliseconds. Hence, we assumed that latencies less than 750ms indicated that raters clicked random numbers instead of reasonably assessing the items.

After excluding data points with regard to these response latencies, we examined the remaining data with regard to frequencies. One participant was marked as an outlier for several judgments. Furthermore, he had also stated to have a non-German mother tongue. However, understanding the German trait adjectives was presumed crucial for our study. Finally, this participant had judged child care workers with the same value in 45% of the occasions which might either indicate non-understanding, not paying appropriate attention or non-conscientious clicking. Accordingly, we excluded this participant's complete data set from further analysis.

***Final Sample.*** Our final sample consisted of 22 student raters, of which 77% were female ($N$ = 17). On average, they were 23.32 years old ($SD$ = 1.99), ranging from 20 to 27 years. German was the mother tongue of 91% ($N$ = 20). For 91% ($N$ = 20) *Abitur* [higher education etrance qualification] was their highest school degree, whereas one person stated it

was *Fachhochschulreife* [university of applied science entrance qualification] and one answered *other*. Asked for their field of study, 41% (*N* = 9) named *Sonderpädagogik* [special education], 23% (*N* = 5) *Lehramt* [becoming a teacher] and 23% (*N* = 5) *Erziehungswissenschaft* [educational science/paedagogy], one person answered *Sozialwissenschaften* [social science] and another one *Umweltwissenschaften* [environmental science], whereas two students did not answer the question. None of the raters had children of their own.

### 4.3.5 Analyses

Due to the experts' rating of the various personality traits that we had analyzed in our second study, we knew how the personality profile of an ideal child care worker should look like according to the SMEs. Through the video assessment, we obtained direct estimates of these traits for a sample of child care workers. The process quality of this sample (as assessed by Kammermeyer, Roux & Stuck, 2013, 2016) was available for a secondary analysis. Accordingly, we could now compare the experts' ideal child care worker profiles to the sample profiles. Hence, we were able to investigate whether the experts' ideal profile indeed corresponded to high process quality.

***Preliminary Analyses.*** In order to investigate the question whether the experts' ratings of the child care workers' optimum trait levels related to their process quality, we conducted several preliminary analyses. First, we quantified the difference between the experts' ideal personality ratings and the actual child care workers' personality trait levels. For this purpose, we computed a weighted mean deviation between the personality profile of each child care worker who had been rated in our third study and the corresponding optimum values rated by the groups of experts in our second study. Hence, these weighted mean deviations serve as measures of agreement between the child care workers' personality profiles and the expert

groups' ideal personality profiles. In the next paragraph, we explain how we weighted and calculated these mean deviations exactly. We argue that the weighting is important because, as the previous study showed, it seems to be ingrained in our perception: In our second study, raters had no problem assigning different weights (labeled as *role*) to the presented adjectives. These ratings now provided the necessary measure of the perceived importance for the 60 adjectives.

In a first step to preprocess our data, we shifted the scale of the importance rating from the original intervall of 1-7 to the intervall of 0-6. This procedure fixed the minimum value of the weights to 0. Henceforth, the most unimportant adjectives were associated with a value of 0 as they seem to play a negligible role in the perception of an ideal child care worker. To set the scale to a reasonable range, we divided the weights by a rescaling factor that corresponded to the arithmetic mean of the shifted weights. In this way, any adjective more important than the mean adjective would be enhanced through a weight higher than 1, whereas any adjective less important than the mean adjective would be diminished through a weight less than 1.

Afterwards, we computed the absolute differences between the experts' ideal profiles and the observed child care workers' profiles adjective by adjective and multiplied them by their respective weights. Next, we calculated the mean of these weighted differences for each child care worker, resulting in the respective child care worker's weighted deviation from the experts' ideal profiles.

Additionally, we computed an ideal profile as the average mean between the three experts' profile ratings, henceforth referred to as "total ideal profile" . Therefore, each child care worker who had been rated in our third study was eventually assigned with four values: One representing his/her weighted deviation to the parents' ideal, the child care workers' ideal, the lecturers' ideal and one representing his/her deviation to the three groups' total ideal profile.

***Correlations.*** After conducting the preliminary analyses, we investigated whether the experts' ratings of the child care workers' optimum trait levels actually related to their process quality as assessd by Kammermeyer, Roux & Stuck (2013, 2016) using the CLASS (Pianta et al., 2008). Therefore, we computed correlational analyses for the child care workers' process quality and their deviations from the four (parents, child care workers, lecturers, total) ideal profiles. Consequently, we expected to obtain negative signs for the correlations since a better quality was signified by higher values whereas child care workers lying closer to the ideal profile were signified by smaller values of their weighted mean deviations. Note that for an easier understanding, we therefore chose to present the results with inverted signs. In this way, a perfect positive correlation for a given ideal profile implies that a child care worker matching this profile completely also shows the highest process quality possible. By contrast, if there is no correlation, a child care worker matching the ideal profile completely does not generate any better process quality than a child care worker not matching the profile at all.

As neither variable fufilled the assumption of a normal distribution and we had a directional hypothesis, we computed one-tailed Spearman correlations.

***Increase and Differences Between the Groups.*** In this study, we wanted to verify whether the experts were right with their minimum, optimum and maximum rating of child care workers' trait levels insofar as those child care workers whose profiles lay closer to the optimum-profile also showed higher process quality than those child care workers whose profiles lay closer to the minimum- or the maximum-profile. Therefore, we decided to assign the rated child care workers to one of three groups according to their weighted mean differences from the total profiles (calculated by averaging the three expert groups' profiles). We chose the total ideal profile as each of the single expert groups' profiles was highly correlated with it (Table 31). In this way, we first assigned each child care worker a set of three values: the weighted mean deviations from the total ideal profile's minimum, optimum and maximum

profile. Second, we assigned each child care worker to a group according to these weighted mean deviations. Group 1 included those participants who – according to their weighted mean differences – lay closest to the minimum-profile. Group 2 included those participants who lay closest to the optimum-profile. As no child care worker lay closest to the maximum profile, Group 3 did not exist.

Subsequently, we calculated the two groups' mean and median process quality and compared them by (a) calculating the increase in process quality from Group 1 to Group 2 and (b) conducting Man-Whitney-U-tests (because our dependent variables were not normally distributed according to the Shapiro-Wilks-test ($p < .001$) and the two samples had different sample sizes). In order to calculate the increase in process quality, we divided the difference between the means of Group 1 and Group 2 by Group 1's (i.e. the *Minimum* group's) mean. In order to investigate whether these differences were significant, we conducted Man-Whitney-U-tests. In this case, higher values equaled better quality. As our hypothesis was directional, we conducted one-tailed tests.

***Factor Analyses***. In order to investigate whether our data of the child care workers' personality corresponded to a renown personality theory or model, we conducted exploratory factor analyses with the aim to reduce our 60 traits to factors. Because various participants had judged various child care workers' various traits, we first reduced the initial three-dimensional data matrix to two dimensions by computing average means for the child care workers' traits across all the participants (as proposed by Backhaus, 2008). Thereafter, the dataset only included the trait-labels and the child care workers' mean values.

***Regression Analyses.*** In order to investigate whether the child care workers' personality predicted their process quality, we computed hierarchical linear and polynomial regression analyses. In order to test for curvilinear relationships between the CLASS domains and the personality factors using SPSS, we first centered and squared the values for the factors. In order

to test for interaction effects, we computed a measure for the interaction between our factors by multiplying them. Furthermore, we investigated possible relationships between the CLASS domains and the child care workers' deviations from the experts' ideal levels of the factors.

With regard to the assumptions applying to regression analyses, the following requirements were met (if not stated otherwise):

- linearity, as assessed by partial regression plots as well as by the plot of the studentized residuals (SRE) against the unstandardized predicted values (PRE) (for the polynomial analyses, this assumption was discarded)
- homoscedasticity, as assessed by visual inspection of a plot of the SRE versus the PRE
- no multicollinearity, as assessed by tolerance values greater than 0.1 (for the polynomial analyses, this assumption was discarded)
- normality of the residuals, as assessed by statistical parameters (Kolmogorov-Smirnov *D,* skewness, kurtosis) and the visual inspection of Q-Q Plots

With regard to possible outliers, we checked the standardized (ZRE) as well as the studentized deleted residuals (SDR), the Cook's distances and the leverage values for each analysis. For the ZRE as well as the SDR, we chose a cut-off of |3| SD (e.g, Gordon, 2010, p. 367). For the Cook's distance, we chose a cut-off of 4/*N* (Baltes-Götz, 2019, p. 124; Gordon, 2010, p. 367). For the leverage values, we chose a cut-off of .50 (Huber, 1981). Note that we only labeled datasets as *outliers* and excluded them if they exceeded at least two of the reported cut-offs during the first analysis conducted. Although we considered an alternative, iterative procedure (i.e., rerunning the analysis after excluding one dataset and testing for outliers again and again until no more are left), we decided against this option. We present an overview of the cases we excluded in each analysis in Appendix C.1. Regarding the question of whether these outliers influenced the results of the regression analyses, we followed the recommendation of Anguinis, Gottfredson and Joo (2013) to present our analyses with and without these data points.

## 4.4 Results

### 4.4.1 Correlations (Ideal Profile Deviations and CLASS Domains)

In the following paragraphs, we first describe the Spearman correlation results for the child care workers' deviations and the CLASS domains of *Emotional Support*, *Classroom Organization* and *Instructional Support*. Subsequently, we describe the results for the CLASS dimensions *Positive Climate, Negative Climate, Teacher Sensivity, Regard for Student Perspectives, Behavior Management, Productivity, Instructional Learning Formats, Concept Development, Quality of Feedback* and *Language Modeling*. Note that Pearson correlations widely yielded the same results, with the amount of significant correlations being the same for both methods and only slight differences in the size of the correlation coefficients.

***Domains.*** In Table 31 we present the Spearman correlations between the child care workers' process quality and their deviations from the experts' ideal profiles. For an easier understanding, we present the results with inverted signs. Therefore, a positive correlation implies that a child care woker lying closer to the ideal profile also shows higher process quality. With regard to the deviations from the experts' ideal profiles, we found significant ($p < .001$) medium correlations (according to Cohen, 1988) between the child care workers' deviations and Emotional Support as well as Classroom Organization. In contrast, we found no significant correlations between the child care workers' deviations and the domain of Instructional Support (with $p$ between .267 and .316).

Additionally, we found extremely high intercorrelations (between .98 and .99, $p < .001$) between the three expert groups' ideal profiles and the *total ideal profile*, calculated by averaging the three expert groups' scores. Moreover, the differences between the size of the correlation coefficients were small. Comparing the resulting correlations according to Cohen's measure of effect size $q$ (1988, p. 102) using psychometrica.de (Lenhard & Lenhard, 2016) we found no significant differences between the correlations of the four ideal profiles.

Table 31

*Spearman Correlations Between Child Care Workers' Process Quality in CLASS Domains and Deviations From Experts' Ideal Profiles*

| | DevChild | DevLect | DevPar | DevTotal | ES | CO | IS |
|---|---|---|---|---|---|---|---|
| DevChild | - | .998*** | .999*** | .999*** | .460*** | .399** | .065 |
| DevLect | | - | .998*** | .998*** | .457*** | .393** | .068 |
| DevPar | | | - | .999*** | .469*** | .412** | .077 |
| DevTotal | | | | - | .460*** | .405** | .069 |
| ES | | | | | - | .756*** | .367** |
| CO | | | | | | - | .421** |
| IS | | | | | | | - |

*Note.* DevChild = deviations from the child care workers ideal profile; DevLect = deviations from the lecturers ideal profile; DevPar = deviations from the parents ideal profile; DevTotal = deviations from the overall ideal profile; ES = Emotional Support; CO = Classroom Organization; IS = Instructional Support. *** $p < .001$, one-tailed; ** $p < .01$, one-tailed

***Dimensions.*** In Table 32 we present the Spearman correlations between the child care workers' process quality and their deviations from the experts' ideals. Investigating the CLASS dimensions, we observed the same pattern that we had found for the domains: Child care workers with lower deviations from the ideal profiles also achieved significantly ($p < .05$ or $p < .01$) higher quality in the CLASS dimensions of Emotional Support and Classroom Organization (i.e., *Positive Climate, Negative Climate, Teacher Sensivity, Regard for Student Perspectives, Behavior Management* and *Instructional Learning Formats*). For the dimension *Productivity*, we found a trend ($p < .10$) into the predicted direction. There was no significant correlation between the child care workers' deviations and the CLASS dimensions of Instructional Support (*Concept Development, Quality of Feedback, and Language Modeling*).

Table 32

*Spearman Correlations Between Child Care Workers' Process Quality in CLASS Dimensions and Their Deviations From Experts' Ideal Profiles*

| | DevChild | DevLect | DevPar | DevTotal | PC | NC | TS | RP | BM | PD | IF | CD | QF | LM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DevChild | - | .998*** | .998*** | .999*** | .456*** | .381** | .517*** | .411** | .306* | .210† | .473*** | -.050 | .047 | .096 |
| DevLect | | - | .998*** | .998*** | .459*** | .375** | .512*** | .406** | .298* | .204† | .470*** | -.046 | .055 | .097 |
| DevPar | | | - | .999*** | .459*** | .385** | .525*** | .421** | .315* | .222† | .481*** | -.033 | .060 | .103 |
| DeTotal | | | | - | .456*** | .385** | .518*** | .408** | .310* | .218† | .474*** | -.041 | .053 | .096 |
| PC | | | | | - | .562** | .758*** | .671*** | .552*** | .560*** | .713*** | .211 | .201 | .430** |
| NC | | | | | | - | .700*** | .456*** | .613*** | .565*** | .611*** | .044 | .069 | .300* |
| TS | | | | | | | - | .756*** | .545*** | .587*** | .821*** | .149 | .211 | .397** |
| RP | | | | | | | | - | .470*** | .403*** | .735*** | .207 | .195 | .409** |
| BM | | | | | | | | | - | .771*** | .520*** | .246* | .365** | .525*** |
| PD | | | | | | | | | | - | .556*** | .256* | .338** | .381** |
| IF | | | | | | | | | | | - | .074 | .219 | .397** |
| CD | | | | | | | | | | | | - | .703*** | .654*** |
| QF | | | | | | | | | | | | | - | .738*** |
| LM | | | | | | | | | | | | | | - |

*Note.* DevChild = deviations from child care workers ideal profile; DevLect = deviations from lecturers ideal profile; DevPar = deviations from parents ideal profile; DevTotal = deviations from the overall ideal profile; PC = Positive Climate; NC = Negative Climate; TS = Teacher Sensitivity; RP = Regard for Child Perspectives; BM = behaviour Management; PD = Productivity; IF = Instructional Larning Formats; CD = Concept Development; QF = Quality of Feedback; LM = Language Modeling.

*** $p$ <.001, one-tailed, ** $p$ < .01, one-tailed, * $p$ < .05, one-tailed. † $p$ < .10, one-tailed.

### 4.4.2 Increase and Differences Between the Groups

Applying the procedure described in Chapter 4.3.5, we assigned 38 child care workers to Group 1 (closest to the minimum-profile) and 16 to Group 2 (closest to the optimum-profile). With regard to the two groups' difference in their mean and median process quality, we found an increase of 5% for the mean and 3% for the median in Emotional Support, an increase of 5% for the mean and 3% for the median in Classroom Organization, and an increase of 4% for the mean and 1% for the median in Instructional Support for the child care workers belonging to the *Optimum* group compared to those belonging to the *Minimum* group.

In Table 33 we present the results of the Man-Whitney-U-Test. For Emotional Support, we found a significant difference in the groups' median scores, $U = 209.5$, z = -1.790, $p = .037$ and a small effect size of $r = .24$. For Classroom Organization, we found a marginally significant result for the groups' median scores, $U = 230.5$, z = -1.393, $p = .083$ and a small effect size of $r = .19$. Accordingly, the child care workers of the *Optimum* group showed higher scores of Emotional Support and Classroom Organization than the child care workers of the *Minimum* group did. For Instructional Support, we found no significant result, $U = 291$, z = -.246, $p = .406$.

Table 33

*Man-Whitney-U-Test for Quality Domains and Group Affiliation*

| | Group 1 (Minimum) | | | Group 2 (Optimum) | | | | |
|---|---|---|---|---|---|---|---|---|
| | *Mdn* | Range | Mean Rank | *Mdn* | Range | Mean Rank | *U* | *R* |
| ES | 5.92 | 2.23 | 25.01 | 6.09 | 1.41 | 33.41 | 209.500* | .24 |
| CO | 6.17 | 3.03 | 25.57 | 6.32 | 1.33 | 32.09 | 230.500† | .19 |
| IS | 1.48 | 1.56 | 27.16 | 1.47 | 2.14 | 28.31 | 291.000 | |

*Note.* ES = Emotional Support; CO = Classroom Organization; IS = Instructional Support.
* $p < .05$, one-tailed; † $p < .10$, one-tailed

### 4.4.3 Factor Analyses

Next, we conducted exploratory factor analyses on the basis of the positive and negative traits presented to the student raters. Subsequently, we conducted an exploratory factor analysis on the basis of the positive and negative adjectives taken together.

***Positive Adjective Set.*** The data of the 40 positive adjectives was suitable for the analysis, as all variables correlated with at least one other adjective to .30. The Kaiser-Mayer-Olkin measure of sampling adequacy for this data was .90 and was therefore accepted as marvelous. Bartlett's test of sphericity was significant ($\chi^2(780) = 3476.501$, $p < .001$). All diagonal elements of the anti-image correlation matrix showed a correlation above .50 and the communalities of all adjectives lay above .30. Using principal axis factoring with varimax rotation resulted in the suggestion of three factors with eigenvalues above 1.00. These factors explained 55%, 16% and 12% of variance, respectively. However, the third factor's eigenvalue lay only barely above 1 (1.064) and the screeplot indicated a two-factor solution. The results of Horn's parallel analysis that we conducted using an SPSS syntax written by O'Connor (2000) also suggested a two-factor solution.

Therefore, we conducted the factor analysis again, this time specifying two factors. The two resulting factors explained 57% and 23% of variance, respectively. However, even after varimax rotation, several of the 40 adjectives still showed high cross loadings. According to Costa and McCrae (1992), cross loadings can be expected in analyzing personality structure since personality aspects interrelate; however, items should load highest on their theoretically predicted factor. Therefore, we exlcuded all adjectives that showed cross-loadings higher than .40 and/or showed a difference smaller than .20 between their loadings on the two factors. Thus, we excluded 11 adjectives: *abenteuerlustig (adventurous), authentisch (authentic), belastbar (resilient), distanziert (aloof), eloquent (eloquent), intelligent (intelligent), kreativ (creative),*

*kommunikativ (communicative), spontan (spontaneous), verantwortungsbewusst (responsible), zuverlässig (reliable*).

Subsequently, we conducted the factor analysis again on the basis of the remaining 29 positive traits. Again, all variables correlated with at least one other item to .30. The Kaiser-Mayer-Olkin measure of sampling adequacy for this data was .90 and was therefore accepted as marvelous. Bartlett's test of sphericity was significant ($\chi^2(406) = 2467.397$, $p < .001$). All diagonal elements of the anti-image correlation matrix showed a correlation above .50 and the communalities of all items lay above .30. Using principal axis factoring and varimax rotation resulted in the sugesstion of two factors, the first one explaining 62% and the second one explaining 18% of variance. In Table 33 we present the factor loadings after varimax rotation. This time, no item showed a cross-loading higher than .37 or a difference smaller than .20 between its loadings on the two factors.

Table 34

*Factor Loadings Based on Principal Axis Analysis With Varimax Rotation for the 29 Positive Adjectives*

| | Factor | |
|---|---|---|
| | 1 | 2 |
| liebevoll (affectionate) | .969 | |
| rücksichtsvoll (considerate) | .946 | |
| kinderlieb (fond of children) | .943 | |
| vertrauensvoll (trusting) | .941 | |
| wertschätzend (appreciative) | .939 | |
| freundlich (friendly) | .931 | |
| tolerant (tolerant) | .921 | |
| empathisch (empathetic) | .915 | |
| ausgeglichen (even-tempered) | .915 | |
| geduldig (patient) | .912 | |
| emotional_intelligent (emotionally intelligent) | .908 | |
| fröhlich (lighthearted) | .904 | |
| kooperativ (cooperative) | .901 | |
| anpassungsfähig (adaptable) | .895 | |
| optimistisch (optimistic) | .890 | |
| gerecht (just) | .880 | |
| humorvoll (humorous) | .828 | |
| aufmerksam (attentive) | .804 | |
| neugierig (curious) | .796 | |
| sensible (sensitive) | .789 | |
| ehrlich (honest) | .720 | |
| konservativ (conservative) | -.660 | |
| bescheiden (modest) | .610 | |
| selbstbewusst (self-assured) | | .911 |
| durchsetzungsstark (strong-willed) | | .776 |
| energisch (energetic) | | .765 |
| konsequent (consistent) | | .764 |
| ehrgeizig (ambitious) | | .756 |
| stolz (proud) | | .704 |

*Note.* Factor loadings < .40 are surpressed.

***Negative Adjectives Set.*** The data of the 20 negative adjectives was suitable for the analysis, as all variables correlated with at least one other adjective to .30. The Kaiser-Mayer-Olkin measure of sampling adequacy for this data was .89 and was therefore accepted as meritorious. Bartlett's test of sphericity was significant ($\chi^2(190) = 1175.741$, $p < .001$). All diagonal elements of the anti-image correlation matrix showed a correlation above .50 and the communalities of all items lay above .30. Using principal axis factoring with varimax rotation resulted in the suggestion of three factors, the first one explaining 51%, the second one 16% and the third one 9% of variance. However, the third factor's eigenvalue lay just barely above 1 (1.015) and the screeplot indicated a two-factor solution. The results of Horn's parallel analysis suggested a two-factor solution as well.

Therefore, we rerun the analysis with two factors specified. This time, the first factor explained 54% of variance and the second one 19%. However, even after varimax rotation, three adjectives still showed high cross-loadings. Applying the aforementioned exclusion criterion (cross-loadings above .40 and a difference smaller than .20 between both factor loadings), we excluded these items (*impulsiv (impulsive), nachlässig (neglectful), unflexibel (inflexible)*) from further analysis.

Subsequently, we conducted the exploratory factor analysis on the basis of the remaining 17 negative adjectives. Again, all variables correlated with at least one other adjective to .30. The Kaiser-Mayer-Olkin measure of sampling adequacy for this data was .91 and was therefore accepted as marvelous. Bartlett's test of sphericity was significant ($\chi^2(136) = 978.008$, $p < 001$). All diagonal elements of the anti-image correlation matrix showed a correlation above .50 and their initial communalities lay above .30. Using principal axis factoring with varimax rotation resulted in the suggestion of two factors, the first one explaining 56%, and the second one 17% of variance respectively. In Table 35 we present the factor loadings after varimax rotation. Note

that this time, no item showed a cross-loading higher than .34 or a difference smaller than .20 between its loadings on the two factors.

Table 35

*Factor Loadings Based on Principal Axis Analysis With Varimax Rotation for the 17 Negative Adjectives*

| | Factor | |
|---|---|---|
| | 1 | 2 |
| verbissen (dogged) | .919 | |
| stur (stubborn) | .916 | |
| launisch (moody) | .911 | |
| aggressiv (aggressive) | .907 | |
| jähzornig (quick-tempered) | .893 | |
| voreingenommen (prejudiced) | .883 | |
| abwertend (pejorative) | .872 | |
| verbittert (embittered) | .852 | |
| egoistisch (egoistic) | .849 | |
| ignorant (ignorant) | .812 | |
| gewaltbereit (violent) | .803 | |
| manipulative (manipulative) | .757 | |
| überfürsorglich (overprotective) | -.669 | |
| introvertiert (introverted) | | .925 |
| ängstlich (anxious) | | .860 |
| naiv (naive) | | .782 |
| faul (lazy) | | .547 |

*Note.* Factor loadings < .35 are surpressed.

***Complete Adjectives Set.*** The data of the 46 remaining positive and negative adjectives was suitable for the analysis, as all variables correlated with at least one other adjective to .30. The Kaiser-Mayer-Olkin measure of sampling adequacy for this data was .74 and was therefore accepted as middling. Bartlett's test of sphericity was significant ($\chi^2(1035) = 3854.014$, $p < .001$). Moreover, 41 diagonal elements of the anti-image correlation matrix showed a correlation above .50 (exceptions: *energisch (energetic), naiv (naive), introvertiert (introverted), konsequent (consistent)*). The communalities of all adjectives lay above .30. Using principal axis factoring with varimax rotation resulted in the suggestion of four factors. However, the screeplot indicated a two-factor solution and the results of Horn's parallel analysis suggested a two-factor solution as well.

Therefore, we rerun the analysis with two factors specified. This time, the first factor explained 57% of variance and the second factor explained 20%. In Table 36 we present the factor loadings after varimax rotation. Note that even though some items showed cross-loadings up to .45, no item showed a difference smaller than .20 between its loadings on the two factors.

Table 36

*Rotated Factor Matrix of all Selected Adjectives*

| | Factor | |
|---|---|---|
| | 1 | 2 |
| liebevoll (affectionate) | .938 | |
| launisch (moody) | -.930 | |
| kinderlieb (fond of children) | .927 | |
| rücksichtsvoll (considerate) | .923 | |
| geduldig (patient) | .916 | |
| verbissen (dogged) | -.915 | |
| stur (stubborn) | -.911 | |
| vertrauensvoll (trusting) | .910 | |
| wertschätzend (appreciative) | .899 | |
| voreingenommen (prejudiced) | -.897 | |
| freundlich (friendly) | .894 | |
| tolerant (tolerant) | .880 | |
| ausgeglichen (even-tempered) | .878 | |
| abwertend (pejorative) | -.874 | |
| aggressiv (aggressive) | -.872 | |
| fröhlich (lighthearted) | .868 | |
| verbittert (embittered) | -.868 | |
| kooperativ (cooperative) | .868 | |
| jähzornig (quick-tempered) | -.866 | |
| egoistisch (egoistic) | -.864 | |
| empathisch (empathetic) | .863 | |
| emotional intelligent (emotionally intelligent) | .856 | |
| optimistisch (optimistic) | .847 | |
| anpassungsfähig (adaptable) | .847 | |
| gerecht (just) | .843 | |
| ignorant (ignorant) | -.833 | |
| sensibel (sensitive) | .820 | |
| humorvoll (humorous) | .780 | |
| gewaltbereit (violent) | -.765 | |
| manipulative (manipulative) | -.745 | |
| neugierig (curious) | .742 | |
| aufmerksam (attentive) | .736 | |
| überfürsorglich (overprotective) | .695 | |
| ehrlich (honest) | .670 | |
| konservativ (conservative) | -.656 | |
| bescheiden (modest) | .643 | |
| selbstbewusst (self-assured) | | .933 |
| introvertiert (introverted) | | -.910 |
| ängstlich (anxious) | | -.838 |
| ehrgeizig (ambitious) | | .805 |
| durchsetzungsstark (strong-willed) | | .785 |
| naiv (naive) | | -.768 |
| konsequent (consistent) | | .759 |
| energisch (energetic) | | .753 |
| stolz (proud) | | .751 |
| faul (lazy) | | -.625 |

*Note.* Factor loadings < .45 are surpressed.

In a next step, we recoded those adjectives with a negative loading for a better understanding of the two resulting factors. Afterwards, we found that the factor labels suggested for the so-called *Big Two* by Bakan (1966) and Digman (1997) (see Chapter 2.1) suited the two extracted factors. Accordingly, we henceforth refer to Factor 1 as *Communion* and to Factor 2 as *Agency*.

For further analyses, we regarded the two factors as scales consisting of the adjectives suggested by the factor analysis for each factor. The internal consistency for each scale was high according to Cronbach's alpha, with $\alpha$ = .98 for Communion and $\alpha$ = .94 for Agency. In the next step, we investigated the relationship between the child care workers' personality as described by these two factors and their process quality. Therefore, we assigned each child care worker a sumscore for the *Communion* as well as the *Agency* scale. Afterwards, we weighted these sumscores by applying the weights obtained from our second study. Because of the high correlations between the sumscores and the factor scores (see Table 37), we subsequently only present the results obtained by using the weighted sumscores. Note that henceforth, *Communion* and *Agency* refer to these weighted sumscores.

Table 37

*Correlations Between the Sumscores and Factor Scores of Communion and Agency*

| | CoFS | AgFS | CoSSu | AgSSu | CoSSw | AgSSw |
|---|---|---|---|---|---|---|
| CoFS | - | -.034 | .958*** | .098 | .958*** | .110 |
| AgFS | | - | .228† | .939*** | .229† | .937*** |
| CoSSu | | | - | .325* | .999*** | .336* |
| AgSSu | | | | - | .326* | .999*** |
| CoSSw | | | | | - | .337* |
| AgSSw | | | | | | - |

*Note.* CoFS = Factor Score Communion; AgFS = Factor Score Agency; CoSSu = Unweighted Sumscore Communion; AgSSu = Unweighted Sumscore Agency; CoSSw = Weighted Sumscore Communion; AgSSw = Weighted Sumscore Agency

*** $p < .001$, * $p < .05$, † $p < .10$

### 4.4.4 Correlations (Communion, Agency and CLASS Domains)

With regard to the relationship between the child care workers' personality and their process quality, we first analyzed the bivariate correlations between the child care workers' weighted sumscores on the Communion and Agency factors and the three CLASS domains of Emotional Support, Classroom Organization and Instructional Support. The results we present in Table 38 show a medium correlation for the child care workers' scores on the Communion factor with Emotional Support and Classroom Organization. In contrast, we found no significant correlation between Communion and Instructional Support. However, we found a marginally significant correlation between the child care workers' scores on the Agency factor and their Instructional Support ($r$ = .258, $p$ = .060).

Table 38

*Correlations Between CLASS Domains and Child Care Workers' Communion and Agency Scores*

| | ES | CO | IS | Agency | Communion |
|---|---|---|---|---|---|
| ES | - | .836*** | .347* | .083 | .531*** |
| CO | | - | .320* | .142 | .391** |
| IS | | | - | .266† | -.025 |
| Agency | | | | - | .337* |
| Communion | | | | | - |

*Note.* ES = Emotional Support; CO = Classroom Organization; IS = Instrucional Support.

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

### 4.4.5 Regression Analyses

To investigate the relationship between the child care workers' personality and their process quality even further, we conducted several hierarchical linear and non-linear regression analyses. We present a list of outliers for each analysis in Appendix C.1. In order to conduct non-linear analyses, we first centered and subsequently squared the variables Communion and Agency, resulting in the variables *Communion*² and *Agency*². In order to investigate the relationship between the interaction of Communion and Agency and the CLASS domains, we first computed the interaction variable *CoAg* by multiplying the centered Communion and Agency variables.

#### *4.4.5.1 Emotional Support*

In order to investigate the relationship between the child care workers' personality and their Emotional Support, we first conducted a hierarchical regression analysis by including Communion into the model and testing the increase in $R^2$ by adding Agency and CoAg. The partial regression plot for Agency showed that a linear relationship with Emotional Support was questionable. The visual inspection of a P-P-and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(54) = .134$, $p = .017$; $\gamma_1 = -1.19$, $\gamma_2 = 1.28$). The final model (Model 1) presented in Table 39 only included Communion. The prediction equation illustrated in Figure 21 was given as Emotional Support = 5.86+0.90**Communion*. Neither the addition of Agency (Model 2), $\Delta R^2 = .010$, $\Delta F(1,51) = .753$, $p = .390$, nor the addition of Agency and CoAg (Model 3), $\Delta R^2 = .011$, $\Delta F(1,50) = .755$, $p = .383$ significantly improved the prediction of Emotional Support.

Table 39

*Hierarchical Regression Analysis Predicting Emotional Support From Communion, Agency and Their Interaction*

| | Emotional Support | | | | | |
|---|---|---|---|---|---|---|
| | Model 1 | | Model 2 | | Model 3 | |
| Variable | B | Beta | B | Beta | B | Beta |
| Constant | 5.856*** | | 5.856*** | | 5.877*** | |
| Communion | .901*** | 0.531 | .963*** | 0.568 | .971*** | 0.573 |
| Agency | | | -0.236 | -0.109 | -0.247 | -0.113 |
| CoAg | | | | | -0.855 | -0.104 |
| $R^2$ | 0.282 | | 0.293 | | 0.304 | |
| Adjusted $R^2$ | 0.268 | | 0.265 | | 0.262 | |
| $F$ | 20.450*** | | 10.553*** | | 7.263*** | |
| $\Delta R^2$ | 0.282 | | 0.01 | | 0.011 | |
| $\Delta F$ | 20.450*** | | 0.753 | | 0.775 | |

*Note*. $N = 54$.
***$p < .001$

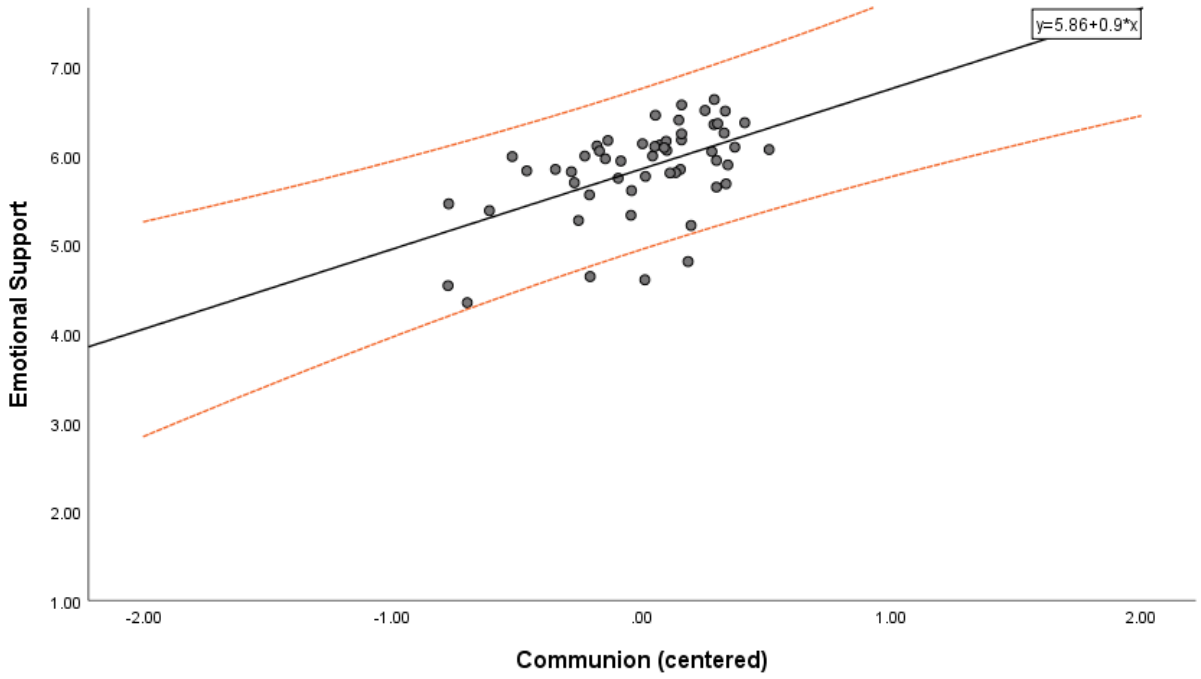


*Figure 21*. Linear relationship between Emotional Support and Communion (centered) (with prediction interval).

For the hierarchical polynomial regression analysis using Communion and Communion² as predictors, we compared a linear (Model 1) and a quadratic model (Model 2). The visual inspection of a P-P-and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(54) = .136$, $p = .014$; $\gamma_1 = -1.21$, $\gamma_2 = 1.31$). The final model (Model 1) presented in Table 40 only included Communion. The addition of Communion² (Model 2) did not significantly increase the prediction of Emotional Support, $\Delta R^2 = .013$, $\Delta F\ (1,51) = .964$, $p = .331$.

Table 40

*Hierarchical Polynomial Regression Analysis Predicting Emotional Support From Communion and Communion²*

| | Emotional Support | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 5.856*** | | 5.905*** | |
| Communion | .901*** | .531 | .765** | .451 |
| Communion² | | | -.527 | -.141 |
| $R^2$ | .282 | | .296 | |
| Adjusted $R^2$ | .268 | | .268 | |
| $F$ | 20.450*** | | 10.700*** | |
| $\Delta R^2$ | .282 | | .013 | |
| $\Delta F$ | 20.450*** | | .964 | |

*Note*. $N = 54$.

*** $p < .001$, ** $p < .01$, † $p < .10$

For the hierarchical polynomial regression analysis using Agency and Agency² as predictors, we compared a linear (Model 1) and a quadratic model (Model 2). The visual inspection of a P-P-and Q-Q-Plot as well as statistical parameters indicated that the assumption of normality of the residuals might be violated (Kolmogorov-Smirnov $D(54) = .146$, $p = .006$; $\gamma_1 = -1$, $\gamma_2 = 1.23$). As Table 41 shows, neither the model containing Agency (Model 1), $F(1, 52) = .361$, $p = .550$, nor the model containing Agency and Agency² (Model 2), $\Delta R^2 = .00$, $\Delta F$ (1, 51) = .009, $p = .926$, significantly predicted Emotional Support.

Table 41

*Hierarchical Polynomial Regression Analysis Predicting Emotional Support From Agency and Agency²*

| | Emotional Support | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 5.856*** | | 5.862*** | |
| Agency | .181 | .083 | .173 | .080 |
| Agency$^2$ | | | -.108 | -.013 |
| $R^2$ | .007 | | .007 | |
| Adjusted $R^2$ | -.012 | | -.032 | |
| $F$ | .361 | | .182 | |
| $\Delta R^2$ | .007 | | .000 | |
| $\Delta F$ | .291 | | .009 | |

*Note*. $N = 54$.
*** $p < .001$, ** $p < .01$

### *4.4.5.2 Classroom Organization*

In order to investigate the relationship between the child care workers' personality and their Classroom Organization, we first conducted a hierarchical regression analysis by including Communion into the model and testing the increase in $R^2$ by adding Agency and CoAg. The visual inspection of a P-P-and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(54) = .204$, $p < .001$; $\gamma_1 = -2.45$, $\gamma_2 = 7.37$). The final model (Model 1) presented in Table 42 only included Communion. It was significant with $R^2 = .153$, $F(1, 52) = 9.377$, $p = .003$; adjusted $R^2 = .137$. The prediction equation illustrated in Figure 22 was given as *Classroom Organization* = 6.10 + 0.75**Communion*. Neither the addition of Agency (Model 2), $\Delta R^2 = .000$, $\Delta F$ (1, 50) = .006, $p = .937$ nor the addition of CoAg (Model 3) significantly increased the prediction of Classroom Organization $\Delta R^2 = .011$, $\Delta F$ (1, 50) = .680, $p = .414$.

Table 42

*Hierarchical Regression Analysis Predicitng Classroom Organization From Communion, Agency, and Their Interaction*

| | Classroom Organization | | | | | |
|---|---|---|---|---|---|---|
| | Model 1 | | Model 2 | | Model 3 | |
| Variable | B | Beta | B | Beta | B | Beta |
| Constant | 6.098*** | | 6.098*** | | 6.122*** | |
| Communion | .748** | 0.391 | .741** | 0.387 | .750** | 0.392 |
| Agency | | | 0.027 | 0.011 | 0.015 | 0.006 |
| CoAg | | | | | -0.99 | -0.107 |
| $R^2$ | 0.153 | | 0.153 | | 0.164 | |
| Adjusted $R^2$ | 0.136 | | 0.12 | | 0.114 | |
| $F$ | 9.377** | | 4.602* | | 3.275* | |
| $\Delta R^2$ | 0.153 | | 0 | | 0.011 | |
| $\Delta F$ | 9.377** | | 0.006 | | 0.68 | |

*Note*. $N = 54$.

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

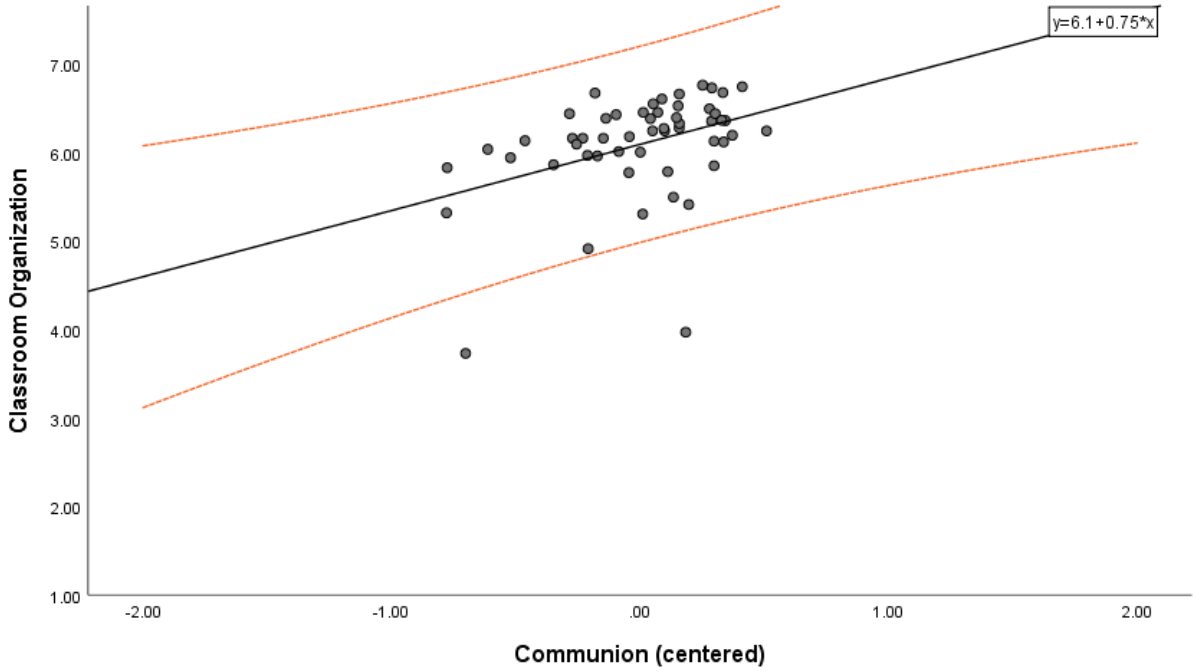


*Figure 22.* Linear relationship between Classroom Organization and Communion (centered) (with prediction interval).

For the hierarchical polynomial regression analysis using Communion and Communion² as predictors, we compared a linear (Model 1) and a quadratic model (Model 2). The visual inspection of a P-P-and Q-Q-Plot as well as statistical parameters indicated that the assumption of normality of the residuals might be violated (Kolmogorov-Smirnov $D(54) = .220$, $p < .001$; $\gamma_1 = -2.29$, $\gamma_2 = 6.49$). The final model (Model 1) presented in Table 43 only included Communion. The addition of Communion² (Model 2) did not significantly improve the prediction of Classroom Organization, $\Delta R^2 = .020$, $\Delta F\ (1,51) = 1.229$, $p = .273$.

Table 43

*Hierarchical Polynomial Regression Analysis Predicting Classroom Organization From Communion and Communion²*

| | Classroom Organization | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 6.098*** | | 6.165*** | |
| Communion | .748** | .391 | .560† | .293 |
| Communion² | | | -.728 | -.172 |
| | | | | |
| $R^2$ | .153 | | 173 | |
| Adjusted $R^2$ | .136 | | .140 | |
| $F$ | 9.377** | | 5.324** | |
| $\Delta R^2$ | .153 | | .020 | |
| $\Delta F$ | 9.377** | | 1.229 | |

*Note*. $N = 54$.

*** $p < .001$, ** $p < .001$, † $p < .10$

For the hierarchical polynomial regression analysis using Agency and Agency² as predictors, we compared a linear (Model 1) and a quadratic model (Model 2). The visual inspection of a P-P-and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(54) = .210$, $p < .001$; $\gamma_1 = -2.34$, $\gamma_2 = 6.68$). As presented in Table 44, neither the model containing Agency (Model 1), $F(1, 52) = .859$, $p = .358$, nor the model containing Agency and Agency² (Model 2), $\Delta R^2 = .007$, $\Delta F$ (1,51) = .383, $p = .539$ significantly predicted Classroom Organization.

Table 44

*Hierarchical Polynomial Regression Predicting Classroom Organization From Agency and Agency²*

| | Classroom Organization | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 6.098*** | | 6.143*** | |
| Agency | .348 | .142 | .292 | .119 |
| Agency² | | | -.806 | -.088 |
| | | | | |
| $R^2$ | .020 | | .027 | |
| Adjusted $R^2$ | .001 | | -.011 | |
| $F$ | 1.063 | | .717 | |
| $\Delta R^2$ | .020 | | .007 | |
| $\Delta F$ | 1.063 | | .383 | |

*Note*. $N = 54$.

*** $p < .001$, ** $p < .01$

### *4.4.5.3 Instructional Support*

In order to investigate the relationship between the child care workers' personality and their Instructional Support, we first conducted a hierarchical regression analysis by including Agency into the model and testing the increase in $R^2$ by adding Communion and CoAg. The visual inspection of a P-P- and Q-Q-Plot as well as statistical parameters indicated that the assumption of normality of the residuals might be violated (Kolmogorov-Smirnov $D(54) = .118$, $p = .057$; $\gamma_1 = 1.50$ i.e. slightly skewed to the right, $\gamma_2 = 3.41$). The final model (Model 1) presented in Table 45 only included Agency. It was marginally significant with $R^2 = .071$, $F(1, 52) = 3.974$, $p = .051$; adjusted $R^2 = .053$. The prediction equation illustrated in Figure 23 was given as *Instructional Support* = 1.61+ 0.51**Agency*. Neither the addition of Communion (Model 2), $\Delta R^2 = .015$, $\Delta F$ (1, 51) = .834, $p = .365$ nor the addition of CoAg (Model 3), $\Delta R^2 = .014$, $\Delta F$ (1, 50) = .766, $p = .386$ significantly increased the prediction of Intructional Support.

Table 45

*Hierarchical Regression Analysis Prediciting Instructional Support From Agency, Communion, and Their Interaction*

| | Instructional_Support | | | | | |
|---|---|---|---|---|---|---|
| | Model 1 | | Model 2 | | Model 3 | |
| Variable | B | Beta | B | Beta | B | Beta |
| Constant | 1.608*** | | 1.608*** | | 1.629*** | |
| Agency | .512† | 0.266 | .596* | 0.31 | .586* | 0.305 |
| Communion | | | -0.194 | -0.13 | -0.186 | -0.125 |
| CoAg | | | | | -0.853 | -0.118 |
| $R^2$ | 0.071 | | 0.086 | | 0.1 | |
| Adjusted $R^2$ | 0.053 | | 0.05 | | 0.046 | |
| $F$ | 3.974† | | 2.398 | | 1.846 | |
| $\Delta R^2$ | 0.071 | | 0.015 | | 0.014 | |
| $\Delta F$ | 3.974† | | 0.834 | | 0.766 | |

*Note*. $N = 54$.

*** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .10$

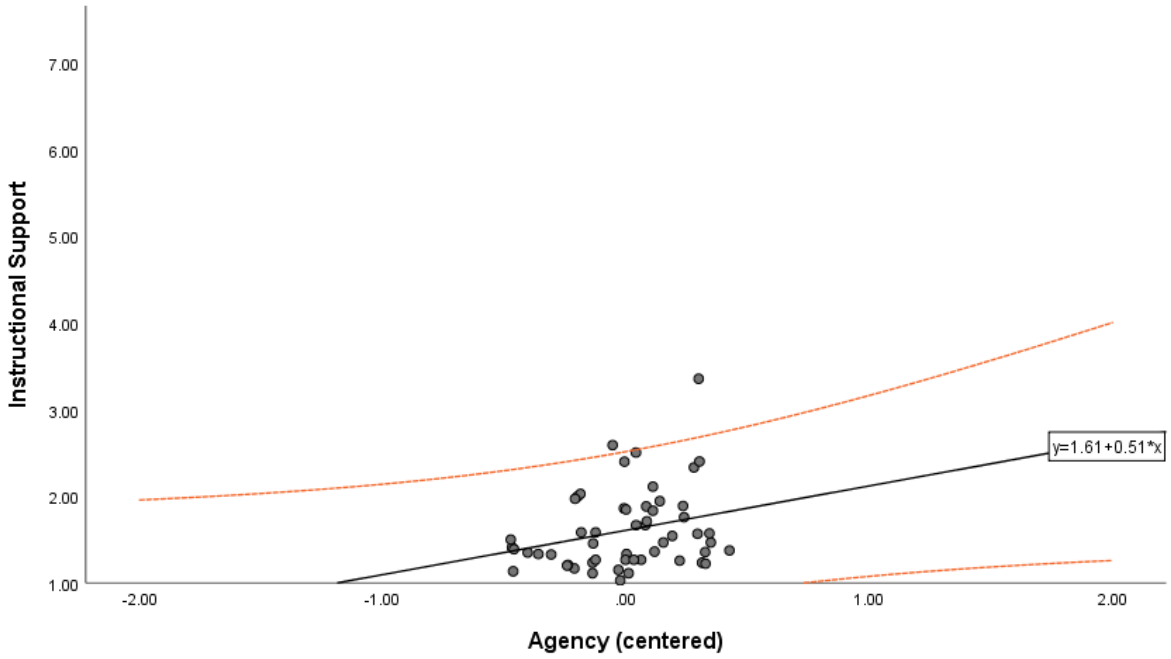


*Figure 23.* Linear relationship between Instructional Support and Agency (centered) (with prediction interval).

For the hierarchical polynomial regression analysis using Agency and Agency² as predictors, we compared a linear (Model 1) and a quadratic model (Model 2). The final model (Model 1) presented in Table 46 only included Agency. The addition of Agency² (Model 2), $\Delta R^2 = .007$, $\Delta F\ (1, 51) = .395$, $p = .532$ did not significantly increase the prediction of Instructional Support.

Table 46

*Hierarchical Polynomial Regression Analysis Predicting Instructional Support From Agency and Agency²*

| | Instructional Support | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 1.608*** | | 1.643*** | |
| Agency | .512† | .266 | .469† | .244 |
| Agency² | | | -.623 | -.087 |
| | | | | |
| $R^2$ | .071 | | .078 | |
| Adjusted $R^2$ | .053 | | .042 | |
| $F$ | 3.974† | | 2.162 | |
| $\Delta R^2$ | .070 | | .007 | |
| $\Delta F$ | 3.974† | | .395 | |

*Note*. $N = 54$.
*** $p < .001$, ** $p < .01$, † $p < .050$

For the hierarchical polynomial regression analysis using Communion and Communion² as predictors, we compared a linear (Model 1) and a quadratic model (Model 2). The visual inspection of a P-P- and Q-Q-Plot as well as statistical parameters indicated that the assumption of normality of the residuals might be violated (Kolmogorov-Smirnov $D(54) = .131$, $p = .021$; $\gamma_1 = 1.42$ i.e., slightly skewed to the right, $\gamma_2 = 2.62$). As Table 47 shows, neither the model including Communion (Model 1), $R^2 = .001$, $F(1, 52) = .033$, $p = .857$ nor the model including Communion and Communion² (Model 2), $\Delta R^2 = .006$, $\Delta F\ (1, 51) = .293$, $p = .590$ significantly predicted Instructional Support.

Table 47

*Hierarchical Polynomial Regression Analysis Predicting Instructional Support From Communion and Communion²*

| | Instructional Support | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 1.608*** | | 1.580*** | |
| Communion | -.038 | -.025 | .041 | .027 |
| Communion² | | | .305 | .092 |
| | | | | |
| $R^2$ | .001 | | .006 | |
| Adjusted $R^2$ | -.019 | | -.033 | |
| $F$ | .033 | | .163 | |
| $\Delta R^2$ | .001 | | .005 | |
| $\Delta F$ | .033 | | .293 | |

*Note*. $N = 54$.

*** $p < .001$, ** $p < .01$

## 4.4.6 Regression Analyses Without Outliers

The regression analyses conducted in Chapter 4.4.5 showed that our data included outliers (see Appendix C.1). In the next paragraphs, we present the results without these data points.

### *4.4.6.1 Emotional Support*

For the hierarchical regression analysis using Communion, Agency and CoAg as predictors of Emotional Support, we excluded the child care worker number 4. For Agency, the partial regression plot showed that a linear relationship with Emotional Support was questionable. The final model (Model 1) presented in Table 48 only included Communion. It was significant with $R^2 = .335$, $F(1, 51) = 25.691$, $p < .001$; adjusted $R^2 = .322$. The prediction equation illustrated in Figure 24 was given as *Emotional Support* = 5.88+0.95**Communion*. Neither the addition of Agency (Model 2), $\Delta R^2 = .024$, $\Delta F(1,50) = 1.899$, $p = .174$ nor the addition of Agency and CoAg (Model 3), $\Delta R^2 = .025$, $\Delta F(1,49) = 2.000$, $p = .164$ significantly improved the preditction of Emotional Support.

Table 48

*Hierarchical Regression Analysis Predicting Emotional Support From Communion and Agency (Without Outliers)*

| | Emotional Support | | | | | |
|---|---|---|---|---|---|---|
| | Model 1 | | Model 2 | | Model 3 | |
| Variable | B | Beta | B | Beta | B | Beta |
| Constant | 5.879*** | | 5.881*** | | 5.913*** | |
| Communion | .946*** | 0.579 | 1.042*** | 0.637 | 1.058*** | 0.647 |
| Agency | | | -0.350 | -0.166 | -0.373 | -0.177 |
| CoAg | | | | | -1.266 | -0.159 |
| $R^2$ | 0.335 | | 0.359 | | 0.384 | |
| Adjusted $R^2$ | 0.322 | | 0.334 | | 0.347 | |
| $F$ | 25.691*** | | 14.022*** | | 10.202*** | |
| $\Delta R^2$ | 0.335 | | 0.024 | | 0.025 | |
| $\Delta F$ | 25.691*** | | 1.899 | | 2.000 | |

*Note*. $N = 53$.

*** $p < .001$

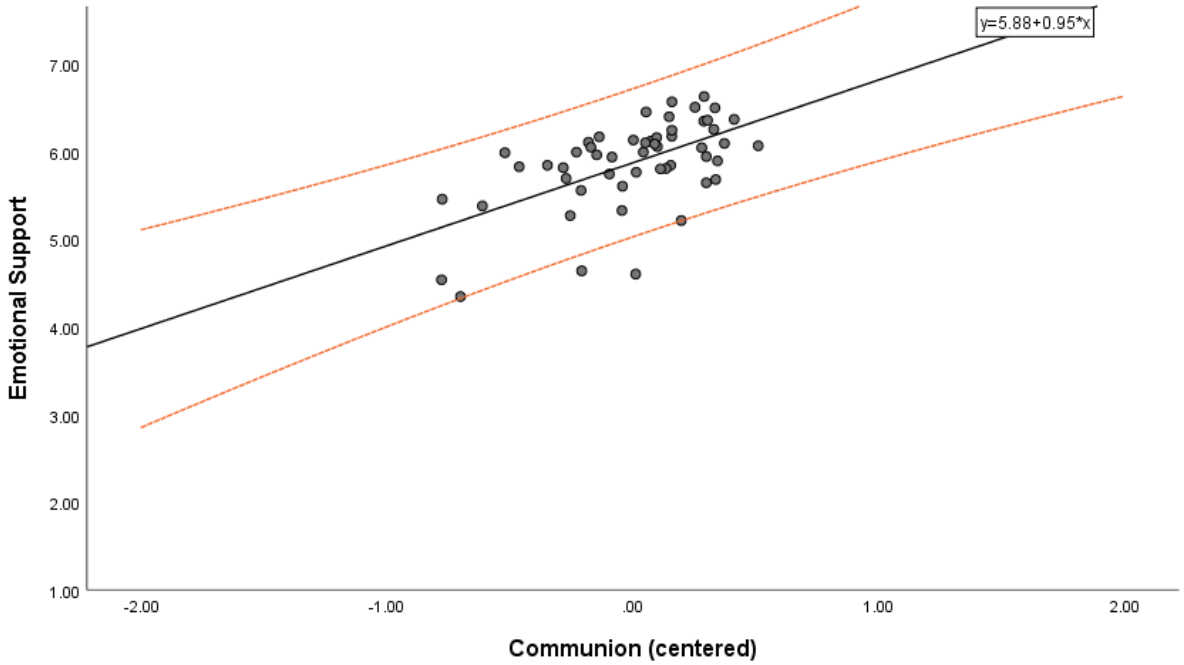


*Figure 24*. Linear relationship between Emotional Support and Communion (centered) without outliers (including prediction interval).

For the hierarchical polynomial regression analysis using Communion and Communion² as predictors, we excluded the child care worker number 65. The visual inspection of a P-P- and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(52) = .129$, $p = .027$; $\gamma_1 = -1.098$, $\gamma_2 = 1.287$). The final model (Model 2) presented in Table 49 included Communion. The addition of Communion² did not significantly improve the prediction of Emotional Support, $\Delta R^2 = .026$, $\Delta F\ (1,50) = 2.005$, $p = .163$.

Table 49

*Hierarchical Polynomial Regression Analysis Predicting Emotional Support From Communion and Communion² (Without Outliers)*

| | Emotional Support | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 5.880*** | | 5.946*** | |
| Communion | .904*** | .565 | .723** | .452 |
| Communion² | | | -.702 | -.198 |
| | | | | |
| $R^2$ | .319 | | .345 | |
| Adjusted $R^2$ | .306 | | .319 | |
| $F$ | 23.896*** | | 13.186*** | |
| $\Delta R^2$ | .319 | | .026 | |
| $\Delta F$ | 23.896*** | | 2.005 | |

*Note*. $N = 53$.

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

For the hierarchical polynomial regression analysis using Agency and Agency² as predictors, we excluded the child care worker number 32. The visual inspection of a P-P- and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(52) = .133$, $p = .019$; $\gamma_1 = -1.177$, $\gamma_2 = 1.318$). As Table 50 shows, neither the model including Agency (Model 1), $R^2 = .004$, $F(1, 51) = .180$, $p = .673$, nor the model including Agency and Agency² (Model 2), $\Delta R^2 = .004$, $\Delta F\ (1, 50) = .193$, $p = .663$, significantly predicted Emotional Support.

Table 50

*Hierarchical Polynomial Regression Analysis Predicting Emotional Support from Agency and Agency² (Without Outliers)*

| | Emotional Support | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 5.884*** | | 5.912*** | |
| Agency | .119 | .059 | .085 | .042 |
| Agency² | | | -.476 | -.064 |
| | | | | |
| $R^2$ | .004 | | .007 | |
| Adjusted $R^2$ | -.016 | | -.032 | |
| $F$ | .180 | | .185 | |
| $\Delta R^2$ | .004 | | .004 | |
| $\Delta F$ | .180 | | .193 | |

*Note*. $N = 53$.
*** $p < .001$, ** $p < .01$

### *4.4.6.2 Classroom Organization*

For the hierarchical regression analysis using Communion, Agency and CoAg as predictors of Classroom Organization, we excluded the child care workers number 4 and 32. We first included Communion and tested the increase in $R^2$ by adding Agency and CoAg. For Agency, the partial regression plots showed that a linear relationship with Classroom Organization was questionable. The visual inspection of a P-P- and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(51) = .133$, $p = .022$; $\gamma_1 = -1.240$, $\gamma_2 = 1.847$). The final model (Model 1) presented in Table 51 only included Communion. It was significant with $R^2 = .168$, $F(1, 50) = 9.870$, $p = .003$; adjusted $R^2 = .151$. The prediction equation illustrated in Figure 25 was given as *Classroom Organization* = 6.18+0.55**Communion.* Neither the addition of Agency² (Model 2), $\Delta R^2 = .006$, $\Delta F(1,49) = .331$, $p = .568$, nor the addition of CoAg $\Delta R^2 = .029$, $\Delta F(1,48) = 1.749$, $p = .192$ significantly improved the preditction of Classroom Organization.

Table 51

*Hierarchical Regression Analysis Predicting Classroom Organization from Communion, Agency and Their Interaction (Without Outliers)*

| | Classroom Organization | | | | | |
|---|---|---|---|---|---|---|
| | Model 1 | | Model 2 | | Model 3 | |
| Variable | B | Beta | B | Beta | B | Beta |
| Constant | 6.178*** | | 6.179*** | | 6.205*** | |
| Communion | .545** | 0.41 | .581** | 0.437 | .607** | 0.457 |
| Agency | | | -0.129 | -0.08 | -0.15 | -0.092 |
| CoAg | | | | | -1.063 | -0.172 |
| | | | | | | |
| $R^2$ | 0.168 | | 0.174 | | 0.203 | |
| Adjusted $R^2$ | 0.152 | | 0.14 | | 0.153 | |
| $F$ | 10.110** | | 5.153** | | 4.071* | |
| $\Delta R^2$ | 0.168 | | 0.006 | | 0.029 | |
| $\Delta F$ | 10.110** | | 0.331 | | 1.749 | |

*Note*. $N = 52$.

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

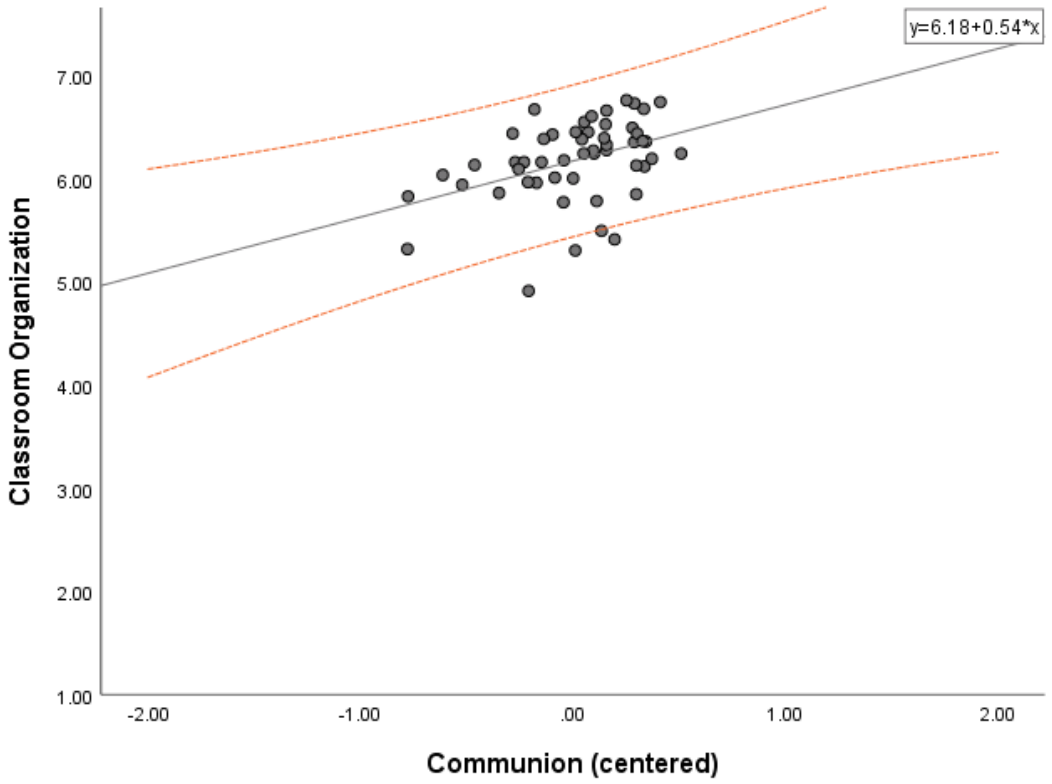


*Figure 25.* Linear relation between Classroom Organization and Communion without outliers (including prediction interval).

For the hierarchical polynomial regression analysis using Communion and Communion² as predictors, we excluded the child care workers number 4 and 32. The visual inspection of a P-P- and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(52) = .185$, $p < .001$; $\gamma_1 = -1.251$, $\gamma_2 = 1.741$). The final model (Model 1) presented in Table 51 only included Communion. The addition of Communion² (Model 2) did not significantly improve the preditction of Classroom Organization, $\Delta R^2 = .001$, $\Delta F(1,49) = .077$, $p = .783$.

Table 52

*Hierarchical Polynomial Regression Analysis Predicting Classroom Organization from Communion and Communion² (Without Outliers)*

| | Classroom Organization | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 6.178*** | | 6.190*** | |
| Communion | .545** | .410 | .516* | .389 |
| Communion² | | | -.127 | -.042 |
| | | | | |
| $R^2$ | .168 | | .169 | |
| Adjusted $R^2$ | .152 | | .136 | |
| $F$ | 10.110** | | 5.000** | |
| $\Delta R^2$ | .168 | | .001 | |
| $\Delta F$ | 10.110** | | .077 | |

*Note*. $N = 52$.

*** $p < .001$, ** $p < .01$, † $p < .10$

For the hierarchical polynomial regression analysis using Agency and Agency² as predictors, we excluded the child care workers number 4 and 32. The visual inspection of a P-P- and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(52) = .132$, $p = .024$; $\gamma_1 = -1.297$, $\gamma_2 = 2.566$). The final model (Model 2) presented in Table 53 included Agency and Agency². The addition of Agency² significantly improved the prediction of Classroom Organization, $\Delta R^2 = .083$, $\Delta F$ (1,49) = .435, $p = .040$. The prediction equation illustrated in Figure 26 was given as *Classroom Organization* = 6.29– 0.02**Agency*-1.80**Agency²*.

Table 53

*Hierarchical Polynomial Regression Analysis Predicting Classroom Organization from Agency and Agency² (Without Outliers)*

| | Classroom Organization | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 6.183*** | | 6.288*** | |
| Agency | .116 | .071 | -.016 | -.010 |
| Agency² | | | -1.793* | -.299 |
| | | | | |
| $R^2$ | .005 | | .088 | |
| Adjusted $R^2$ | -.015 | | .050 | |
| $F$ | .254 | | 2.353* | |
| $\Delta R^2$ | .005 | | .083 | |
| $\Delta F$ | .254 | | .435* | |

*Note*. $N = 52$.
*** $p < .001$ * $p < .05$;

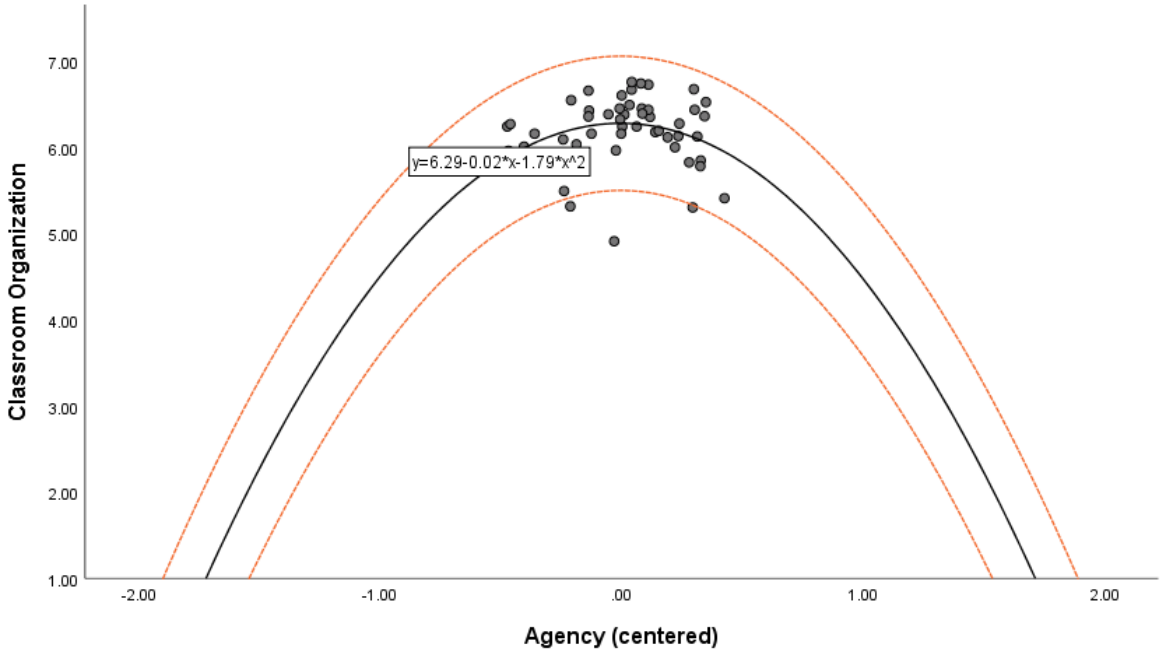


*Figure 26.* Curvilinear relation between Classroom Organization and Agency (centered) without outliers (including prediction interval).

For the hierarchical polynomial regression analysis using Communion, Agency and Agency², we excluded the child care workers number 4 and 32. We first included Communion and tested the increase in $R^2$ by adding Agency and Agency² simultaneously. The visual inspection of a P-P- and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(52) = .159$, $p = .002$; $\gamma_1 = -1.427$, $\gamma_2 = 2.861$). The final model (Model 2) presented in Table 54 included Communion, Agency and Agency². The addition of Agency and Agency² significantly improved the prediction of Classroom Organization, $\Delta R^2 = .100$, $\Delta F\ (2,48) = 3.286$, $p = .046$. The prediction equation illustrated in Figure 27 was given as *Classroom Organization* = 6.29+0.60**Communion*-.28**Agency*-1.92**Agency²*.

Table 54

*Hierarchical Polynomial Regression Analysis Predicting Classroom Organization from Communion, Agency and Agency² (Without Outliers)*

| | Classroom Organization | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 6.178*** | | 6.291*** | |
| Communion | .545** | .410 | .602** | .453 |
| Agency | | | -.280 | -.172 |
| Agency² | | | -1.922* | -.320 |
| | | | | |
| $R^2$ | .168 | | .268 | |
| Adjusted $R^2$ | .152 | | .223 | |
| $F$ | 10.110*** | | 5.869** | |
| $\Delta R^2$ | .168 | | .100 | |
| $\Delta F$ | 10.110*** | | 3.286* | |

*Note*. $N = 52$.
*** $p < .001$, ** $p < .01$, * $p < .05$

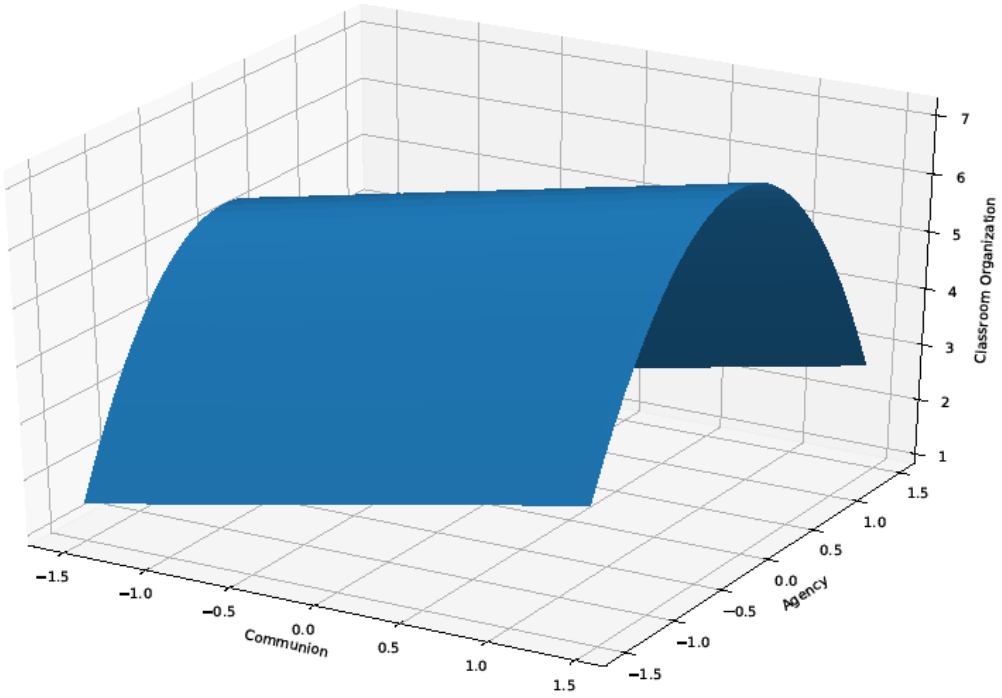


*Figure 27.* Relationship between Classroom Organization and (centered) Communion, Agency and Agency², without outliers.

### *4.4.6.3 Instructional Support*

For the hierarchical regression analysis using Agency, Communion and CoAg as predictors, we excluded child care worker number 3. We first included Agency and tested the increase in $R^2$ by adding Communion and CoAg. For Communion as well as Agency, the plot of the studentized residuals against the predicted values and the partial regression plots showed that linear relationships with Instructional Support were questionable. As Table 55 shows, neither the model including Agency (Model 1), $\Delta R^2 = .044$, $\Delta F(1, 51) = 2.346$, $p = .132$ nor the model including Agency and Communion (Model 2), $\Delta R^2 = .041$, $\Delta F(1, 50) = 2.311$, $p = .142$ nor the model including their interaction (Model 3), $\Delta R^2 = .058$, $\Delta F(1, 49) = 3.325$, $p = .074$ significantly predicted Instructional Support.

Table 55

*Hierarchical Regression Analysis Predicting Instructional Support From Agency, Communion and Their Interaction (Without Outliers)*

| | Instructional Support | | | | | |
|---|---|---|---|---|---|---|
| | Model 1 | | Model 2 | | Model3 | |
| Variable | B | Beta | B | Beta | B | Beta |
| Constant | 1.577*** | | 1.576*** | | 1.611*** | |
| Agency | 0.348 | 0.21 | .461† | 0.278 | .433† | 0.261 |
| Communion | | | -0.274 | -0.213 | -0.265 | -0.206 |
| CoAg | | | | | -1.511† | -0.242 |
| $R^2$ | 0.044 | | 0.085 | | 0.143 | |
| Adjusted $R^2$ | 0.025 | | 0.048 | | 0.09 | |
| $F$ | 2.346 | | 2.311 | | 2.721† | |
| $\Delta R^2$ | 0.044 | | 0.041 | | 0.058 | |
| $\Delta F$ | 2.346 | | .2.220 | | 3.325 | |

*Note*. $N = 53$.

† $p < .10$

For the hierarchical polynomial regression analysis using Agency and Agency² as predictors, we excluded child care worker number 3. As Table 56 shows, neither the model including Agency (Model 1), $F(1, 51) = 2.346$, $p = .132$ nor the model including Agency and Agency² (Model 2), $\Delta F\ (1, 50) = 1.550$, $p = .219$ significantly predicted Instructional Support.

Table 56

*Hierarchical Polynomial Regression Analysis Predicting Instructional Support From Agency and Agency² (Without Outliers)*

| | Instructional Support | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 1.577*** | | 1.637*** | |
| Agency | .348 | .210 | .268 | .162 |
| Agency² | | | -1.070 | -.176 |
| $R^2$ | .044 | | .073 | |
| Adjusted $R^2$ | .025 | | .036 | |
| $F$ | 2.346 | | 1.961 | |
| $\Delta R^2$ | .044 | | .029 | |
| $\Delta F$ | 2.346 | | 1.550 | |

*Note*. $N = 53$.

*** $p < .001$

For the hierarchical polynomial regression analysis using Communion and Communion² as predictors, we excluded child care worker number 3. The visual inspection of a P-P- and Q-Q-Plot as well as statistical parameters indicated that the normality of the residuals might be violated (Kolmogorov-Smirnov $D(53) = .133$, $p = .020$; $\gamma_1 = .801$, $\gamma_2 = .077$). As Table 57 shows, neither the model including Communion (Model 1), $F(1, 51) = .796$, $p = .377$ nor the model including Communion and Communion² (Model 2), $\Delta F(1, 50) = .004$, $p = .678$ significantly predicted Instructional Support.

Table 57

*Hierarchical Polynomial Regression Analysis Predicting Instructional Support From Communion and Communion² (Without Outliers)*

| | Instructional Support | | | |
|---|---|---|---|---|
| | Model 1 | | Model 2 | |
| Variable | B | Beta | B | Beta |
| Constant | 1.574*** | | 1.572*** | |
| Communion | -.160 | -.124 | -.152 | -.118 |
| Communion² | | | .029 | .010 |
| | | | | |
| $R^2$ | .015 | | .015 | |
| Adjusted $R^2$ | -.004 | | -.024 | |
| $F$ | .796 | | .392 | |
| $\Delta R^2$ | .015 | | .000 | |
| $\Delta F$ | .796 | | .004 | |

*Note*. $N = 53$.
*** $p < .001$

### 4.4.7 Further Regression Analyses

In order to further investigate possible relationships between the child care workers' process quality and their deviations from the experts' ideal levels of Communion (*ComDev*) and Agency (*AgDev*), we computed simple linear regressions.

As Table 58 and Table 59 show, ComDev significantly predicted Emotional Support, $R^2 = .282$, $F\ (1, 52) = 20.418$, $p < .001$, adjusted $R^2 = .268$ and Classroom Organization, ComDev, $R^2 = .153$, $F\ (1, 52) = 9.361$, $p = .004$, adjusted $R^2 = .136$. AgDev did not significantly improve the prediction of Emotional Support, $\Delta R^2 = .010$, $\Delta F\ (2,51) = .717$, $p = .401$ or Classroom Organization, $\Delta R^2 = .001$, $\Delta F\ (2,51) = .093$, $p = .845$. In contrast, as Table 60 shows, AgDev showed a marginally significant relationship to Instructional Support, $R^2 = .071$, $F\ (1, 52) = 3.973$, $p = .051$, adjusted $R^2 = .053$. ComDev did not significantly improve the prediction of Instructional Support, $\Delta R^2 = .019$, $\Delta F\ (2,51) = 1.041$, $p = .312$.

Because of the high correlation (multicollinearity) of Communion and ComDev as well as Agency and AgDev presented in Table 61, it was not reasonable to conduct regression analyses with both variables.

Table 58

*Simple Linear Regression Analysis Predicting Emotional Support From Child Care Workers' Ideal Communion and Agency Level Deviations*

| | Emotional Support | | | |
|---|---|---|---|---|
| Variable | B | Beta | B | Beta |
| Constant | 6.547*** | | 6.475*** | |
| ComDev | -.651*** | -.531 | -.701*** | -.572 |
| AgDev | | | .187 | .108 |
| | | | | |
| $R^2$ | .282 | | .292 | |
| Adjusted $R^2$ | .268 | | .264 | |
| *F* | 20.418*** | | 10.512*** | |
| $\Delta R^2$ | .282 | | .010 | |
| $\Delta F$ | 20.418*** | | .717 | |

*Note. N* = 54; DevAg = deviation from experts' ideal Agency profile;
ComDev = deviation from experts' ideal Communion profile.
*** $p < .01$

Table 59

*Simple Linear Regression Analysis Predicting Classroom Organization From Child Care Workers' Ideal Communion and Agency Level Deviations*

| | Classroom Organization | | | |
|---|---|---|---|---|
| Variable | B | Beta | B | Beta |
| Constant | 6.671*** | | 6.692*** | |
| ComDev | -.540** | -.391 | -.526** | -.380 |
| AgDev | | | -.054 | -.027 |
| | | | | |
| $R^2$ | .153 | | .153 | |
| Adjusted $R^2$ | .136 | | .120 | |
| *F* | 9.361*** | | 4.613*** | |
| $\Delta R^2$ | .153 | | .001 | |
| $\Delta F$ | 9.361*** | | .039 | |

*Note. N* = 54; DevAg = deviation from experts' ideal Agency profile;
ComDev = deviation from experts' ideal Communion profile.
*** $p < .001$; ** $p < .01$

Table 60

*Simple Linear Regression Analysis Predicting Instructional Support From Child Care Workers' Ideal Communion and Agency Level Deviations*

| | Instructional Support | | | |
|---|---|---|---|---|
| Variable | B | Beta | B | Beta |
| Constant | 1.882*** | | 1.771*** | |
| AgDev | -.408† | -.266 | -.494* | -.323 |
| ComDev | | | .160 | .148 |
| | | | | |
| $R^2$ | .071 | | .090 | |
| Adjusted $R^2$ | .053 | | .054 | |
| *F* | 3.973*** | | 2.509*** | |
| $\Delta R^2$ | .071 | | .019 | |
| $\Delta F$ | 3.973*** | | 1.041 | |

*Note.* $N = 54$; DevAg = deviation from experts' ideal Agency profile; ComDev = deviation from experts' ideal Communion profile.

*** $p < .001$; * $p < .01$; † $p < .10$

Table 61

*Correlations between Agency, Communion and Child Care Workers' Deviations*

| | Agency | Communion | AgDev | ComDev |
|---|---|---|---|---|
| Agency | - | .337* | -.995*** | -.351* |
| Communion | | - | -.369** | -.999*** |
| AgDev | | | - | .382** |
| ComDev | | | | - |

*Note.* $N = 54$; AgDev = deviations from experts' ideal Agency profile; ComDev = weighted deviations from experts' ideal Communion profile.

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

Finally, we conducted hierarchical polynomial regression analyses for the (centered) adjectives we had previously excluded from the factor analysis (see Appendix C.2, C.3 and C.4).

For Emotional Support we found positive linear relationships with *abenteuerlustig (adventurous), authentisch (authentic), belastbar (resilient), eloquent (eloquent), intelligent (intelligent), kreativ (creative), kommunikativ (communicative), spontan (spontaneous), verantwortungsbewusst (responsible), zuverlässig (dependable)*, and negative linear relationships with *distanziert (aloof), impulsive (impulsive), nachlässig (neglectful)*, and *unflexibel (inflexible)*.

For Classroom Organization, we found positive linear relationships with *authentisch (authentic), belastbar (resilient), intelligent (intelligent), kreativ (creative), spontan (spontaneous), verantwortungsbewusst (responsible), zuverlässig (dependable)*, and negative linear relationships with *distanziert (aloof), nachlässig (neglectful)*, and *unflexibel (inflexible)*.

For Emotional Suppport and Classroom Organization, quadratic relationships seemed to describe the relationship to *eloquent (eloquent)* as well as *kommunikativ (communicative)* even better than linear ones. For Instructional Support, we found no significant linear relationships to any of the adjectives. However, we found a marginally significant quadratic relationship to *eloquent (eloquent)* as well as *kommunikativ (communicative)*.

In the following subchapter, we discuss the results of this study.

## 4.5 Discussion

In our third study, we wanted to compare and validate the three expert groups' predictions of what a child care worker's personality should be like. Altogether, the results showed that each group's ideal profile was correlated to some aspects of the actual child care workers' process quality.

Additionally, we were able to validate the experts' minimum and optimum profiles insofar as our results showed that child care workers whose profiles lay closer to the optimum than the minimum profile showed significantly higher Emotional Support. For Classroom Organization, we found a marginally significant result. For Instructional Support, we found no significant difference between the child care workers belonging to the minimum or optimum group. Accordingly, the experts' judgment of a child care workers' optimal profile seems to be valid for some aspects of process quality but not for others. As no child care worker lay closest to the experts' maximum profile, we could not validate whether the experts were right with regard to the quality of this group.

In order to explore the underlying personality structure of our data, we conducted exploratory factor analyses. As mentioned in Backhaus (2008), there are two possible ways to conduct a factor analysis with an initial three-dimensional data matrix. One way is to conduct the factor analysis on the basis of the calculation of means for each person's traits across all participants. However, there is a limitation for this kind of analysis: By calculating means across all participants, we lose the information about the individual variance. Backhaus remarks that this fact gets more important the higher the variance is across the participants (2008, p.325). Therefore, he suggests a second way to transform the data set to two dimensions: By conducting the factor analysis on the basis of the surveyed participants, so that each participant's complete information is retained. However, he states that the mean-analysis is the more practical of both

methods. Accordingly, we selected the mean-analysis and therefore computed arithmetic means for all child care workers on each trait. Still, both procedures are prone to yield different results.

Our exploratory mean-factor-analysis with varimax rotation yielded a two-factor-solution for the negative as well as the positive adjectives. A factor analysis of all the adjectives taken together yielded the same result. In comparison, using an oblimin rotation yielded no usable results. After recoding the negatively loading adjectives, reliability analyses showed high internal consistencies for both factors. When comparing the results with renown personality taxonomies, we found that the two factors paralleled the Big Two described in Chapter 2.1. The comparison of the adjectives assigned to our two factors with Big Two adjective lists (e.g., Abele, Uchronski, Suitner & Wojciszke, 2008; Abele & Bruckmüller, 2011; Bruckmüller & Abele, 2013; Diehl, Owen & Youngblade, 2004; Uchronski, 2010) yielded further support for this assumption. Accordingly, we labeled the factors *Communion* and *Agency*. Further support for this assignment stems from the fact that an orthogonal factor rotation fits the Big Two model. For example, Abele and Wojciszke (2014) report that „…agency and communion are orthogonal dimensions of social cognition, as they reflect different domains of human fuctioning and are based on separate cues" (p.235). In addition, Locke (2011) outlines that „the IPC is defined graphically by two orthogonal axes: a vertical axis (of status, dominance, power, control, or, most broadly, *agency*) and a horizontal axis (of solidarity, friendliness, warmth, love, or, most broadly, *communion*)" (p. 313). Cislak and Wojciszke (2008) showed that this orthogonality also applies to the case of person impressions. However, agency and communion might show different relationships depending on the raters' perspective (for an overview, see Abele and Wojciszke, 2014). In our analyses, the sumscores of *Communion* and *Agency* showed a significant moderate correlation of $r = .34$ whereas the respective factor scores did not show any significant correlation. Nonetheless, the subsequent analyses yielded similar results. With regard to a correlation between the two factors, Abele and Wojciszke (2014) summarize that

„… agency and communion are orthogonal dimensions of content. However, they sometimes seem to be positively related, because of their common variance with valence and because of attitudinal consistency forces" (p.242). However, further research seems to be needed to shed light on the issue of the relationship between Agency and Communion.

In a final step, we investigated the relationship between the child care workers' personality as described by Communion and Agency and their process quality. There are two common ways of conducting regression analyses after factor analysis: using factor scores and using sum- or index scores. Sum- or index scores seem easier to interpret and, according to DiStefano, Zu & Mîndrilă (2009), are „generally acceptable for most exploratory research situations" (p. 2). However, they usually include no weighting of the single items. In contrast, analyses of the factor scores provided by SPSS (IBM Corp., 2016) are difficult to compare between studies as factor loadings depend on the sample and factor extraction method used (DiStefano, Zu & Mîndrilă, 2009). However, since we had asked our participants to judge each trait adjective's role in our second study, we were in the position to provide weighted sumscores for our analyses. Nevertheless, these weighted sumscores and the factor scores correlated highly (see Table 37) and consequently yielded similar results. Still, as sumscores are easier to replicate and interpret than factor scores, we chose to report the results for the weighted sumscore analyses. These results showed a significant linear relationship for the child care workers' levels of Communion and their Emotional Support as well as their Classroom Organization. Agency was no significant predictor for any of these two CLASS domains. For Instructional Support, we found a marginally significant linear relationship with the child care workers' levels of Agency whereas their levels of Communion were no significant predictor. Altogether, the analyses suggested that the child care workers' personality explains between 5% and 27% of the variance in their process quality. However, in contrast to our hypotheses, neither the factors' quadratic terms nor their interaction improved the prediction of process quality.

However, the datasets we used for these analyses included several suspicious data points, hinting at possible outliers. To our knowledge, no generally valid recommendations exist how to identify or how to deal with possible outliers. In order to identify outliers in this thesis, we therefore decided to combine multiple criteria (standardized deleted residuals, Cook's distance, leverage values; see Chapter 4.3.5). With regard to the question whether these outliers influenced the regression parameters, we followed the recommendation of Anguinis, Gottfredson and Joo (2013) to present the analyses with and without these data points. However, note that because of the exclusion criteria, some of these analyses are not comparable in a strict sense because we had to exclude a different number of outliers per analysis.

When we run the regression analyses without these outliers, some of the results changed. In Table 62 we present a comparison between the analyses with and without the outliers. For Emotional Support as well as Classroom Organization, we still found a linear relationship with the child care workers' levels of Communion. However, this time, we also found a curvilinear relationship between Classroom Organization and the child care workers' levels of Agency. Altogether, these analyses indicated that the child care workers' personality explains between 5% and 32% of these aspects of the variance in their process quality. Furthermore, these results support our hypothesis presented in Chapter 4.2 that thresholds might exist for some personality traits and that therefore, more of a trait might not always be better (see Borkenau, Zaltauskas & Leising, 2009). However, it should also be noted that after excluding the outliers, we neither found a significant linear nor a significant curvilinear relationship between Instructional Support and the child care workers' levels of Agency or Communion.

Table 62

*Summarized Results of the Regression Analyses With and Without Outliers*

| Predictor | All Data Points | | | Without Outliers | | |
|---|---|---|---|---|---|---|
| | ES | CO | IS | ES | CO | IS |
| Communion | Linear ($R$ = .27) | Linear ($R$ = .14) | X | Linear ($R$ = .32) | Linear ($R$ = .15) | X |
| Agency | X | X | Linear ($R$ = .05) | X | Quadratic ($R$ = .05) | X |
| Communion, Agency | X | X | X | X | Quadratic ($R$ = .23) | X |

*Note.* ES = Emotional Support; CO = Classroom Organization; IS = Instructional Support; X = no significant relationship.

Of course, the different results raise the question which analyses are to be trusted more. It is difficult to answer this question since research on the relationship between child care workers' personality and the pedagogical quality in preschool is scarce. However, some of the few studies with similar research questions conducted by Tietze et al. (2012) and Eckhard and Egert (2017, 2018) yielded similar results insofar as they also found a relationship between the educators' personality and their process quality. More specifically, the child care workers' Agreeableness, Extraversion and Openness showed linear relationships with quality in the studies conducted by Eckhardt & Egert (2017, 2018). However, the effects were inconsistent, depending on the child care setting, the region investigated and the measurement instrument used.

Because the rare research studies conducted in this field did – to our knowledge – not yet consider any non-linear relations between the personality of child care workers and their process quality, it is difficult to judge how meaningful our results are in this respect. Additionally, due to the results of our factor analyses, we investigated the child care workers' personality with regard to their Communion and Agency instead of using the renowned Big Five. In some way, this complicates the comparability of our results even further. Nonetheless,

we argue that because Communion and Agency can be viewed as superordinate factors of the Big Five (see Chapter 2.1 in this thesis or, for example, DeYoung, Weisberg, Quilty, Peterson, 2013; Blackburn, Renwick, Donnelly & Logan, 2004), our results can as well be regarded to be in line with the findings of the aforementioned research studies.

Nonetheless, the findings in this research field are yet inconsistent and might depend on further variables such as the children's age or the care setting. In order to answer the question whether personality and process quality relate in a linear or curvilinear way, we therefore refer to future research.

# 5 GENERAL DISCUSSION

In the last chapter of this thesis we summarize our research questions and the results of the previously presented studies. Additionally, we discuss the practical and methodological implications as well as the studies' limitations. We close the chapter with an outlook on future research questions.

## 5.1 Summary

The aim of this thesis was to assess personality traits relevant for child care workers and to see wether the levels of these traits actually relate to their process quality. Therefore, we conducted three subsequent studies presented in the chapters 2 to 4.

In our first study - the qualitative requirement analysis presented in Chapter 2 - we assessed crucial trait adjectives for child care workers by surveying parents and child care workers. Additionally, we conducted a content analysis of educational plans as well as curricula. The results showed that parents and child care workers widely agreed on which personality traits are the most important ones for child care workers. Furthermore, we found at least partial consensus between parents, child care workers and the commitees responsible for the curricula.

In our second study - the quantitative requirement analysis presented in Chapter 3 - we assessed the minimum, optimum and maximum levels a child care worker should possess of 60 selected traits according to parents, child care workers and lecturers. Furthermore, we validated the set of our selected adjectives by assessing how important the three expert groups rated these traits. The results suggested that parents, child care workers and lecturers widely agree on how important the selected traits are and how pronounced these traits should be for a child care worker at least, ideally and at most.

In our third study - the concluding video study presented in Chapter 4 - raters judged actual child care workers with regard to the 60 selected traits. Subsequently, we compared the child care workers' profiles to the experts' ideal profiles. The results showed that child care workers matching the ideal profiles also showed higher process quality regarding some aspects. Furthermore, we found relationships between the child care workers' personality as described by *Communion* and *Agency* and their process quality. Regression analyses suggested that the child care workers' personality explains between 5% and 32% (depending - to some extent - on the inclusion or exclusion of outliers) of the process quality's variance in the domains of Emotional Support, Classroom Organization and Instructional Support.

## 5.2 Theoretical Implications

The pedagogical quality in preschool has currently been a prominent field of research. As described in Chapter 1.1, pedagogical quality is known to affect children's developmental outcomes. To understand how quality can be increased, investigating possible contributing components seems crucial. Several studies have already investigated rather easily alterable factors such as structural elements (for an overview, see Viernickel & Schwarz, 2009). However, up to now, only a few research studies focused on the relationship of child care workers' personality and their process quality. Therefore, the present study adds to the current state of research in several ways. First, by showing that child care workers – as the providers of child care – and parents – as the clients or customers – and the commitees – as the ones responsible for the preschool curricula - share a common view of the personality traits a child care worker should possess. Additionally, our results showed that these experts' assumptions regarding the importance as well as the levels of the child care workers' personality traits are valid insofar as child care workers whose trait-manifestations lie closer to the ideal personality profile provided by the experts also show higher process quality in two of the three domains.

Furthermore, we found a relationship between the personality factor of Communion and the process quality domains Emotional Support and Classroom Organization. In addition, our results hinted at a possible relationship between Agency and Instructional Support.

## 5.3 Methodological Implications

***Methods.*** In our three studies, we used a variety of different methods. For the first study, we combined a qualitative requirement analysis with a content analysis. Both are prominent qualitative procedures in the contexts of organizational and work psychology as well as in the social sciences. In his book, Schuler (2002) recommends to combine qualitative and quantitative procedures. Accordingly, we conducted a quantitative requirement analysis in our second study. Afterwards, we combined the results of both studies in order to obtain a set of personality traits that are important for child care workers. An alternative possibility would have been to let the raters judge an already existing set of personality adjectives, for example the *Interpersonal Adjective Scales* (IAS, Wiggins, Trapnell & Phillips, 1988; IAS-R, dt. Ostendorf, 2001), the *NEO-PI-R* (Costa & McCrae, 1992; dt. Ostendorf & Angleitner, 2004) or the *Interpersonal Adjective List* (IAL, Jacobs & Scholl, 2005). However, this thesis had an exploratory focus and the idea of the first two studies was to assess personality traits important for child care workers from scratch. Therefore, it was important for us to not simply utilize a list with commonly important personality traits but to instead focus on traits that subject matter experts consider crucial. When we compared the set of our 60 adjectives to the aforementioned adjective lists, we found partial overlaps. For example, 10 of our adjectives are identical with adjectives listed in the IAL and 30 of our adjectives are identical with adjectives describing the NEO-PI-R-facets according to the german NEO-PI-R manual (Ostendorf & Angleitner, 2004) (dazu). Additionally, a lot of the remaining adjectives have similar meanings as those listed in the IPL and NEO-PI-R.

***Assessment.*** In our third study, we let external raters judge child care workers instead of asking for their self-assessment. As already discussed in Chapter 1.2 and Chapter 4.1, we made this decision since we were mainly interested in how child care workers appeared to others. In their study, Mount, Barrick and Strauss (1994) report that observers provide vaild ratings of job-relevant personality constructs such as *Conscientiousness* and *Extraversion* and that "other evidence in the personality literature also suggests that observers' ratings of personality predict behavior as well as, if not better, than self-reports" (p. 273). As an example, they name a person's aggressiveness. Furthermore, they argue that "individuals have different views of their own personality than others do, and, furthermore, that others' views of personality may be more predictive than self-reports" (Mount et al., 1994, p.273). Furthermore, Olino and Klein (2015) argue that "meta-analytic results demonstrate substantial agreement between self- and informant-reports of adult personality" (p. 2). Additionally, they report „that studies can consider using informant-reports as a means of avoiding inflated associations due to relying on a single informant for both personality and the variables personality is hypothesized to predict" (Olino & Klein, 2015, p. 9).

With regard to the informants, Mount, Barrick and Strauss (1994) point out that "aggregating raters will result in more reliable measures of personality constructs and probably more valid measures as well" (p.278). Therefore, one advantage of our approach is that we based the final judgment of a child care worker's trait-level on the mean value of many observers. In this way, we minimized distortive tendencies such as social desirability. However, because self- as well as informant-reports provide valid information about a person's personality, we agree with Abernathy (2015) who points out that "it should be seen that though the use of only one method can be a practical choice, . . . self-report and observer reports should be used in tandem" (p. 26). Accordingly, future research studies should take both perspectives into account by, for example, comparing the self-reports of child care workers to the ratings of the observers.

***Analyses.*** With regrad to the analyses in this thesis, note that we mainly used non-parametric procedures. The reason to do so was the violation of several prerequisites, such as having a small sample size, data not following a normal distribution, or finding outliers. Furthermore, we took into account the ongoing discussion about whether the data obtained through Likert scales should be treated as ordinal or interval data and, accordingly, whether parametric or non-parametric methods should be used for their analysis (Norman, 2010; Carifio & Perla, 2007). The advantage of using non-parametic procedures lies in their flexibility and robustness; however, parametric tests are more informative insofar as they possess more statistcal power (e.g., MacDonald, 1999). For some of our analyses, we therefore computed parametric tests in terms of comparison. Similar to the findings reported by Murray (2013) for parametric and non-parametric correlational analyses, the two procedures mostly yielded very similar results for our data.

## 5.4 Practical Implications

The results of this study may be relevant for the education and training of prospective as well as in-service child care workers. For example, the results can be important for students and consultants insofar as they can hint at the fit between the person and the requirements of the job as a child care worker. Accordingly, they can be important for career counselling and vocational choices. For example, it would be possible for anyone interested in becoming a child care worker to match their own profile against the ideal profile provided by the experts in this thesis. Furthermore, the knowledge about the role of certain personality traits for the process quality in early child care settings seems to be relevant for the self-development of prospective as well as in-service child care workers: It can be important to know and reflect on one's own strengths and weaknesses in order to accept them or to try to improve oneself.

Moreover, the results can be of interest for training companies such as professional schools, for example with regard to fostering their students' personal development and providing according ecudation.

## 5.5 Crictical Reflections and Limitations

One limitation of the presented thesis concerns the very high proportion of female participants thoughout our three studies. As we already discussed in Chapter 2.5 and 3.4, this actually reflects the distribution of gender for German child care workers. However, it limits the studies' results insofar as we do not know whether male child care workers, lecturers and fathers share the presented views.

Another limitation regards the small sample sizes in each study. Due to this limitation, our results should only be generalized wih care. Because of the small sample sizes as well as not normally distributed data, our analyses were not corrected for the participants' gender or age. However, because effects of these variables on the assessed criteria are imaginable, future studies should consider them as possible covariates and investigate them further.

The small sample sizes might as well be a reason why some of our results turned out to be ambiguous. For example, a larger sample size might have yielded rather explicit results with regard to the relationships between the CLASS domains and the Big Two. While it can be assumed that significant relationships exist, we were not able to ensure the kind of these relationships due to our regression analyses yielding different results depending on the inclusion or exclusion of outliers. One of the few studies that rendered comparable results are the studies of Tietze et al. (2012) and Eckhardt and Egert (2017, 2018) in which *Extraversion* and *Agreeableness* were related to the process quality in early child care settings. However, these studies' results were inconsistent as welll, depending on the child care setting, the region investigated and the measurement instruments used. And while some researchers have

considered non-linear relationships between pedagogical quality and the developmental outcomes of children (Burchinal et al., 2009; Zaslow et al., 2010), to our knowledge, no comparable information about possible non-linear relations between the personality of child care workers and their process quality exists. It is therefore difficult to integrate our results into a broader scientific context and we agree with Eckhardt and Egert (2017) who state that "in sum, research on these aspects is at an early stage and further investigations on the relation between childcare quality and personality traits and pedagogical orientations are needed" (p. 9-10).

## 5.6 Conclusions and Future Research Directions

In these last paragraphs, we outline possible future research questions. Answering these questions would shed some more light on the relationship between child care workers' personality and the process quality in preschool and kindergarten.

1.) Which personality traits are important for child care workers according to fathers, male child care workers and male lecturers? Do their views coincide with the views of mothers, female child care workers and female lecturers?
2.) In the course of new approaches for the education of child care workers being implemented in Germany (for example univserity courses leading to a bachelor and master degree), how is the fostering of their personality dealt with? Is personality development more or less notable in new the curricula?
3.) How does the child care workers' personality relate to the children's outcome (e.g., performance or joy of learning)? Does a direct relation exist or is the relation mediated by the child care workers' process quality?

4.) How does the child care workers' self-report relate to the thin-slice assessments of external observers with regard to *Communion* and *Agency*? Do similar correlations exist between the self-reports and the child care workers' process quality?
5.) Are the relationships between the CLASS domains and the Big Two of a linear or curvilinear kind?

Currently, the personality of teachers and child care workers' is enjoying a revival in research (e.g., Eckhardt & Egert, 2017, 2018; Röhler et al., 2018; Vorkapić, 2012). This thesis has added to the current state of scientific research by demonstrating the high consensus between three groups of subject matter experts regarding important personality traits for child care workers and by demonstrating these traits' relationship to process quality.

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# Appendix A

## Supplementary Material for the Qualitative Requirement Analysis

TABLE OF CONTENTS

A. 1 Excerpt of the Survey for Parents (Qualitative Requirement Analysis)

# Fragebogen für Eltern

Sehr geehrte(r) Studienteilnehmer/in,

die vorliegende Studie beschäftigt sich mit der Frage, was eine/n gute/n Erzieher/in ausmacht. In den letzten Jahren sind die Anforderungen an Erzieher/innen kontinuierlich gestiegen. Mittlerweile kommen ihnen äußerst vielfältige Aufgaben sowie eine große Verantwortung für die kindliche Entwicklung zu. Eine gute Ausbildung sowie persönliche Kompetenzen erscheinen daher für den Beruf der Erzieherin/ des Erziehers unerlässlich.

Gemäß des aktuellen wissenschaftlichen Forschungsstandes beeinflusst eine gute Interaktion der pädagogischen Fachkräfte mit den Kindern sowohl in der Schule als auch im Kindergarten die kindliche Entwicklung. Bisherige Studien legen zudem nahe, dass für eine gute Interaktion mit Schülern persönliche Eigenschaften der Lehrkraft entscheidend sind. Obwohl sich ebenfalls Hinweise für die Wichtigkeit der persönlichen Eigenschaften von Erzieher/innen finden, gibt es diesbezüglich kaum gesicherte Forschungsergebnisse. In Zeiten der immer wichtiger werdenden qualifizierten Betreuung bereits sehr junger Kinder erscheint das Wissen über die Auswirkungen persönlicher Eigenschaften jedoch bedeutend für eine verbesserte Auswahl, sowie Aus- und Fortbildung von Erzieher/innen. Das Ziel der vorliegenden Studie ist es daher, Eigenschaften zu identifizieren, die ein/e Erzieher/in haben sollte, um diesen Beruf erfolgreich auszuüben.

Ihre Daten werden **anonymisiert**; Sie müssen an keiner Stelle Ihren Namen oder Adressdaten angeben. Alle erhobenen Daten werden ausschließlich für wissenschaftliche Forschungszwecke verwendet.

Unter allen Teilnehmer/innen verlosen wir mehrere Amazon-Gutscheine im Wert von je 10 Euro.

Vielen Dank für Ihre Teilnahme,

Ivana Herrmann (Dipl.-Psych.)

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E-Mail: herrmann@uni-landau.de

Diese Umfrage enthält 26 Fragen.

## Code

**Aufgrund einer möglichen Teilnahme am zweiten Teil der Studie bitten wir Sie, in dem nachfolgenden freien Kästchen eine Kennung anzugeben. Anhand dieses Codes können im Fall einer erneuten Teilnahme Ihre Antworten einander zugeordnet werden, ohne dass Sie persönliche Daten angeben müssen. Ihre Anonymität bleibt so gewahrt.**

**Ihr Code setzt sich folgendermaßen zusammen**

**- Anfangsbuchstabe des Vornamens Ihrer Mutter**

**- Anfangsbuchstabe des Vornamens Ihres Vaters**

**- Anfangsbuchstabe Ihres Geburtsortes**

**- Ihr Geburtstag (in Zahlen; nicht Monat oder Jahr)**

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**Beispiel:**

**Angenommen, Ihre Mutter heißt Frieda, Ihr Vater Udo und Sie wurden am 10.04.1975 in Berlin geboren, dann lautet Ihr Code folgendermaßen:**

## Eigenschaftsfragen positiv

Die vorliegende Studie beschäftigt sich mit der Frage, was eine(n) gute(n) Erzieher/in ausmacht. Insbesondere interessiert uns, welche *Eigenschaften* Ihrer Meinung nach eine(n) gute(n) Erzieher/in ausmachen. Bitte beantworten Sie hierzu die folgenden Fragen.

Bedenken Sie dabei, dass eine *Eigenschaft* ein persönliches Merkmal bezeichnet, welches das Verhalten einer Person über verschiedene Situationen hinweg beeinflusst und sich über die Zeit hinweg nur wenig ändert. **Gemeint** sind demnach Zuschreibungen wie z.B. „intelligent". **Nicht gemeint** sind hingegen aktuelle Zustände wie z.B. Stimmungen, in denen sich Personen nur kurzzeitig befinden, beispielsweise „traurig".

**Bitte geben Sie anhand von Adjektiven an, welche Eigenschaften Ihrer Meinung nach einen guten Erzieher/ eine gute Erzieherin ausmachen (z.B. „intelligent").**

**(Sie können bis zu 16 Adjektive angeben.)**

Bitte geben Sie Ihre Antwort(en) hier ein:

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## Eigenschaftsfragen negativ

Die vorliegende Studie beschäftigt sich mit der Frage, was eine(n) gute(n) Erzieher/in ausmacht. Insbesondere interessiert uns, welche *Eigenschaften* Ihrer Meinung nach eine(n) gute(n) Erzieher/in ausmachen. Bitte beantworten Sie hierzu die folgenden Fragen.

Bedenken Sie dabei, dass eine *Eigenschaft* ein persönliches Merkmal bezeichnet, welches das Verhalten einer Person über verschiedene Situationen hinweg beeinflusst und sich über die Zeit hinweg nur wenig ändert. **Gemeint** sind demnach Zuschreibungen wie z.B. „intelligent". **Nicht gemeint** sind hingegen aktuelle Zustände wie z.B. Stimmungen, in denen sich Personen nur kurzzeitig befinden, beispielsweise „traurig".

**Bitte geben Sie nun anhand von Adjektiven an, welche Eigenschaften Ihrer Meinung nach ein guter Erzieher/ eine gute Erzieherin nicht haben sollte (z.B. „ängstlich").**

**(Sie können bis zu 16 Adjektive angeben.)**

Bitte geben Sie Ihre Antwort(en) hier ein:

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## A. 2 List of Online Messaging Boards announcing our Study

**Online Messaging Board**

www.kindergarten-workshop.de

www.erzieherin-online.de

www.forum-fuer-erzieher.de

www.eltern.de

www.forum-kigazeit.de

www.mamikreisel.de

www.urbia.de

www.elterntreff-online.de

www.wunschkinder.net

www.erziehung-online.de

www.mamilounge.de

www.hallo-eltern.de

# A. 3 List of Documents Used for the Content Analysis

**Documents**

**USA Onet**

Summary Report for 25-2011.00 – Preschool Teachers, Except Special Education
Summary Report for 25-2012.00 – Kindergarten Teachers, Except Special Education

**General Recommendations**

Berufenet: Berufsinformation "Erzieher/in" (Arbeitsagentur, 2013)
Berufenet: Steckbrief "Erzieher/in" (Arbeitsagentur, 2013)
Qualifikationsprofil „Frühpädagogik" - Fachschule/Fachakademie (Autorengruppe Fachschulwesen, 2011)
Länderübergreifender Lehrplan Erzieherin/Erzieher (2012)
Rahmevereinbarung zur Ausbildung und Prüfung von Erziehern/Erzieherinnen Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland, 2000)
Kompetenzorientiertes Qualifikationsprofil für die Ausbildung von Erzieherinnen und Erziehern an Fachschulen/Fachakademien (Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland, 2011).

**Schleswig-Hohlstein**

Erfolgreich starten – Leitlinien zum Bildungsauftrag in Kindertageseinrichtungen (Knauer, R. & Hansen R., 2012)
Lehrplan für die Fachschule Fachrichtung Sozialpädagogik, Ausbildungsgang Erzieherin/Erzieher (Ministerium für Bildung und Wissenschaft des Landes Schleswig-Holstein, 2013)

**Niedersachsen**

Orientierungsplan für Bildung und Erziehung im Elementarbereich niedersächsischer Tageseinrichtungen für Kinder (Niedersächsisches Kultusministerium, 2005)
Rahmenrichtlinien für das Fach Berufsbezogener Unterricht der Fachschule Sozialpädagogik (Niedersächsisches Kultusministerium, 2002)

**Mecklenburg-Vorpommern**

Bildungskonzeption für 0- bis 10-jährige Kinder in Mecklenburg-Vorpommern – Zur Arbeit in Kindertageseinrichtungen und Kindertagespflege (Ministerium für Bildung, Wissenschaft und Kultur Mecklenburg-Vorpommern, 2011)
Rahmenplan für die Ausbildung zum „Staatlich anerkannten Erzieher" (Ministerium für Bildung, Wissenschaft und Kultur Mecklenburg-Vorpommern, 2009)

**Bremen**

Rahmenplan für Bildung und Erziehung im Elementarbereich (Merkel, J., Hanschen, K., Hanstein-Moldenhauer, K., Rothe, J. & Knödel, H., 2012)
Rahmenplan für Bildung und Erziehung im Elementarbereich (Merkel, J.; Hanschen, K., Hanstein-Moldenhauer, K.; Rothe, J. & Knödel, H. , 2004)

**Sachsen-Anhalt**

Bildungsprogramm für Kindertageseinrichtungen in Sachsen-Anhalt: Bildung: elementar – Bildung von Anfang an (Fortschreibung 2013) (Rabe-Kleberg, U. & Jaschinsky, F., 2013)
Bildungsprogramm für Kindertageseinrichtungen in Sachsen-Anhalt: Bildung: elementar – Bildung von Anfang an (Ministerium für Gesundheit und Soziales, 2004)
Rahmenrichtlinien Fachschule Fachbereich Sozialwesen Fachrichtung Sozialpädagogik Fachrichtungsbezogener Lernbereich (Kultusministerium Sachsen-Anhalt, 2009)

**Sachsen**

Der Sächsische Bildungsplan, ein Leitfaden für pädagogische Fachkräfte in Krippen, Kindergärten und Horten sowie für Kindertagespflege (Sächsisches Staatsministerium für Kultus, 2011)
Lehrpläne für die Fachschule Fachbereich Sozialwesen Fachrichtung Sozialpädagogik Erzieher/Erzieherin (Freistaat Sachsen, Sächsisches Staatsministerium für Kultus, 2008)

**Nordrhein-Westfalen**

Bildungsvereinbarung NRW: Fundament stärken und erfolgreich starten (Ministerium für Schule, Jugend und Kultur des Landes Nordrhein-Westfalen, 2003)
Mehr Chancen durch Bildung von Anfang an – Grundsätze zur Bildungsförderung für Kinder von 0 bis 10 Jahren in Kindertageseinrichtungen und Schulen im Primarbereich in Nordrhein-Westfalen (Ministerium für Familie, Kinder, Jugend, Kultur und Sport des Landes Nordrhein-Westfalen & Ministerium für Schule und Weiterentwicklung des Landes Nordrhein-Westfalen 2011)
Erfolgreich starten! Schulfähigkeitsprofil als Brücke zwischen Kindergarten und Grundschule: Eine Handreichung (Ministerium für Schule, Jugend und Kinder des Landes Nornhein-Westfalen, 2003
Richtlinien und Lehrpläne zur Erprobung: Fachschulen des Sozialwesens Fachrichtung Sozialpädagogik (Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen, 2010)

**Saarland**

Lehrplan Akademie für Erzieher und Erzieherinnen – Fachschule Sozialpädagogik – Fachtheoretische Ausbidlung (Ministerium für Bildung und Kultur, 2013)
Bildungsprogramm für Saarländische Kindergärten (Ministerium für Bildung, Kultur und Wissenschaft, 2006)

**Brandenburg**

Rahmenplan für Unterricht und Erziehung, Staatliche Fachschule für Sozialpädagogik, Ausbildung zur Erzieherin/zum Erzieher (Senatsverwaltung für Bildung, Jugend und Wissenschaft, 2011)
Grundsätze elementarer Bildung in Einrichtungen der Kindertagesbetreuung im Land Brandenburg (Ministerium für Bildung, Jugend und Sport, 2006)
Unterrichtsvorgaben zur Erprobung, Berufsbezogener Lernbereich, Bildungsgänge für Sozialwesen in der Fachschule Fachrichtung Sozialpädagogik (Ministerium für Bildung, Jugend und Sport, 2008)

**Hamburg**

Bildungsplan Fachschule für Sozialpädagogik (FSP) (Hamburger Institut für berufliche Bildung, 2013)
Hamburger Bildungsempfehlungen für die Bildung und Erziehung von Kindern in Tageseinrichtungen (Pressing, C., Hautumm, A., Heller, E., Wagner, P. , 2012)
Bildungsplan Fachschule für Sozialpädagogik(Behörde für Bildung und Sport, Hamburger Institut für berufliche Bildung, 2007)

**Thüringen**

Leitlinien frühkindlicher Bildung (Thüringer Kultusministerium, 2004)
Thüringer Bildungsplan für Kinder bis 10 Jahre (Thüringer Ministerium für Bildung, Wissenschaft und Kultur, 2010)
Erprobungsfassung Thüringer Lehrplan für berufsbildende Schulen, Schulform Fachschule, Fachbereich Sozialwesen , Bildungsgang Sozialpädagogik (Thüringer Kultusministerium, 2007)

**Berlin**

Kurzinformation über das Berliner Bildungsprogramm für die Bildung, Erziehung und Betreuung von Kindern in Tageseinrichtungen bis zu ihrem Schuleintritt (Preissing, C., Internationale Akademie Berlin (INA), Arbeitskreis Neue Erziehung , 2004)
Rahmenlehrplan für Unterricht und Erziehung Staatliche Fachschule für Sozialpädagogik, Ausbildung zur Erzieherin/zum Erzieher (Senatsverwaltung für Bildung, Jugend und Wissenschaft, 2011)
Berliner Bildungsprogramm für die Bildung, Erziehung und Betreuung von Kindern in Tageseinrichtungen bis zu ihrem Schuleintritt (Senatsverwaltung für Bildung, Jugend und Sport, 2004)

**Bayern**

Lehrplan für das Sozialpädagogische Seminar, Ausbildungsrahmenplan (Staatsinstitut für Schulqualität und Bildungsforschung , 2010)
Der Bayerische Bildungs- und Erziehungsplan für Kinder in Tageseinrichtungen bis zur Einschulung, 5., erweiterte Auflage (Bayerisches Staatsministerium für Arbeit und Sozialordnung, Familie und Frauen, Staatsinstitut der Frühpädagogik München, 2012)
Lehrplan für die Fachakademie für Sozialpädagogik (Staatsinstitut für Schulpädagogik und Bildungsforschung , 2003)

**Hessen**

Lehrpläne für die Fachschule für Sozialpädagogik in Hessen (Hessisches Kultusministerium, n.d.)
Bildung von Anfang an, Bildungs- und Erziehungsplan für Kinder von 0 bis 10 Jahren in Hessen (Fthenakis, W.E., Berwanger, D., Reichert-Garschhammer, E., 2012)
Berufliche Schulen des Landes Hessen, Lehrplan Zweijährige Berufsfachschule, Berufsbildender Lernbereich, Berufsrichtung sozialpflegerische und sozialpädagogische Berufe (Hessisches Kultusministerium, n.d.)

**Rheinland-Pfalz**

Bildungs- und Erziehungsempfehlungen für Kindertagesstätten in Rheinland-Pfalz (Ministerium für Bildung, Frauen und Jugend, Referat „Kindertagesstätten, 2004)
Bildungs- und Erziehungsempfehlungen für Kindertagesstätten in Rheinland-Pfalz, Kinder von 0 bis 3 Jahren (Ministerium für Integration, Familie, Kinder, Jugend und Frauen des Landes Rheinland-Pfalz, 2011)
Lehrplan für die Fachschule Sozialwesen, Fachrichtung Sozialpädagogik (Pädagogisches Landesinstitut Rheinland-Pfalz, 2011)

**Baden-Württemberg**

Orientierungsplan für Bildung und Erziehung in baden-württembergischen Kindergärten und weiteren Kindertageseinrichtungen (Ministerium für Kultus, Jugend und Sport, 2011)
Schulversuch Berufskolleg Fachschule für Sozialpädagogik (praxisintegriert), Fachschule für Sozialpädagogik in Teilzeitform: Der besondere Erziehungs- und Bildungsauftrag (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2011b)
Orientierungsplan für Bildung und Erziehung in baden-württembergischen Kindergärten, Pilotphase (Ministerium für Kultus, Jugend und Sport, 2006)
Schulversuch Lehrplan für das Berufskolleg Fachschule für Sozialpädagogik in Teilzeitform: Zusammenarbeit gestalten und Qualität entwickeln (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2011c)

# A. 4 Negative Traits' Complete Raw List – Parents

**Adjectives**

ungeduldig
aggressiv
unfreundlich
ängstlich
dumm
aufbrausend
laut
faul
inkonsequent
ungerecht
verschlossen
launisch
engstirnig
desinteressiert
gewalttätig
schüchtern
ignorant
streng
unpünktlich
altmodisch
selbstunsicher
eintönig
unengagiert
stimmungsschwankend
bestimmerisch
unvorbereitet
apathisch
wenig sozialkompetent
selbstunsicher
unsozial
nachtragend
ideologisch
polarisierend
suchtgefährdet
unprofessionell
nörglerisch
hinterhältig

unzuverlässig
lustlos
ungebildet
unsicher
egoistisch
cholerisch
intolerant
reizbar
unfair
gestresst
gleichgültig
langweilig
gelangweilt
unaufmerksam
(schnell) genervt
stur (sein)
rechthaberisch
verantwortungslos
nachlässig
labil
eitel
manipulativ
xenophob
phlegmatisch
unbelastbar
gereizt
ambitionslos
geizig
bestimmerisch
bestimmend
diskriminierend
gewaltbereit
ausländerfeindlich
nicht kritikfähig
schmuddelig
schlechtes Vorbild
weich

lieblos
überheblich
arrogant
egozentrisch
grob
unflexibel
depressiv
uninteressiert
nervös
voreingenommen
inaktiv
herablassend
hektisch
chaotisch
zickig
jähzornig
zurückhaltend
besserwisserisch
homosexuell
fremd
riechend
kontaktscheu
nicht einfühlend
unbeständig
desillusioniert
konfus
kreativlos
fahrig
kindlich
subjektiv
gefühlsarm
unbeteiligt
ungenau
unterfordert
autoritär
antiautoritär
aufdringlich

träge
unorganisiert
suchtkrank/drogensüchtig
unruhig
unmotiviert
böse
bequem
humorlos
introvertiert
gemein
ruppig
mürrisch
herrisch
ungepflegt
patzig
rauchend
leise
bösartig
unentschlossen
unselbstständig
konfliktscheu
menschenscheu
brutal
selbstherrlich
unbeherrscht
bevorzugend
diktatorisch
vergesslich
verbittert
vulgär
nervenschwach
kleinlich
stoisch
durchsetzungsschwach
gruppenunfähig
laissez faire
dominant

respektlos
ideenlos
frech
unkreativ
(stark) übergewichtig
unhygienisch
unehrlich
distanziert
kränklich
misstrauisch
festgefahren
(schnell) beleidigt
rassistisch
unausgeglichen
unqualifiziert
rücksichtslos
planlos
teilnahmslos
passiv
verspielt
unvorsichtig
herzlos
inkompetent
andere Augenhöhe als Kind
unreif
hart
emotionslos
eingebildet
schmutzig
gestört
empfindungsgestört
unordentlich
abwesend
mies gelaunt
unsympathisch
zu nachgiebig
demotiviert

oberflächlich
bildungsfern
weinerlich
unsensibel
unsportlich
parteiisch
frustriert
unhöflich
ablehnend
forsch (im Umgang)
schlämpig/schlampig
unberechenbar
überfordert
überängstlich
kaltherzig
gefühlskalt
abweisend
rücksichtslos
kalt
psychisch krank
pessimistisch
pädophil
unpädagogisch
unkooperativ
unkompetent
schroff
instabil
schickimicki
feige
sprunghaft
sarkastisch
lasch
schwach
dreckig
kleinkariert
machtverliebt
machthungrig

keine veraltete Einstellung
schweigsam
schlecht ausgebildet
fordernd
grantig
unaufgeschlossen
schmutzenmpfindlich
traurig
unkommunikativ
provokant
naiv
bockig
nicht neutral
unstrukturiert
gluckig
unbeweglich
rentenfähig
schwanger
nervlich zerrüttet
missmutig
vorwurfsvoll
kinderhassend
fantasielos
misanthropisch
nikotingabhängig
langsam
obrigkeitsgläubig
Beruf nicht als Berufung betrachtend
wankelmütig
nicht kinderlieb
nicht vertrauenwürdig
kühl
unnahbar
grausam
antriebslos
vorurteilend
abwertend

unecht
impulsiv
gefühllos
überfürsorglic
abgehoben
aufzwingend

# A. 5 Negative Traits' Complete Raw List - Child Care Workers

**Adjectives**

ängstlich
ungeduldig
aggressiv/agressiv
launisch/launerisch
unflexibel
faul
unfreundlich
unsicher
egoistisch
unzuverlässig
verschlossen
stur
inkonsequent
ungerecht
engstirnig
ungebildet
unrefkletiert/unrelektiert
lustlos
hektisch
nicht belastbar
unbelastbar
schnell überfordert
kann Stress nicht haben
kann nicht allein arbeiten
ist nur bei Kollegen statt Kindern
fanatisch
unmusikalisch
erniedrigend
sarkastisch
selbstverherrlichend
vertrauenslos
streng religiös
angestrengt
dominant
voreingenommen
spiesig
verschüchtert
unnahbar
unerbittlich
uninteressiert
unmotiviert
desinteressiert
lieblos
intol(l)erant
unehrlich
rechthaberisch
pessimistisch
egozentrisch
laut
introvertiert
vorurteilend/vorurteilbehaftet/voruteilhaft
streng/zu streng
unpünktlich
c(h)olerisch/kolerisch
festgefahren
unfair
nachtragend
oberflächlich
starr
apathisch
unecht
einzelgänger
depressiv
beleidigt
indiskret
unprofessionell
impulsiv
devot
frech
hochnäsig
stimmungsschwankend
belehrend
ernst
nachlässig
verbissen
ausgrenzend/bevorzugend
unkollegial
legasthenisch
teamunfähig
unkommunikativ
falsch sein
verantwortungslos
autoritär
kaltherzig
unsensibel
selbstherrlich
verlogen
unbeweglich
schüchtern
eitel
unhöflich
überfordert
einfallslos
penibel
nervös
passiv
menschenscheu
dyskalkulisch
uneinsichtig
herzlos
schlampig
demotivierend
dumm
altbacken
veränderungsscheu
planlos
gefühlsschwankend
unausgeglichen
schreinend/schreiend
parteisch
unbeherrscht
phlegmatisch
eigenbrödlerisch
gering selbstbewusst
nicht kritikfähig
kaltherzig
unkontrolliert
fantasielos/phantasielos
nicht teamfähig
zurückhaltend
unkooperativ/unkoperativ
ich(-)bezogen
bequem
ab(-)wertend
langweilig
träge
aufbrausend
überängstlich
kritikunfähig
unkritisch
humorlos
jähzornig
beziehungsunfähig
verbittert
gemein
körperlich unbeweglich
motzig
überfürsorglich
einschränkend
unstrukturiert
kompromisslos
spötisch
verurteilend
beschützend
abwehrend
distanziert
unvorbereitet
altmodisch
uninformiert
naiv
vorurteilsvoll
nachgiebig
übervorsichtig
ungehalten
kinderfeindlich
chaotisch
böse
gelangweilt
unselbstständig
genervt/ genevte Grundstimmung
beleidigend
gestresst
gewaltbereit
unorganisiert
aut(h)oritär
streitsüchtig
besserwisserisch
hochmütig
labil
verständnislos
bindungsunfähig
herrschsüchtig
manipulativ
ausweichend
bildungsarm
ungepflegt
empathielos
unsozial
gleichgültig
Schlechtes Umgangsverhalten
Keine Kreativität
Schwaches Nervenkostüm
Empfindliches Ohr
Sich nicht auf die Kinder einlassen können
Ständig schlechte Laune
hinterhältig
herrisch
machtbesessen
wortkarg
eigenbrötlerisch
zu sachlich
freudlos
kinderscheu
unbeweglich im Geist
ausbrausend
vorlaut
einschüchternd
unaufgeschlossen
unsympathisch
gewalttätig
desorganisiert
rassistisch
nach Macht/Geld strebend
machtausübend
überheblich
wenig gebildet
stressanfällig
mangelnde Stressresistenz
mangelnde Empathie
ärgerlich
unruhig
langsam

# A. 6 Positive Traits' Complete Raw List – Parents

**Adjectives**

geduldig
freundlich
konsequent
kreativ
liebevoll
einfühlsam
intelligent
offen
(gut/umfassend) gebildet
empathisch/empathiefähig
kinderlieb
humorvoll
gerecht
aufgeschlossen
hilfsbereit
herzlich
interessiert
ehrlich
teamfähig/Teamfähigkeit
handwerklich begabt
anpassungsfähig
neugierig auf Neues
sozialintelligent
emotional intelligent
energisch
weiblich
netzwerkend
voruteilslos
dynamisch
ungepierct
untätowiert
natürliche Autorität
abenteuerlustig
sprachgewandt
fachkundig
solide
körperliche Fitness
witzig
klientenorientiert
handwerklich geschickt
kommunikativ
belastbar
aufmerksam
musikalisch
ausgeglichen
ruhig
verantwortungsbewusst
tolerant
engagiert
kompetent/Kompetenz
durchsetzungsfähig
flexibel
nett
stressresistent/Stressresistenz
motiviert
fantasievoll/phantasievoll
zuverlässig
(klar) strukturiert
sozial
konservativ
multitasking
lebensnah
naturnah
nachdenklich
optimistisch
sich in Situationen hineinversetzen
Überblick behaltend
beständig
vernünftig
elanvoll
einfühlend
fesselnd
zielorientiert
introspektiv
deutsch
fachlich
fachlich qualifiziert
weiterbildungsbereit
experimentell
lehrreich
selbstbewusst
bestimmt
fürsorglich
gelassen
lustig
spontan
sportlich
vorbidlich
ideenreich
mitfühlend/Mitgefühl
fair
verständnisvoll
fröhlich
durchsetzungsvermögend/Durchsetzungsvermögen
(gut) ausgebildet
sozialkompetent
(gut) organisiert
warmherzig
neugierig
unterhaltsam
geduldsam
gruppenfähig
leitend
begleitend
ehrgeizig
belesen
beweglich
ausgleichend
leidenschaftlich
lebendig
begeisternd
gefasst
animierend
flink
achtsam
konstruktiv
erholt
Feingefühl
Sinn für ordnung
schlau
kooperativ
zugewandt
vertrauenswürdig
entspannt
respektvoll
sympathisch
nervenstark
zielstrebig
höflich
kritikfähig
verantwortungsvoll
verspielt
echt
ordentlich
geschickt
aktiv
kontaktfreudig
lernbereit
verlässlich
künstlerisch
fordernd
erfahren
sicher
präsent
gewaltfrei
abwechslungsreich
wissbegierig
motivierend
bildungsnah
zugänglich
eloquent
hohes EQ
allwissend
arbeitswütig
robust
fit
männlich
mütterlich
spielerisch
anregend
authentisch
durchsetzungsstark
streng
lieb
geradlinig
vertrauensvoll
selbstsicher
fachkompetent/ fachlich kompetent
begabt
fleißig
vorurteilsfrei
wertschätzend
positiv
natürlich
vorausschauend
rücksichtsvoll
multitaskingfähig
redegewandt
objektiv
charismatisch
instinktiv
kraftvoll
packend
zwischenmenschlich
organisationsfähig
extrovertiert
qualifiziert
hoch qualifiziert
weitsichtig
entschlossen
unempfindlich
kollegial
neutral
transparent
gute, deutliche Aussprache
Muttersprache perfekt beherrschend
ein bisschen wild
gesundheitlich stabil
zwischen 40 und 55 Jahre alt
liebenswert
selbstkritisch
umgänglich
in sich ruhend
naturliebend
loyal
direkt
sensibel/Sensibilität
klar
klug
ausdauernd
mobil
einfallsreich
autoritär
spaßig
weitergebildet
gebildet bzgl. Kultur und Religion
weltoffen
musisch
lebenserfahren
belehrend
Durchblick
diplomatisch
beherzt
partnerschaftlich
unterstützend
kindbezogen
sachlich
zeitgebend
bedürfnisorientiert
aufgeweckt
führungsstark
lernfähig
konfliktfähig
Zusammenarbeit
offen für Vorschläge
menschlich
zuhören können

# A. 7 Positive Traits' Complete Raw List - Child Care Workers

**Adjectives**

geduldig/Geduld
offen
flexibel
teamfähig/Teamfähigkeit
empathisch
kreativ
einfühlsam/Einfühlungsvermögen/einfühlend
konsequent/konzequent/kozequent
liebevoll
intelligent
zuverlässig
interessiert
ehrlich/ehrliches Verhalten
freundlich
authentisch
spontan
tolerant
belastbar
selbstbewusst
selbstreflektierend
fragend
staunend
bindungsfähig
kindlich
verspielt
sympathisch
eloquent
stresserprobt
sportlich
schnell
geschickt
sprachfähig
künstlerisch
beobachtend
sorgsam
unvorbehalten
taktvoll
unermüdlich
gesund
spielerisch
hilfsbereit
neugierig
engagiert/agengiert
aufmerksam
humorvoll
gebildet
organisiert
konfliktfähig
verantwortungsbewusst
wertschätzend
ausgeglichen
kooperativ/koperativ
strukturiert
musikalisch
selbstständig
aktiv
kommunikativ
kinderlieb
motiviert
fit
moderat
zielgerichtet
fehlertolerant
unperfekt
durchdacht
standhaft
fürsorglich
stark
nervenstark
partizipativ
bestimmt
klar
clever
konzentriert
verschwiegen
nicht nachtragend
initiativ
gebend
emotional intelligent
hygienisch
mutig
reflektiert/reflektierend
fröhlich
echt
herzlich
kompetent/kompent
verständnisvoll
sprachgewandt
wissbegierig
achtsam
ideenreich
unterstützend
lernbereit
respektvoll
lebensbejahend
ruhig
ausdauernd
aufgeschlossen
verantwortungsvoll
rücksichtsvoll
refkletierend
fachkompetent
zurückhaltend
kinderfreundlich
ziestrebig
erfinderisch
anpassungsfähig
in sich ruhend
lebenserfahren
distanziert
präsent
bereit
teamorientiert
standfest
gute Ausdrucksweise
bescheiden
Einsatzbereitschaft
Sozialverhalten
Allgemeinbildung
Fantasie
entspannt
kontaktfreudig
beweglich
kongruent
kritikfähig
feinfühlig
optimistisch
fair
vertrauensvoll
höflich
innovativ
lernwillig
begeisterungsfähig/begeistersfähig
lustig
allround/er
sozial
motivierend
partnerschaftlich
nett
sich auf Kinder einlassen
Grenzen setzen können
(sicher)
(pädagogisch kompetent)
vertrauenswürdig
lebendig
ernsthaft
konfliktbereit
fehlertolerant
zielstrebig
verlässlich
sauber
reflektionsfähig
kompromissbereit
vorbereitet
ernst
aus Fehlern lernend
interessiert an Mitmenschen
weltoffen
selbstkritisch
gerecht
stressresistent
fachlich gut ausgebildet
selbstsicher
lernfähig
sensibel
diplomatisch
pünktlich
einfühlend
professionell
fleißig
demokratisch
streng (gewisses Maß)
spaßig
lernbegierig
wortgewandt
informiert
behutsam
zugewandt
gesprächig
sich durch setzen können/Durchsetzungsvermögen
ordentlich
gepflegt
naturverbunden (und umwelt-)
liebenswert
positiv
offen für Neues (und Jeden)
stabil

# A. 8 Positive Traits' Complete Raw List – Curricula

**Adjectives**

Unterstützung, Begleitung, Förderung
Kooperation
Kommunikation und Austausch
Reflexion
Respekt, Wertschätzung, Achtung
Beobachtung und Dokumentation
Anregung, Initiierung, Motivation
Mitsprache und Partizipation
Planung, Strukturierung, Organisation
Verlässlichkeit und Verantwortung
Gestaltung
Emot. Bindung und Beziehung
Teamarbeit
Wahrnehmung
Werte und Normen
Einstellung und Haltung
Individualität anerkennen
Zuwendung, Liebe und Geborgenheit
Selbstständigkeit
Offenheit
Ästhetik Musik und Bewegung
Ermuntern und Ermutigen
Methodenkompetenz
Kreativität und Einfallsreichtum
Einfühlungsvermögen und Empathie
Handlungskompetenz
Geduld und Zeit
Aufmerksamkeit
Sensibilität
Qualität
ernst nehmen und eingehen
Identität und Berufsrolle
Schutz und Sicherheit
Ressourcenorientierung
Gesundheitsförderung
Stärkung und Unterstützung Eltern
Integration und Inklusion
Offenheit bzgl. Vielfalt
Medienkompetenz
Konflikte und Mediation
Vertrauen
Hilfe und Begleitung
Klima und Atmosphäre
Zielorientierung und -gerichtetheit
Andere Kompetenzen
Interesse
Regeln, Routine, Rituale
Aktivität
Kompetenzen
Akzeptanz
Gleichberechtigung und Gleichheit
Toleranz
Zuhören
Rücksicht
Freiraum geben
Sozialkompetenz
Offenheit bzgl. Heterogenität
Nachhaltigkeit Ökologie Natur
Fachkompetenz
Professionalität
lebenslanges Lernen
Fortbildung
Flexibilität
Leitung
Verständnis
Neugierde
Repräsentation und Öffentlichkeitsarbeit
Kinder stärken
erkunden und verstehen
Personalkompetenz
Durchsetzen
Orientierung Halt und Vorgaben geben
Nähe und Distanz
Spielerisch
Vorurteile und UnVoreingenommenheit
Engagement
Freimütigkeit und Authentizität
Fragehaltung
dienstleistungsorientiert
Offenheit bzgl. Gefühle
Feedback und Rückmeldung
Trost
Wärme und Herzlichkeit
Transparenz
rational
Wohlwollen
Psychische Stabilität
Initiative
Wissen über Kids
Motivation
Grenzen kennen
Selbstmanagement
Selbstvertrauen und -bewusstsein
Freundlichkeit
Gerechtigkeit
Beteiligung
Freude
zumuten
Feste Feiern
Betreuung
Scaffolding
Didaktik
Ethos
Selbstkontrolle und -steuerung
zutrauen
unaufdringlich und zurückhaltend
Autonomie
Stärken und Schwächen
Sozialität
Fürsorge
Zuverlässigkeit
Leistungsstreben
Reaktion
Gestik und Mimik
Überblick und Aufsicht
Intuition und Gespür
Lob und Bestätigung
Kindorientierung
Kongruenz
naturnah
Integrität
Solidarität
Kritikfähigkeit
Optimismus
Begeisterung
Kritik und Tadel
sachgerecht
Macht
Sozialraumorientierung
Handwerk und Technik
Emotionalität
Literacy
Kontinuität
Humor
Mut
Entscheidungsfähigkeit
Ganzheitlichkeit
Selbstbeobachtung
Autorität
Pflichtbewusstsein
Ausdauer
Ehrlichkeit
bewusst
Kultur
Gewaltfreiheit
Ausgrenzung und Diskriminierung vermeiden
basic skills
Ruhe und Gelassenheit
Verschwiegenheit
vorausschauend
effizient
Bestätigung
Zutrauen in Fähigkeiten
bemühen
Kontextorientierung
zulassen
Sprachkompetenz
Energie
Merken
Ambiguität
Humanität
Mathematik
Stolz
neutral
entbehrlich machen
Handlungsfähigkeit
konzentriert
Handlungssicherheit
Anwalt der Kinder
konzentration
situationsorientiert
sozialraumorintiert
Lebenslagenorientierung
Präsenz
Geschick
Anpassung
spontan
Off. Dialog
unterstützt Kollegen
intelligenz

## A. 9 Positive Traits' Final List - Child Care Workers

| Adjectives | Nominations | | | | | | |
|---|---|---|---|---|---|---|---|
| empathisch | 40 | hilfsbereit | 12 | verständnisvoll | 4 | kindlich | 1 |
| geduldig | 30 | selbstbewusst | 11 | wissbegierig | 4 | verschwiegen | 1 |
| offen | 29 | neugierig | 10 | sensibel | 4 | nicht nachtragend | 1 |
| kreativ | 27 | engagiert | 10 | ruhig | 3 | emotional intelligent | 1 |
| liebevoll | 23 | spontan | 10 | kontaktfreudig | 3 | rücksichtsvoll | 1 |
| flexibel | 23 | ausgeglichen | 10 | gerecht | 3 | zurückhaltend | 1 |
| freundlich | 19 | wertschätzend | 9 | vertrauenswürdig | 3 | anpassungsfähig | 1 |
| konsequent | 18 | verantwortungsbewusst | 9 | zielstrebig | 2 | distanziert | 1 |
| intelligent | 16 | kommunikativ | 7 | begeisterungsfähig | 2 | bescheiden | 1 |
| authentisch | 16 | lernwillig | 7 | sozial | 2 | künstlerisch | 1 |
| zuverlässig | 15 | eloquent | 7 | fleißig | 2 | kompromissbereit | 1 |
| interessiert | 15 | optimistisch | 7 | durchsetzungsstark | 2 | initiativ | 1 |
| organisiert | 14 | kinderlieb | 6 | ordentlich | 2 | | |
| belastbar | 14 | kooperativ | 5 | naturverbunden | 2 | | |
| humorvoll | 13 | aktiv | 5 | verspielt | 2 | | |
| tolerant | 13 | mutig | 5 | standhaft | 2 | | |
| ehrlich | 12 | musikalisch | 5 | ernst | 2 | | |
| aufmerksam | 12 | fröhlich | 4 | selbstkritisch | 1 | | |

## A. 10 Positive Traits' Final List - Parents

| Adjectives | Nominations | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| liebevoll | 69 | interessiert | 14 | extrovertiert | 4 | abenteuerlustig | 1 | gewaltfrei | 1 |
| empathisch | 63 | tolerant | 14 | kooperativ | 4 | anpassungsfähig | 1 | sicher | 1 |
| freundlich | 56 | verantwortungsbewusst | 14 | ordentlich | 4 | Beherzt | 1 | arbeitswütig | 1 |
| kreativ | 54 | kommunikativ | 13 | verspielt | 4 | beständig | 1 | konstruktiv | 1 |
| geduldig | 47 | organisiert | 12 | zielstrebig | 4 | dynamisch | 1 | künstlerisch | 1 |
| konsequent | 47 | ruhig | 12 | eloquent | 4 | ehrgeizig | 1 | führungsstark | 1 |
| intelligent | 38 | musikalisch | 12 | aktiv | 3 | ein bisschen wild | 1 | entschlossen | 1 |
| offen | 38 | zuverlässig | 10 | lernwillig | 3 | emotional intelligent | 1 | sachlich | 1 |
| belastbar | 26 | flexibel | 9 | optimistisch | 3 | experimentell | 1 | | |
| ausgeglichen | 25 | selbstbewusst | 9 | vorausschauend | 3 | Gefasst | 1 | | |
| humorvoll | 25 | authentisch | 8 | sensibel | 3 | konservativ | 1 | | |
| gerecht | 20 | sozial | 7 | autoritär | 3 | Robust | 1 | | |
| kinderlieb | 20 | wertschätzend | 6 | geradlinig | 3 | hineinversetzen | 1 | | |
| durchsetzungsstark | 18 | spontan | 6 | rücksichtsvoll | 2 | sozialintelligent | 1 | | |
| ehrlich | 16 | verständnisvoll | 6 | selbstkritisch | 2 | unempfindlich | 1 | | |
| engagiert | 15 | fröhlich | 5 | loyal | 2 | vernünftig | 1 | | |
| hilfsbereit | 15 | neugierig | 5 | nachdenklich | 2 | wissbegierig | 1 | | |
| aufmerksam | 14 | vertrauenswürdig | 4 | vertrauensvoll | 2 | zugänglich | 1 | | |

## A. 11 Negative Traits' Final List - Child Care Workers

| Adjectives | Nominations | | | | | | |
|---|---|---|---|---|---|---|---|
| ungeduldig | 25 | lieblos | 7 | penibel | 2 | phlegmatisch | 1 |
| ängstlich | 22 | unzuverlässig | 7 | passiv | 2 | überfürsorglich | 1 |
| unflexibel | 17 | inkonsequent | 7 | unkooperativ | 2 | naiv | 1 |
| egoistisch | 16 | autoritär | 7 | verbittert | 2 | übervorsichtig | 1 |
| desinteressiert | 16 | pessimistisch | 6 | manipulativ | 2 | kinderfeindlich | 1 |
| stur | 14 | phantasielos | 5 | sarkastisch | 2 | unsozial | 1 |
| aggressiv | 13 | arrogant | 5 | distanziert | 2 | eigenbrötlerisch | 1 |
| faul | 13 | zurückhaltend | 4 | empathielos | 2 | unkritisch | 1 |
| launisch | 13 | unkommunikativ | 4 | altmodisch | 2 | unmusikalisch | 1 |
| nicht belastbar | 13 | machtbesessen | 4 | verständnislos | 1 | zu sachlich | 1 |
| voreingenommen | 11 | humorlos | 3 | vertrauenslos | 1 | | |
| unfreundlich | 10 | nachtragend | 3 | spiesig | 1 | | |
| introvertiert | 10 | verantwortungslos | 3 | unerbittlich | 1 | | |
| unehrlich | 10 | menschenscheu | 3 | devot | 1 | | |
| unsicher | 10 | besserwisserisch | 3 | nachlässig | 1 | | |
| jähzornig | 9 | impulsiv | 3 | verbissen | 1 | | |
| ungerecht | 8 | gewaltbereit | 3 | dumm | 1 | | |
| unorganisiert | 8 | unsensibel | 2 | veränderungsscheu | 1 | | |

## A. 12 Negative Traits' Final List – Parents

| Adjectives | Nominations | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ungeduldig | 43 | arrogant | 12 | menschenscheu | 3 | instabil | 1 | unengagiert | 1 |
| desinteressiert | 41 | gewaltbereit | 11 | humorlos | 3 | kleinkariert | 1 | unkommunikativ | 1 |
| aggressiv | 33 | besserwisserisch | 11 | (schnell) beleidigt | 2 | kleinlich | 1 | unkooperativ | 1 |
| jähzornig | 25 | ignorant | 10 | altmodisch | 2 | nachlässig | 1 | unordentlich | 1 |
| faul | 23 | lieblos | 9 | forsch | 2 | nachtragend | 1 | unsozial | 1 |
| unfreundlich | 23 | unsicher | 9 | impulsiv | 2 | naiv | 1 | unvorsichtig | 1 |
| ängstlich | 22 | abwertend | 8 | machtbesessen | 2 | nicht einfühlend | 1 | verbittert | 1 |
| stur | 21 | fantasielos | 8 | manipulativ | 2 | nicht vertrauenwürdig | 1 | verspielt | 1 |
| ungerecht | 18 | unzuverlässig | 8 | misstrauisch | 2 | nörglerisch | 1 | unaufgeschlossen | 1 |
| voreingenommen | 17 | unflexibel | 7 | nicht kinderlieb | 2 | passiv | 1 | feige | 1 |
| launisch | 17 | autoritär | 6 | rücksichstlos | 2 | phlegmatisch | 1 | hart | 1 |
| nicht belastbar | 16 | emotionslos | 5 | unsensibel | 2 | provokant | 1 | konfliktscheu | 1 |
| unintelligent | 15 | pessimistisch | 5 | antiautoritär | 1 | sarkastisch | 1 | unentschlossen | 1 |
| introvertiert | 14 | verantwortungslos | 5 | bockig | 1 | schroff | 1 | ungenau | 1 |
| egoistisch | 13 | distanziert | 4 | dominant | 1 | schweigsam | 1 | unvorsichtig | 1 |
| inkonsequent | 13 | unehrlich | 4 | durchsetzungsschwach | 1 | sprunghaft | 1 | vorwurfsvoll | 1 |
| schüchtern | 13 | zickig | 4 | feige | 1 | stoisch | 1 | | |
| unorganisiert | 13 | abweisend | 4 | geizig | 1 | überfürsorglich | 1 | | |

## A. 13 Positive Traits' Final List - Curricula

| Adjectives | Nominations | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| kooperativ | 713 | engagiert | 46 | nach Leistung strebend | 10 | anpassungsfähig | 1 |
| kommunikativ | 673 | verständnisvoll | 41 | intuitiv | 8 | spontan | 1 |
| wertschätzend | 578 | neugierig | 39 | integer | 8 | intelligent | 1 |
| organisiert | 412 | durchsetzungsstark | 34 | solidarisch | 8 | | |
| verantwortungsbewusst | 403 | verspielt | 33 | optimistisch | 7 | | |
| offen | 322 | unvoreingenommen | 33 | begeisterungsfähig | 7 | | |
| liebevoll | 197 | authentisch | 32 | kritisch | 7 | | |
| kreativ | 131 | rational | 22 | emotional | 5 | | |
| empathisch | 130 | wohlwollend | 21 | humorvoll | 5 | | |
| geduldig | 113 | belastbar | 21 | mutig | 5 | | |
| aufmerksam | 110 | Initiative | 21 | autoritär | 4 | | |
| sensibel | 106 | selbstbewusst | 17 | pflichtbewusst | 4 | | |
| vertrauensvoll | 96 | freundlich | 17 | ausdauernd | 4 | | |
| hilfsbereit | 82 | gerecht | 17 | ehrlich | 4 | | |
| zielstrebig | 76 | fröhlich | 16 | gewaltfrei | 3 | | |
| interessiert | 70 | kontrolliert | 13 | ruhig | 2 | | |
| aktiv | 67 | zurückhaltend | 12 | verschwiegen | 2 | | |
| tolerant | 60 | autonomy | 12 | vorausschauend | 2 | | |
| rücksichtsvoll | 58 | sozial | 11 | energisch | 1 | | |
| flexibel | 46 | zuverlässig | 10 | stolz | 1 | | |

# Appendix B

## Supplementary Materials for the Quantitative Requirement Analysis

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## B. 1 Overall List of Combined Positive Trait Adjectives Across the Three Groups

| Adjectives and Nominations | | | | | |
|---|---|---|---|---|---|
| **kooperativ** | 722 | **fröhlich** | 25 | loyal | 2 |
| **kommunikativ** | 693 | rational | 22 | nachdenklich | 2 |
| **wertschätzend** | 593 | initiativ | 22 | natur- und umweltverbunden | 2 |
| organisiert | 438 | wohlwollend | 21 | standhaft | 2 |
| **verantwortungsbewusst** | 426 | sozial | 20 | künstlerisch | 2 |
| offen | 389 | ruhig | 17 | **abenteuerlustig** | 1 |
| **liebevoll** | 289 | **spontan** | 17 | beherzt | 1 |
| **empathisch** | 233 | **optimistisch** | 17 | **bescheiden** | 1 |
| **kreativ** | 212 | musikalisch | 17 | beständig | 1 |
| **geduldig** | 190 | kontrolliert | 13 | **distanziert** | 1 |
| **aufmerksam** | 136 | zurückhaltend | 13 | dynamisch | 1 |
| **sensibel** | 113 | autonom | 12 | **ehrgeizig** | 1 |
| hilfsbereit | 109 | **eloquent** | 11 | wild | 1 |
| interessiert | 99 | lernwillig | 10 | **energisch** | 1 |
| **vertrauensvoll** | 98 | mutig | 10 | experimentell | 1 |
| **freundlich** | 92 | nach Leistung strebend | 10 | gefasst | 1 |
| **tolerant** | 85 | begeisterungsfähig | 9 | kindlich | 1 |
| zielstrebig | 82 | integer | 8 | **konservativ** | 1 |
| flexibel | 78 | intuitiv | 8 | nicht nachtragend | 1 |
| aktiv | 75 | solidarisch | 8 | robust | 1 |
| engagiert | 71 | autoritär | 7 | sich hineinversetzen können | 1 |
| **konsequent** | 65 | kritisch | 7 | sozialintelligent | 1 |
| **belastbar** | 61 | vertrauenswürdig | 7 | **stolz** | 1 |
| **rücksichtsvoll** | 61 | ordentlich | 6 | unempfindlich | 1 |
| **authentisch** | 56 | emotional | 5 | unvorbehalten | 1 |
| **durchsetzungsstark** | 54 | vorausschauend | 5 | vernünftig | 1 |
| **intelligent** | 54 | wissbegierig | 5 | zugänglich | 1 |
| **neugierig** | 54 | ausdauernd | 4 | kompromissbereit | 1 |
| verständnisvoll | 51 | extrovertiert | 4 | arbeitswütig | 1 |
| **humorvoll** | 43 | pflichtbewusst | 4 | konstruktiv | 1 |
| **gerecht** | 40 | **anpassungsfähig** | 3 | führungsstark | 1 |
| verspielt | 39 | kontaktfreudig | 3 | entschlossen | 1 |
| **selbstbewusst** | 37 | selbstkritisch | 3 | sachlich | 1 |
| **ausgeglichen** | 35 | verschwiegen | 3 | | |
| **zuverlässig** | 35 | geradlinig | 3 | | |
| unvoreingenommen | 33 | **emotional intelligent** | 2 | | |
| **ehrlich** | 32 | ernst | 2 | | |
| **kinderlieb** | 26 | fleißig | 2 | | |

*Note.* Boldface adjectives were selected for the set of positive traits.

B. 2 Positive Adjectives' Consensus Between the Three Groups

| **Adjective** | **Parents** | **Child Care Workers** | **Curricula** |
|---|---|---|---|
| *liebevoll (affectionate)* | X | X | X |
| *kreativ (creative)* | X | X | X |
| *empathisch (empathetic)* | X | X | X |
| *geduldig (geduldig)* | X | X | X |
| *freundlich (friendly)* | X | X | X |
| *belastbar (resilient)* | X | X | X |
| *humorvoll (humorous)* | X | X | X |
| *ehrlich (honest)* | X | X | X |
| *aufmerksam (attentive)* | X | X | X |
| *tolerant (tolerant)* | X | X | X |
| *kommunikativ (communicative)* | X | X | X |
| *selbstbewusst (self-assured)* | X | X | X |
| *authentisch (autentic)* | X | X | X |
| *neugierig (curious)* | X | X | X |
| *verantwortungsbewusst (responsible)* | X | X | X |
| *wertschätzend (appreciative)* | X | X | X |
| *zuverlässig (reliable)* | X | X | X |
| *kooperativ (cooperative)* | X | X | X |
| *sensibel (sensitive)* | X | X | X |
| *vetrauensvoll (trustful)* | X | X | X |
| *rücksichtsvoll (considerate)* | X | X | X |
| *gerecht (just)* | X | X | X |
| *durchsetzungsstark (strong-willed)* | X | X | X |
| *optimistisch (optimistic)* | X | X | X |
| *spontan (spontaneous)* | X | X | X |
| *fröhlich (lighthearted)* | X | X | X |
| kinderlieb (fond of children) | X | X | |
| ausgeglichen (even-tempered) | X | X | |
| konsequent (consistent) | X | X | |
| intelligent (intelligent) | X | X | |
| *anpassungsfähig (adaptable)* | X | X | X |
| *emotional intelligent (emotionally intelligent)* | X | X | X |
| *eloquent (eloquent)* | X | X | X |
| energisch (energetic) | | | X |
| stolz (proud) | | | X |
| abenteuerlustig (adventurous) | X | | |
| konservativ (conservative) | X | | |
| ehrgeizig (ambitious) | X | | |
| bescheiden (modest) | | X | |
| distanziert (aloof) | | X | |

*Note.* Italicized adjectives reached consensus between all groups.

B. 3 Overall List of Combined Negative Trait Adjectives Across the Three Groups

| Adjectives | Nominations | | | | |
|---|---|---|---|---|---|
| ungeduldig | 69 | emotionslos | 5 | kleinkariert | 1 |
| desinteressiert | 58 | **impulsiv** | 5 | kleinlich | 1 |
| **ängstlich** | 48 | unkommunikativ | 5 | nicht einfühlend | 1 |
| **aggressiv** | 46 | unrefkletiert | 5 | nicht vertrauenwürdig | 1 |
| **voreingenommen** | 38 | altmodisch | 4 | nörglerisch | 1 |
| **faul** | 36 | nachtragend | 4 | provokant | 1 |
| **stur** | 35 | unsensibel | 4 | schroff | 1 |
| **jähzornig** | 34 | zickig | 4 | schweigsam | 1 |
| unfreundlich | 33 | zurückhaltend | 4 | spiesig | 1 |
| **launisch** | 30 | abweisend | 4 | sprunghaft | 1 |
| **egoistisch** | 29 | ironisch | 3 | stoisch | 1 |
| nicht belastbar | 29 | passiv | 3 | übervorsichtig | 1 |
| ungerecht | 26 | sarkastisch | 3 | unaufgeschlossen | 1 |
| **introvertiert** | 24 | **überfürsorglich** | 3 | unengagiert | 1 |
| **unflexibel** | 24 | unkooperativ | 3 | unerbittlich | 1 |
| unorganisiert | 21 | **verbittert** | 3 | unordentlich | 1 |
| inkonsequent | 20 | empathielos | 2 | unvorsichtig | 1 |
| besserwisserisch | 19 | forsch | 2 | veränderungsscheu | 1 |
| **abwertend** | 18 | misstrauisch | 2 | **verbissen** | 1 |
| kritisch | 18 | **nachlässig** | 2 | verspielt | 1 |
| arrogant | 17 | **naiv** | 2 | verständnislos | 1 |
| **ignorant** | 17 | nicht kinderlieb | 2 | vertrauenslos | 1 |
| lieblos | 16 | penibel | 2 | hart | 1 |
| unintelligent | 16 | phlegmatisch | 2 | konfliktscheu | 1 |
| **gewaltbereit** | 15 | rücksichstlos | 2 | leistungsorientiert | 1 |
| unzuverlässig | 15 | schnell beleidigt | 2 | unentschlossen | 1 |
| unehrlich | 14 | unsozial | 2 | ungenau | 1 |
| autoritär | 13 | unkritisch | 2 | unmusikalisch | 1 |
| fantasielos | 13 | antiautoritär | 1 | vorwurfsvoll | 1 |
| kontrollierend | 13 | bockig | 1 | zu sachlich | 1 |
| schüchtern | 13 | devot | 1 | | |
| pessimistisch | 11 | dominant | 1 | | |
| verantwortungslos | 8 | durchsetzungsschwach | 1 | | |
| distanziert | 7 | eigenbrötlerisch | 1 | | |
| humorlos | 6 | feige | 1 | | |
| machtbesessen | 6 | geizig | 1 | | |
| **manipulativ** | 6 | instabil | 1 | | |
| menschenscheu | 6 | kinderfeindlich | 1 | | |

*Note.* Boldface adjectives were selected for the set of negative traits.

B. 4 Negative Adjectives' Consensus Between the Three Groups

| Adjective | Parents | Child Care Workers | Curricula |
|---|---|---|---|
| *ängstlich (anxious)* | X | X | X |
| faul (lazy) | X | X | |
| stur (stubborn) | X | X | |
| egoistisch (egoistic) | X | X | |
| voreingenommen (prejudiced) | X | | X |
| abwertend (pejorative) | X | | X |
| ignorant (negligent) | X | | X |
| jähzornig (quick-tempered) | X | X | |
| unflexibel (inflexibel) | X | X | |
| launisch (moody) | X | X | |
| introvertiert (introverted) | X | X | |
| aggressiv (aggressive) | X | X | |
| *überfürsorglich (overprotective)* | X | X | X |
| *manipulativ (manipulative)* | X | X | X |
| nachlässig (careless) | X | X | |
| naiv (naive) | X | X | |
| verbittert (embittered) | X | X | |
| impulsiv (impulsive) | X | X | |
| verbissen (dogged) | | X | |
| gewaltbereit (violent) | X | | X |

*Note.* Italicized adjectives achieved consensus between all groups.

B. 5 Excerpt of the Survey (Quantitative Requirement Analysis)

# QAA Eltern

Sehr geehrte/r Studienteilnehmer/in,

diese Studie geht der Frage nach, wie wichtig verschiedene Persönlichkeitseigenschaften für eine/n gute/n Erzieher/in sind. Da die Anforderungen an Erzieher/innen in den letzten Jahren kontinuierlich gestiegen sind und sie eine große Verantwortung für die kindliche Entwicklung tragen, erscheinen neben einer guten Ausbildung auch persönliche Kompetenzen unerlässlich.

Dies wird durch den aktuellen wissenschaftlichen Forschungsstand gestützt, demzufolge eine gute Interaktion pädagogischer Fachkräfte mit den Kindern deren Entwicklung nachhaltig beeinflusst. Zur Wichtigkeit persönlicher Eigenschaften von Erzieher/innen gibt es jedoch bisher kaum gesicherte Forschungsergebnisse.

Das Ziel dieser Studie ist es daher herauszufinden, welche Eigenschaften eine Rolle für eine/n gute/n Erzieher/in spielen. Das hierdurch erworbene Wissen erscheint bedeutend für eine verbesserte Aus- und Fortbildung von Erzieher/innen.

*Bitte beachten Sie: Das Ausfüllen der Umfrage wird ca. 30-35 Minuten in Anspruch nehmen. Dabei ist es auch möglich, Ihre Antworten zwischenzuspeichern und die Umfrage zu einem späteren Zeitpunkt fortzuführen (klicken Sie hierzu einfach auf den Button* "Später fortfahren" *am unteren Seitenrand und folgen Sie den Anweisungen).*

Ihre Daten werden anonymisiert; Sie müssen an keiner Stelle Ihren Namen oder Ihre Adressdaten angeben. Alle erhobenen Daten werden ausschließlich für wissenschaftliche Forschungszwecke verwendet. Die ersten 50 Eltern, welche die Umfrage abschließen, erhalten zudem einen Amazon-Gutschein über je 15 Euro (hierfür ist lediglich die Angabe einer gültigen EMail-Adresse nötig).

Vielen Dank für Ihre Teilnahme, Ivana Herrmann (Dipl.-Psych.)

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Diese Umfrage enthält 140 Fragen.

## Code

**Bitte geben Sie im nachfolgenden freien Kästchen eine Kennung an. Ihre Anonymität bleibt so gewahrt.**

**Ihr Code setzt sich folgendermaßen zusammen**

**- Anfangsbuchstabe des Vornamens Ihrer Mutter**

**- Anfangsbuchstabe des Vornamens Ihres Vaters**

**- Anfangsbuchstabe Ihres Geburtsortes**

**- Ihr Geburtstag (in Zahlen; nicht Monat oder Jahr)**

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**Beispiel:**

**Angenommen, Ihre Mutter heißt Frieda, Ihr Vater Udo und Sie wurden am 10.04.1975 in Berlin geboren, dann lautet Ihr Code folgendermaßen:**

## EigenschBsp2

**Im Folgenden sehen Sie jeweils eine aufgeführte Eigenschaft. Wir bitten Sie, diese im Hinblick auf den Beruf des Erziehers/ der Erzieherin einzuschätzen. Anhand der gezeigten Skalen können Sie angeben, wie ausgeprägt die jeweils genannte Eigenschaft Ihrer Meinung nach bei einem guten Erzieher/ einer guten Erzieherin mindestens, optimalerweise und höchstens sein sollte.**

### Beispiel: organisiert

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**Ist eine Person beispielsweise *sehr gering* organisiert, äußert sich das in einer wenig planvollen Arbeitsweise. *Sehr gering* organisierte Personen sind nicht fähig, sich ihre Arbeit einzuteilen und legen keinen Wert auf Ordnung.**

**Ist eine Person beispielsweise *sehr stark* organisiert, äußert sich das in einer sehr durchdachten, planvollen Arbeitsweise. *Sehr stark* organisierte Personen sind sehr ordnungsliebend, ordentlich und systematisch.**

---

**Bitte wählen Sie nun jeweils eine Angabe für die Eigenschaft organisiert bei einem guten Erzieher/ einer guten Erzieherin aus.**

Bitte wählen Sie die zutreffende Antwort für jeden Punkt aus:

| | sehr gering | | | | | | sehr stark |
|---|---|---|---|---|---|---|---|
| mindestens | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| optimal | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| höchstens | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**mindestens**: Welche Ausprägung sollte die genannte Eigenschaft bei einem guten Erzieher/ einer guten Erzieherin *mindestens* haben? Geben Sie hier bitte einen Wert an, der Ihrer Meinung nach von einem guten Erzieher/ einer guten Erzieherin *mindestens* erreicht werden muss.

**optimal**: Welche Ausprägung sollte die genannte Eigenschaft bei einem guten Erzieher/ einer guten Erzieherin *optimalerweise* haben? Geben Sie hier bitte einen Wert an, der Ihrer Meinung nach den optimalen Erzieher/ die optimale Erzieherin charakterisiert.

**höchstens**: Welche Ausprägung sollte die genannte Eigenschaft bei einem guten Erzieher/ einer guten Erzieherin *höchstens* haben? Geben Sie hier bitte einen Wert an, der Ihrer Meinung nach von einem guten Erzieher/ einer guten Erzieherin nicht überschritten werden sollte.

## Bspnegativ

**Bitte beachten Sie, dass einige der nun folgenden Eigenschaften negativ formuliert sind. Anhand der gezeigten Skalen können Sie weiterhin angeben, wie ausgeprägt die genannten Eigenschaften Ihrer Meinung nach bei einer guten Erzieherin/ einem guten Erzieher *mindestens, optimalerweise* und *höchstens* sein sollten.**

Beispiel: kontaktscheu

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**Ist eine Person beispielsweise *sehr gering* kontaktscheu, hat sie keine Probleme mit sozialen Kontakten. *Sehr gering* kontaktscheue Personen vermeiden die Gesellschaft Anderer nicht.**

**Ist eine Person beispielsweise *sehr stark* kontaktscheu, hat sie große Probleme mit sozialen Kontakten. *Sehr stark* kontaktscheue Personen suchen nicht nach der Gesellschaft Anderer oder vermeiden diese sogar aktiv.**

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**Bitte wählen Sie nun jeweils eine Angabe für die Eigenschaft kontaktscheu aus.**

Bitte wählen Sie die zutreffende Antwort für jeden Punkt aus:

| | sehr gering | | | | | | sehr stark |
|---|---|---|---|---|---|---|---|
| mindestens | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| optimal | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| höchstens | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## EigenschBsp1

**Bitte beurteilen Sie die folgenden Eigenschaften nun im Hinblick auf ihre Rolle für einen guten Erzieher/ eine gute Erzieherin. Anhand der gezeigten Skala können Sie angeben, ob die genannte Eigenschaft für eine gute Erzieherin/ einen guten Erzieher Ihrer Meinung nach eine *sehr große Rolle* bis *keine Rolle* spielt.**

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***Spielt sehr große Rolle* bedeutet, dass von dieser Eigenschaft (z.B. organisiert) in hohem Maße abhängt, ob jemand ein guter Erzieher/ eine gute Erzieherin ist *(d.h. es ist kommt sehr darauf an, ob ein/e Erzieher/in z.B. organisiert ist oder nicht).***

***Spielt keine Rolle* bedeutet, dass von dieser Eigenschaft (z.B. organisiert) nicht abhängt, ob jemand ein guter Erzieher/ eine gute Erzieherin ist *(d.h. es ist egal, ob ein/e Erzieher/in z.B. organisiert ist oder nicht).***

---

**Bitte wählen Sie nun eine Angabe für die folgende Eigenschaft aus:**

Bitte wählen Sie die zutreffende Antwort für jeden Punkt aus:

| | spielt keine Rolle | | | | | | spielt sehr große Rolle |
|---|---|---|---|---|---|---|---|
| organisiert | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## Bspnegativ2

**Bitte denken Sie bei Ihren weiteren Einschätzungen daran, dass auch negativ formulierte Eigenschaften eine *sehr große* bzw. *keine Rolle* für einen guten Erzieher/ eine gute Erzieherin spielen können.**

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***Spielt sehr große Rolle* bedeutet weiterhin, dass von dieser Eigenschaft (z.B. kontaktscheu) in hohem Maße abhängt, ob jemand ein guter Erzieher/ eine gute Erzieherin ist *(d.h. es ist kommt sehr darauf an, ob ein/e Erzieher/in z.B. kontaktscheu ist oder nicht).***

***Spielt keine Rolle* bedeutet weiterhin, dass von dieser Eigenschaft (z.B. kontaktscheu) nicht abhängt, ob jemand ein guter Erzieher/ eine gute Erzieherin ist *(d.h. es ist egal, ob ein/e Erzieher/in z.B. kontaktscheu ist oder nicht).***

---

**Bitte wählen Sie nun eine Angabe für die folgende Eigenschaft aus:**

Bitte wählen Sie die zutreffende Antwort für jeden Punkt aus:

| | spielt keine Rolle | | | | | | spielt sehr große Rolle |
|---|---|---|---|---|---|---|---|
| kontaktscheu | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

# Appendix C

# Supplementary Material for the Video Study

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C. 1 Outliers in the Regression Analyses

| CLASS Domain | Predictors | Case Number | ZRE | SDR | Cook's D | Leverage |
|---|---|---|---|---|---|---|
| Emotional Support | Communion, Agency, CoAg | 4 | -2.94 | **-3.32** | **.156** | .045 |
| | Communion, Communion$^2$ | 65 | -2.92 | **-3.23** | **.092** | .012 |
| | Agency, Agency$^2$ | 32 | -2.81 | **-3.09** | **.100** | .017 |
| Classroom Organization | Communion, Agency, CoAg | 4 | **-4.18** | **-5.40** | **.316** | .045 |
| | | 32 | **-3.19** | **-3.90** | **.481** | .121 |
| | Communion, Communion$^2$ | 4 | **-4.15** | **-5.16** | **.154** | .007 |
| | | 32 | **-3.07** | **-3.83** | **.879** | .167 |
| | Agency, Agency$^2$ | 4 | **-3.53** | **-4.11** | **.159** | .017 |
| | | 32 | **-3.98** | **-4.88** | **.202** | .017 |
| | Communion, Agency, Agency$^2$ | 4 | **-4.14** | **-5.28** | **.252** | .034 |
| | | 32 | **-3.39** | **-4.19** | **.472** | .107 |
| Instructional Support | Communion, Agency, CoAg | 3 | **3.78** | **4.71** | **.357** | .065 |
| | Communion, Communion$^2$ | 3 | **3.69** | **4.45** | **.288** | .038 |
| | Agency, Agency$^2$ | 3 | **3.61** | **4.33** | **.304** | .043 |

*Note.* Boldface numbers highlight exeedence of the cutoff-criteria.

## C. 2 Regression Analyses for the Excluded Adjectives and Instructional Support

| | Instructional Support | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Linear | | | | | Quadratic | | | | | | | | |
| Adjective | B | Beta | *F* | $R^2$ | Adj. $R^2$ | B | $B^2$ | Beta | $Beta^2$ | *F* | $R^2$ | Adj. $R^2$ | $\Delta R^2$ | $\Delta F$ |
| abenteuerlustig_adventurous | -.008 | -.011 | .007 | .000 | -.019 | -.012 | -.043 | -.017 | -.043 | .049 | .002 | -.037 | .002 | .092 |
| authentisch_authentic | .148 | .140 | 1.039 | .020 | .001 | .163 | .118 | .154 | .058 | .594 | .023 | -.016 | .003 | .166 |
| belastbar_resilient | .135 | .155 | 1.276 | .024 | .005 | .096 | -.201 | .111 | -.159 | 1.265 | .047 | .010 | .023 | 1.248 |
| distanziert_aloof | -.106 | -.132 | .924 | .017 | -.001 | -.106 | -.004 | -.131 | -.003 | .453 | .017 | -.021 | .009 | .542 |
| **eloquent_eloquent** | **.133** | **.102** | **.546** | **.010** | **-.009** | **.187**† | **-.923**† | **.144** | **-.266** | **2.193** | **.079** | **.043** | **.069** | **3.811**† |
| intelligent_intelligent | .294 | .219 | 2.618 | .048 | .030 | .255 | -.321 | .190 | -.122 | 1.684 | .062 | .025 | .014 | .761 |
| kreativ_creative | .014 | .019 | .019 | .000 | -.019 | .055 | .149 | .078 | .160 | .593 | .023 | -.016 | .022 | 1.166 |
| **kommunikativ_communicative** | **.095** | **.108** | **.611** | **.012** | **-.007** | **.078**† | **-.448**† | **.088** | **-.258** | **2.157** | **.078** | **.042** | **.066** | **3.673**† |
| spontan_spontaneous | .060 | .074 | .288 | .006 | -.014 | .064 | .054 | .079 | .043 | .188 | .007 | -.032 | .002 | .094 |
| verantwortungsbewusst_responsible | .111 | .180 | .385 | .007 | -.012 | .195 | .525 | .150 | .173 | .872 | .033 | -.005 | .026 | 1.357 |
| zuverlässig_reliable | .093 | .071 | .267 | .005 | -.014 | .092 | -.013 | .071 | -.004 | .131 | .005 | -.034 | .000 | .001 |
| impulsiv_impulsive | .114 | .125 | .820 | .016 | -.003 | .067 | .153 | .073 | .128 | .766 | .029 | -.009 | .014 | .717 |
| nachlässig_neglectful | -.058 | -.044 | .102 | .002 | -.017 | .036 | -.671 | .027 | -.229 | 1.325 | .049 | .012 | .047 | 2.545 |
| unflexibel_inflexible | -.077 | -.092 | .446 | .009 | -.011 | -.102 | .127 | -.122 | .094 | .428 | .016 | -.022 | .008 | .414 |

*Note*. $N = 54$; Boldface adjectives and numbers highlight quadratic relationships.

† $p < .01$

## C. 3 Regression Analyses for the Excluded Adjectives and Classroom Organization

| | Classroom Organization | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Linear | | | | | Quadratic | | | | | | | | |
| Adjective | B | Beta | *F* | $R^2$ | Adj. $R^2$ | B | $B^2$ | Beta | $Beta^2$ | *F* | $R^2$ | Adj. $R^2$ | $\Delta R^2$ | $\Delta F$ |
| abenteuerlustig_adventurous | .152 | .165 | 1.461 | .027 | .009 | .151 | -.010 | .164 | -.008 | .718 | .027 | -.011 | .000 | .003 |
| authentisch_authentic | .515** | .381 | 8.834** | .145 | .129 | .475* | -.321 | .351 | -.124 | 4.844* | .160 | .127 | .014 | .876 |
| belastbar_resilient | .408** | .366 | 8.044** | .134 | .117 | .350* | -.301 | .314 | -.186 | 5.074* | .166 | .133 | .032 | 1.955 |
| distanziert_aloof | -.345* | -.335 | 6.569* | .112 | .095 | -.313* | -.160 | -.304 | -.101 | 3.526* | .121 | .087 | .009 | .542 |
| **eloquent_eloquent** | **.393†** | **.236** | **3.080†** | **.056** | **.038** | **.483*** | **-1.510*** | **.290** | **-.340** | **5.164**** | **.168** | **.136** | **.112** | **6.898*** |
| intelligent_intelligent | .509* | .297 | 5.021* | .088 | .071 | .506* | -.023 | .295 | -.007 | 2.463† | .088 | .052 | .000 | .003 |
| kreativ_creative | .279* | .307 | 5.396* | .094 | .077 | .262* | -.059 | .288 | -.050 | 4.234** | .096 | .061 | .002 | .123 |
| **kommunikativ_communicative** | **.295†** | **.261** | **3.800†** | **.068** | **.050** | **.276†** | **-.494†** | **.244** | **-.223** | **3.395*** | **.117** | **.083** | **.049** | **2.855†** |
| spontan_spontaneous | .239† | .231 | 2.933† | .053 | .035 | .239† | -.004 | .231 | -.003 | 1.439 | .053 | .016 | .000 | .000 |
| verantwortungsbewusst_responsible | .546* | .328 | 6.285* | .108 | .091 | .510* | -.227 | .307 | -.058 | 3.176† | .111 | .076 | .003 | .168 |
| zuverlässig_reliable | .467* | .280 | 4.417* | .078 | .061 | .468* | .014 | .280 | .003 | 2.166 | .078 | .042 | .000 | .001 |
| impulsiv_impulsive | -.265† | -.227 | 2.829† | .053 | .033 | -.210 | -.178 | -.180 | -.116 | 1.712 | .063 | .026 | .011 | .615 |
| nachlässig | -.636** | -.378 | 5.069* | .143 | .126 | -.569* | -.479 | -.338 | -.128 | 4.764* | .157 | .124 | .015 | .879 |
| unflexibel_inflexible | -.300* | -2.81 | 4.472* | .079 | .061 | .226 | -.381 | -.212 | -.221 | 3.586* | .123 | .098 | .044 | 2.566 |

*Note.* $N = 54$; Boldface adjectives and numbers highlight quadratic relationships.

$^{**}p < .01$, $^{*}p < .05$, $^{\dagger}p < .10$

## C. 4 Regression Analyses for the Excluded Adjectives and Emotional Support

| | Emotional Support | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Linear | | | | | Quadratic | | | | | | | | |
| Adjective | B | Beta | *F* | $R^2$ | Adj. $R^2$ | B | $B^2$ | Beta | $Beta^2$ | *F* | $R^2$ | Adj. $R^2$ | $\Delta R^2$ | $\Delta F$ |
| abenteuerlustig_adventurous | .237$^{*}$ | .290 | 4.772$^{*}$ | .084 | .066 | .232$^{*}$ | -.043 | .285 | -.038 | 2.383 | .085 | .050 | .001 | .079 |
| authentisch_authentic | .552$^{***}$ | .461 | 14.049$^{***}$ | .213 | .198 | .510$^{**}$ | -.335 | .426 | -.146 | 7.732$^{**}$ | .233 | .203 | .020 | 1.327 |
| belastbar_resilient | .417$^{**}$ | .423 | 11.307$^{**}$ | .179 | .163 | .371$^{**}$ | -.243 | 376 | -.170 | 6.584$^{**}$ | .205 | .174 | .027 | 1.706 |
| distanziert_aloof | -.351$^{**}$ | -.385 | 9.041$^{**}$ | .148 | .132 | -.232$^{*}$ | -.142 | -.354 | -.101 | 4.764$^{**}$ | .157 | .124 | .009 | .562 |
| **eloquent_eloquent** | **.465$^{*}$** | **.316** | **5.759$^{**}$** | **.100** | **.082** | **.554$^{**}$** | **-1.502$^{**}$** | **.376** | **-.381** | **8.123$^{**}$** | **.242** | **.212** | **.142** | **9.542$^{**}$** |
| intelligent_intelligent | .485$^{*}$ | .319 | 5.898$^{*}$ | .102 | .085 | .495$^{*}$ | .080 | .326 | .027 | 2.913$^{\dagger}$ | .103 | .067 | .001 | .038 |
| kreativ_creative | .303$^{**}$ | .376 | 8.577$^{**}$ | .142 | .125 | .294$^{*}$ | -.032 | .736 | -.361 | 4.234$^{**}$ | .142 | .109 | .001 | .048 |
| **kommunikativ_communicative** | **.359$^{**}$** | **.359** | **7.681$^{**}$** | **.129** | **.112** | **.399$^{**}$** | **-.527$^{*}$** | **.339** | **-.268** | **6.385$^{**}$** | **.200** | **.169** | **.072** | **4.562$^{**}$** |
| spontan_spontaneous | .335$^{**}$ | .365 | 7.994$^{**}$ | .133 | .117 | .326$^{**}$ | -.112 | .356 | -.079 | 4.133$^{**}$ | .139 | .106 | .006 | .368 |
| verantwortungsbewusst_responsible | .533$^{**}$ | .362 | 7.818$^{**}$ | .131 | .114 | .560$^{**}$ | .173 | .380 | .050 | 3.908$^{*}$ | .133 | .099 | .002 | .129 |
| zuverlässig_reliable | .536$^{**}$ | .363 | 7.873$^{**}$ | .131 | .115 | .545$^{**}$ | .167 | .369 | .046 | 3.932$^{*}$ | .134 | .100 | .002 | .123 |
| impulsiv_impulsive | -.341$^{*}$ | -.330 | 6.375$^{**}$ | .109 | .092 | -.311$^{*}$ | -.098 | -.302 | -.072 | 3.266$^{**}$ | .114 | .079 | .004 | .248 |
| nachlässig_neglectful | -.445$^{*}$ | -.298 | 5.069$^{*}$ | .089 | .071 | -.393† | -.373 | -.263 | -.112 | 2.841$^{\dagger}$ | .100 | .065 | .011 | .425 |
| unflexibel_inflexible | -.388$^{**}$ | -4.10 | 10.522$^{**}$ | .168 | .153 | -.327$^{*}$ | -.316 | -.346 | -.207 | 6.647$^{**}$ | .207 | .176 | .038 | 2.475 |

*Note*. $N = 54$; Boldface adjectives and numbers highlight quadratic relationships.

$^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$, $^{\dagger}p < .010$

# Eidesstattliche Erklärung

Hiermit erkläre ich, die vorgelegte Arbeit selbst angefertigt und alle von mir benutzten Hilfsmittel in der Arbeit angegeben zu haben. Die vorgelegte Arbeit oder Teile hiervon wurden noch nicht als Prüfungsarbeit für eine staatliche oder andere wissenschaftliche Prüfung eingereicht. Ebenso wurden weder die gleiche noch eine andere Abhandlung von mir bei einer anderen Hochschule als Dissertation eingereicht. Die eingereichte schriftliche Fassung entspricht der auf dem elektronischen Speichermedium (CD-ROM).

Stutensee, 21.10.2019, Ivana Herrmann

(Ort, Datum, Unterschrift)

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# CURRICULUM VITAE

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## Konferenzbeiträge

Herrmann, I., Pretsch, J., Schmitt, M. (2014). Erzieher wer- den ist nicht schwer…? – Entwicklung eines eignungsdiagnostischen Instruments zur Erfassung der Erzieherpersönlichkeit. Posterpräsentation auf dem 49. Kongress der Deutschen Gesellschaft für Psychologie in Bochum, Deutschland, 21.- 25.09., 2014.

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## Gehaltene Lehrveranstaltungen

Sommersemester 2016: Seminar ”Leistungs- und Persönlichkeitsmessung”

Wintersemester 2014/15: Seminar „Konfliktprävention und Kooperationsförderung“

Sommersemester 2014: Seminar „Gesprächs- und Beobachtungsmethoden“

Sommersemester 2013: Seminar „Leistungs- und Persönlichkeitsmessung“