

Handle with Care

**GROUP CARE WORKER INTERVENTIONS FOR YOUTH
IN RESIDENTIAL TREATMENT**

Inge Bastiaanssen

Handle with Care

Group care worker interventions for youth in residential treatment

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1

GENERAL INTRODUCTION

Residential youth care is the most disputed type of youth care as it is intrusive because children are placed out of their homes and away from their families (Rutter, 1995). Residential care is also expensive because treatment is 24/7 (Commission Financial Youth Care [CFYC], 2009). In the Netherlands, sexual scandals have worsened the reputation of residential care (Samson Committee, 2012). Adding to this negative image are questions about the effectiveness of residential care. Although several review studies have reported positive outcomes for children in residential care (Bettmann & Jaspersen, 2009; De Swart et al., 2012; Frensch & Cameron, 2002; Hair, 2005; Knorth, Harder, Zandberg, & Kendrick, 2008; Lee, Bright, Svoboda, Fakunmojo, & Barth, 2011), researchers struggle with methodological shortcomings such as low response rates and weak study designs with no control groups. Another important limitation regarding outcomes research concerns the diversity of care within the residential field itself (Frensch & Cameron, 2002; Lee, 2008; Lee & Barth, 2011; Palareti & Berti, 2010). For every child placed in residential care, treatment is individually tailored, which varies in duration and diversity of care elements (e.g., education, individual and family therapy). Because of this diversity, residential care is difficult to operationalise as an intervention in a controlled effectiveness study. A lack of clear program descriptions also exist in which treatment characteristics and methods of care are described (Lee & Barth, 2011). As a result, elements of residential care that lead to positive outcomes are unknown. The gap in understanding the effectiveness of residential care, together with the negative image, intrusiveness and expensiveness, make residential care the most unpopular type of care for policymakers and funders (Bates, English, & Koudiou-Giles, 1997; Butler & McPherson, 2007). Nevertheless, in the Netherlands, 30,000 children are in residential care annually because of behavioural and developmental problems of children and family dysfunction (SCP, 2009).

Given the above, it is not surprising that several scholars have suggested the need for research on the content of residential care (Hastings, 2005; Lee, 2008; McCurdy & McIntyre, 2004; Rosen, 1999). As a first step, studies need to describe the content of residential care, or who is doing what? Such study yield instruments that measure important elements of the content of residential care. Secondly, with these instruments researchers can investigate the relation between content and outcomes. In connecting content with outcomes, important elements of care can be identified (Lee & McMillen, 2008; Van den Berg, 2000). Knowledge gained from these first two steps may lead the third step in which elements of content are disentangled and varied to identify causal relationships among child outcomes.

The current study focused on the first two steps and aimed to examine the element of residential care in which the largest part of treatment takes place, namely the daily living group environment. In addition to other elements of residential care (e.g. education, and individual and family therapy), children spend most of their time within the residential unit. Given the behavioural and developmental issues of children in residential care, daily events and processes provide challenging situations for children to learn new behaviours. Within residential units, group care workers are the most important staff members (Bastiaanssen et al., 2012; Knorth, Harder, Huygen, Kalverboer, & Zandberg, 2010; Smith, Fulcher, & Doran, 2013). Therefore, when interacting with children, group care workers shape treatment (Anglin, 2002; Knorth et al., 2010; Smith et al., 2013), and their efforts are likely to change children's behaviour positively (Knorth et al., 2010; McCurdy & McIntyre, 2004).

Unfortunately, the content of care provided by group care workers has been largely neglected in research on residential care (Bastiaanssen et al., 2012). This lack in research is remarkable given the significant role of group care workers within residential treatment (Schuengel, Slot, & Bullens, 2009). After reviewing studies on the role of group care workers, Knorth et al. (2010) concluded "what their precise share in the 'production' of behavioural improvement is cannot be given on the basis of empirical research" (p. 61). However, they assumed that the work of group care workers substantially influenced the quality of care for looked-after children (Knorth et al., 2010). Therefore, studies that demonstrate a relationship between the quality of care and child problem behaviours are much needed (Lee & McMillen, 2008).

This chapter begins with a review of theory and research on group care worker interventions. Second, concepts of group care worker interventions will be discussed. Third, this chapter reports on research that has found associations between group care worker interventions and child behaviours. Last, this chapter provides an overview of methods and results of the conducted empirical studies of this dissertation.

GROUP CARE WORK

In the Netherlands, Boendermaker, Van Rooijen, and Berg (2012) developed a model to classify the content of residential care; thereby, residential care is divided into care and cure elements. The care elements involve basic care-taking tasks (e.g., bed, bath, and bread) and pedagogical child-rearing tasks. According to Boendermaker et al. (2012), these care elements are primary contributors to the quality of residential care. Cure elements encompass the therapeutic milieu and individual treatment plans that mainly contribute to the effects of residential care. Knorth et al. (2010) divided group care worker tasks into physical and material matters, pedagogical care, and psychological care. In literature on the group care worker profession, ample is written on tasks and duties of group care workers. Among others, Whitaker, Archer, and Hicks (1998) spoke to the use of a treatment cycle where assessing, goal-setting, and evaluating, were main tasks of group care workers. In attending treatment goals, group care workers must work with the child, the child's family, and the extended network. Ward (2007) argued that tasks naturally emerge from responsibilities of group care workers and include, assessing, engaging, and taking action.

In addition to theories on tasks and duties, the literature concerns program models for residential group care. For instance, the Children and Residential Experiences (CARE) model is implemented in South Carolina (USA). With this model, group care workers should be developmentally oriented and competence-centred, build relationships with children, involve the family and environment of the child, and create an environment where traumatized children feel safe (Holden et al., 2010). Slot and Spanjaard (2009) developed a competence-based program model for youth in residential care. This widely used model in the Netherlands provides interventions for group care workers to teach children skills and appropriate behaviours, as well as handle incidents and crises.

Where program models describe specific theory on what works in residential youth care, scholars also focus on common factors in residential care such as therapeutic alliance, quality of relationships between group care workers and youth, and therapeutic climate within the residential unit. Smith et al. (2013) emphasized relationship building. Harder, Kalverboer, Knorth, and Zandberg (2008) reviewed relationships in residential youth care and concluded that positive relationships lead to positive outcomes for children. Group care worker characteristics in opposition to positive outcomes occur when staff act on personal styles and intuition and apply controlling techniques. Green (2006) endorsed this position in a review on the importance of the quality of the working relationship between residential staff and children placed in residential youth care. Van der Helm (2011) studied the therapeutic climate of a treatment centre for imprisoned youth. The research found that an open climate with group workers paying attention to psychological needs of adolescents and giving them space to experiment predicted the feeling of adolescents as being understood by the group workers which was associated with higher treatment motivation among others factors. Van der Helm argued that an open climate could have a positive impact on the effectiveness of residential care. In realizing an open climate, group care workers must find a balance between flexibility and control. A commonly used approach in residential youth care in some European countries is social pedagogy (Cameron & Moss, 2011). Originating from Germany and Denmark, social pedagogy has recently been implemented throughout residential care institutions in Great Britain. Overall, social pedagogic practice is a holistic process that creates a balance between the professional (theory, concepts, and reflection-the head), the personal (personality, positive attitude, building relationships-the heart), and the practical (using certain methods and interventions-the hands). Social pedagogy serves as a basis for a professional attitude among group care workers.

Given the above, it should be clear that group care work is a diverse and complex profession. In addition to performing several tasks and duties, group care workers should use a program model and apply common skills that contribute to relationship development with children. Group care workers seem to be jacks-of-all-trades. Although all elements mentioned are important for research on content of residential care, the current dissertation focused on the pedagogical component of residential care provided by group care workers. Pedagogical

care contributes to the quality of residential care (Boendermaker et al., 2012), and a substantial part of daily interactions between group care workers and children concerns pedagogical care. Pedagogical care of group care workers is defined as interventions of group care workers that are attuned to child behaviours to shape treatment. In the next paragraph, concepts of pedagogical interventions of group care workers (also referred to as group care worker interventions) are discussed.

CONCEPTS OF GROUP CARE WORKER INTERVENTIONS

If group care workers are considered important treatment agents in residential youth care and their interventions shape residential treatment, the content of these interventions deserves examination. Several scholars have described group care worker in residential youth care as professional parenting. McGuinness and Dagan (2001) compared group care workers to parents, as these workers fulfil the role of parents. Smith et al. (2013) referred to group care workers as being corporate parents. In 1996, Shealy developed the Therapeutic Parent Model (TPM) as a guideline for selection and training of group care workers. The theoretical and empirical foundations from the TPM are based on the literature on associations between parenting and child psychopathology and common factors of therapist efficacy. Cameron and Maginn (2011) highlighted the importance of high quality of parenting by group care workers because they work with children who were often traumatized within their families of origin. These scholars developed the pillars of parenting approach, which enables group care workers to provide emotionally warm and authoritative parenting that is attuned to children's needs. According to Cameron and Maginn (2011) "Professional residential and foster 'parenting' for particularly vulnerable children and young people demands that the skills and knowledge of parenting cannot be left to trial and error, but need to be unpacked, analyzed, understood and implemented so that even in challenging circumstances, the 'professional parents' will know what they should do" (p. 49). This view on group care workers as professional parents is in line with Kok's theory (1997). Kok, a Dutch developmental psychopathologist, developed one of the most elaborate conceptual frameworks for group care worker interventions in the Netherlands. Kok described the tasks of group care workers as specific parenting where pedagogical interventions are tuned to the specific needs of looked-after children. Every child in residential care receives a basic amount of parental

guidance that is important for the healthy development of all children, regardless of behaviour or developmental disorders. Adding to this support is the specific part of parenting in which group care workers attune their interventions to the specific needs of children in residential care who experience high levels of social, emotional, and behavioural needs. In general, Kok distinguished two dimensions of group care worker interventions, structuring interventions and stimulating interventions. Structuring interventions are applied when children need behavioural control by providing a clear set of boundaries and instructions. Stimulating interventions are applied when children need warmth, support, and security.

When group care workers are viewed as professional parents, and child rearing is an important task, the content and quality of their pedagogical interventions leads to the question of what good parenting involves. Evidence on features of good parenting (Baumrind, 1971; Maccoby & Martin, 1983) suggest that warmth and control stand out as pivotal parenting dimensions in healthy child upbringing. Not surprisingly, several authors have mentioned this combination as an impetus for pedagogical interventions of group care workers (Harder et al., 2008; Holmqvist, Hill, & Lang, 2007; Kok, 1997). Others have especially mentioned the importance of warm and supportive interventions (Boendermaker et al., 2012; Cameron & Maginn, 2008, 2011). Klomp (1984) introduced another important concept in residential group care, i.e. facilitating children to develop independence. This concept also has a counterpart in the parenting literature, namely autonomy granting (Silk, Morris, Kanaya, & Steinberg, 2003; Soenens & Vansteenkiste, 2010). For this dissertation the researcher constructed a model with three concepts regarding pedagogical interventions of group care workers, control, warmth/support, and autonomy granting. Group care workers use controlling interventions when they structure the behaviours of children by giving clear instructions, setting limits, and creating rules and agreements. Group care workers are warm and supportive when they provide safety, are complementary, and offer support during anxious or threatening situations. Autonomy granting occurs when group care workers stimulate and support the independence of children and provide them with the knowledge and skills to make their own decisions.

Most literature on group care work discussed herein concerns theory on best practices. With these theories, scholars have contributed a great deal to the content of the group care worker profession. Although theory describes best

practices, it does not provide insight into which interventions group care workers actually put to practice in real-life residential care settings. Within the next paragraph, research on group care worker interventions is reviewed.

RESEARCH ON GROUP CARE WORKER INTERVENTIONS

Few studies exist on group care worker interventions. In an extensive qualitative study, Anglin (2002) developed a theoretical framework to understand group care work in which he identified three psychosocial processes that were identified, imitating a home like environment, responding effectively and sensitively to problem behaviour, and aiming for an approach that is as normal as possible. Within these psychosocial processes, several interactional dynamics were considered to be of importance including establishing structure, routine, and expectations; offering emotional and developmental support; and listening and responding with respect. Andersson and Johansson (2008) interviewed group care workers to explore and systemize the ideas of group care workers about treatment. They constructed a model with categories and conditions of treatment as provided by group care workers that included control and protection, conflict management, holding and containing, and learning and organizing. After interviewing group care workers, Moses (2000) concluded that roughly two types of treatment exist, standard treatment for the whole group and individualized treatment aimed at children's specific needs.

Where the above studies used interviews to gain insight into group care worker interventions, some researchers have developed questionnaires to collect data on the content of these interventions. In an extensive case study, Bastianoni, Scappini, and Emiliani (1996) developed a questionnaire that asked about 12 treatment goals (e.g., improving social competence and encouraging peer socialization) and 12 broadly defined interventions (e.g., explaining appropriate behaviours and punishing). For a 6 month period, group care workers completed the weekly questionnaires for four children who were admitted to a residential institution. The data analysis allowed the researchers to establish associations between treatment goals and interventions; however, results differed per case depending on the child's needs. Van der Ploeg and Scholte (2003) developed the Goals/Methods questionnaire that divides several treatment interventions into three categories, structuring, confronting, and affection and emotional support.

Data were collected from a Dutch facility for adolescent residential care. Findings indicated that group care workers used more structuring and confronting interventions than affection and emotional support.

In addition to interviews and questionnaires, few researchers have observed group care worker interventions. In 2000, Van den Berg observed group care workers and children interacting in two residential units of a Dutch residential institution. Data collection also included observing and measuring interventions of group care workers, namely, watching and controlling, asserting and separating, nurturing and protecting, affirming and understanding, and freeing and forgetting. Interactions were videotaped and coded using a system based on Benjamin's (1993, 1994) structural analysis of social behaviour model (SASB). During 60% of interactions, group care workers were nurturing, protecting, affirming, and understanding toward children. Group care workers also used watching, controlling, asserting, and separating interventions in 25% of interactions. Crosland et al. (2008) observed interactions between group care workers and children before and after training workers in behavioural management. Before training, group care workers spent more time on administration, chores, or interaction with other care workers. After training, group care workers engaged in more positive interactions with children. These researchers also found that group care workers spent more time interacting with children after the training. Embregts (2002) used video feedback to train group care workers, and simultaneously observed group care worker responses to inappropriate behaviours of youth with mild intellectual disabilities and attention deficit hyperactivity disorder (ADHD). The level of appropriateness of staff responses depended on behavioural issues of individual children. During the video feedback, a team of group care workers was instructed on appropriate responses to target specific behaviour problems of children. After training, appropriate responses of group care workers to youth behaviours increased.

The above studies investigated the content of group care worker interventions. However, questions remain whether group care workers adjust their interventions to specific needs of children or whether they apply the same interventions regardless of child problem behaviours. To address this question, the following paragraph discusses research on associations between group care worker interventions and characteristics of children and outcomes in residential youth care.

ASSOCIATIONS BETWEEN GROUP CARE WORKER INTERVENTIONS AND CHILD CHARACTERISTICS AND OUTCOMES

Some researchers have investigated associations between group care worker interventions and child characteristics (e.g., gender, type and severity of problem behaviour), and outcomes (e.g., behavioural improvement). In Andersson and Johansson (2008), group care workers intentions to use certain treatment perceptions (e.g., conflict-management, organizing, and learning) were individualized to specific children. Their study did not specify characteristics or type of problem behaviours; therefore there is no guarantee that the treatment perceptions were according to youths' needs. Moses (2000) found that children with challenging behaviours received less individualized and positive attention from group care workers than did children whose behaviours were less challenging. In one Dutch study on pedagogical care for imprisoned youth, Wigboldus (2002) concluded that group care workers focused primarily on inappropriate behaviours of youth to maintain control instead of reinforcing appropriate behaviours. According to Wigboldus, techniques of group care workers that lead to behavioural progress of youth need to be investigated further. Van der Ploeg and Scholte (2003) reported that girls received more affective support from group care workers, while older and immigrant children received a more confronting approach from group care workers. In a comparable study in a Dutch adolescent residential care facility, Scholte and Van der Ploeg (2000) concluded that a combination of warm and controlling interventions by group care workers seemed to provide best outcomes for youth. According to Palareti and Berti (2010), interventions of group care workers that focus on relationships with youth and open communication led to treatment satisfaction, psychosocial adaptation, personal reflection, orientation toward the future, and less suffering and isolation of youth. Harder et al. (2008) also endorsed this claim in a review on the relationships between group care workers and youth. According to Harder et al., positive treatment skills such as positive control and warmth/support can improve relationships, which lead to positive outcomes for looked-after children.

The few studies on group care worker interventions conducted to date suggest that these workers use pedagogical interventions during their interactions with children and warmth and control seem relevant concepts these interventions.

In general, different concepts of interventions are associated with different characteristics of children, especially type of problem behaviour. An important limitation concerning research on the effects of group care worker interventions and outcomes is that these interventions and child problem behaviours were measured at one point during treatment. As a result, little data is available on how child problem behaviours and group care worker interventions change during treatment. If researchers want to gain insight into how group care worker interventions improve behaviour, longitudinal data should be collected and greater methodological rigor in analyses is needed (Bates et al., 1997; Des Jarlais, Leyles, & Crepaz, 2004; Fitch & Grogan-Kaylor, 2012). Such designs will expand current knowledge on the way in which group care workers attune their interventions to child problem behaviours. Another limitation concerns the fact that most studies conducted have used surveys or interviews in which group care workers reported on their own behaviours. In self-report studies, informants are, by nature, biased; therefore, it is essential that researchers use multiple strategies to gather data on group care worker interventions. Specifically, observations of pedagogical interventions of group care workers would provide another source of information (Lee & McMillen, 2008). The few observational studies on interventions of group care workers did not find associations between group care worker interventions with child behaviours (Crosland et al., 2008; Embregts, 2002; Van den Berg, 2000). Therefore, the current study aimed to address the gaps in the knowledge concerning group care worker interventions and associations with child behaviours.

CURRENT DISSERTATION

In reviewing the literature on group care work, this dissertation concluded that group care workers are important treatment agents within residential youth care. The content of their work is many-sided and complex. In studying the content of group care work, this dissertation focused on the pedagogical care of group care workers. As stated, pedagogical care of group care workers is defined as interventions of these workers that are attuned to child behaviours to shape treatment. Firstly, this study aimed to develop reliable and valid methods to measure group care worker interventions and investigate the content of these interventions. Two methods of data collection were included, questionnaires and observations. Secondly, concepts of group care worker interventions were associated with

child behaviours. Specifically, this study reported on cross-sectional and longitudinal measurements of group care worker interventions and child behaviours.

This dissertation includes four empirical chapters (Chapters 2, 3, 4 and 5) and ends with a general discussion (Chapter 6). In Chapter 2, a questionnaire called the Group care worker Intervention Checklist (GICL) was developed. In constructing the questionnaire, a model was tested that consists of three concepts to measure group care worker interventions, controlling, warmth/support and autonomy granting. The aim of this study was to investigate the value of the GICL for use in residential care practice and research. Factor validity and reliability of the questionnaire were tested. In addition, criterion validity was tested by associating concepts of group care worker interventions with specific child behaviours.

Chapter 3 reports the longitudinal measurement of group care worker interventions and child behaviours. The aim of this study was twofold. First, longitudinal changes in group care worker interventions and child behaviours were investigated separately. Secondly, bidirectional associations between concepts of group care worker interventions and child behaviours were investigated.

Chapter 4 reports on the observations of group care worker interventions and child behaviours in residential youth care. In addition to administering questionnaires, the current study observed pedagogical interventions of group care workers and behaviours of children during interactions. A structured observation protocol and coding manual were developed. As in the questionnaire part of the study, interventions of group care workers were associated with child behaviours.

Chapter 5 includes a discussion of the validity of the questionnaire and observational measures of group care worker interventions and child behaviours, which was investigated using a multitrait-multimethod design. This design provided information on the convergent and discriminant validity of the measurement for group care worker interventions and child behaviours.

Chapter 6 presents the results of the dissertation and discusses the limitations and implications for future research and practice.

2

MEASURING GROUP CARE WORKER INTERVENTIONS IN RESIDENTIAL YOUTH CARE

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ABSTRACT

In this study, a questionnaire called the Group care worker Intervention Checklist (GICL) was developed. Factor validity and reliability was tested. In addition, criterion validity was tested by associating concepts of group care worker interventions with specific child behaviors. The GICL was administered by group care workers for 212 children from 6 residential institutions (64% boys, *M*age = 12.63), together with a questionnaire on child behaviour problems, i.e. the Child Behaviour Checklist (CBCL; Achenbach & Rescorla, 2001; 2007). Factor analyses revealed three constructs: controlling, warmth/support, and autonomy granting. Reliability of these scales proved to be good. Controlling was associated with externalizing behavior problems while both warmth/support and autonomy granting were associated with internalizing behavior problems. These findings imply that group care worker interventions can be reliably measured and are related to child problem behavior.

INTRODUCTION

In the Netherlands, approximately 30,000 children receive residential care every year (SCP, 2009). Residential youth care is often disputed because of the negative impact that out-of-home placement can have on the parent-child relationship (Rutter, 1995) and because of associated high costs (Commission Financial Youth Care, 2009). Therefore, over the last 20 years, politics, policies, and research have focused on less intrusive and less expensive care (e.g. home-based treatment). Residential treatment has become the last resort for children and families whose functioning does not improve with other forms of care. However, for some children, residential care can be a 'treatment of choice' (French & Cameron, 2002; Green et al., 2007). Further, researchers have found that emotional and behavioral problems of some children improve after placement in residential care (Casey et al., 2010; Hair, 2005; Knorth, Harder, Zandberg, & Kendrick, 2008). For example, in a meta-analysis, Knorth et al. (2008) reported effect sizes of .45 for internalizing behavior problems and .60 for externalizing behavior problems, which indicates small to medium improvement. However, the lack of knowledge concerning treatment characteristics, as they relate to outcomes, is an important limitation in previous studies.

Libby, Coen, Price, Silverman, and Orton (2005) studied whether children used different services within residential care. It appeared that a similar set of services (i.e., individual therapy, assessment, family therapy) was provided to all youth, regardless of the type and/or severity of their problems. Different elements of residential care were provided by therapists and social workers. However, the largest part of residential treatment takes place within the daily living group environment. The present study focused on this daily living group environment, and more specifically on the important change agents within residential youth care, namely the group care workers. Group care workers accomplish an essential role in residential care as children receive treatment largely through interactions with such group care workers (Knorth, Harder, Huygen, Kalverboer, & Zandberg, 2010). With their daily interventions, group care workers shape the treatment of a child in residential youth care. When different elements of residential care are not related to the individual problems of youth as in the study of Libby et al. (2005), what about the content of care as provided by group care workers within the daily

environment of the treatment group? Are interventions of group care workers tuned to individual problem behavior of children placed in residential care?

Interventions of group care workers

There is ample literature on professional tasks and duties of group care workers. In order to provide a coherent sense of identity to the field of group care work, Shealy (1995) developed a model that provides a theoretical and empirical foundation for characteristics, knowledge and tasks of child and youth care professionals called 'the therapeutic parent model'. According to Shealy group care workers perform tasks that are partly similar to the tasks of parents (e.g. provide supervision and teach life skills to children and youth) and partly therapeutic (e.g. develop and evaluate treatment plans and provide counseling). In the same line of thinking, Whitaker, Archer and Hicks (1998) spoke to the use of a treatment cycle where assessing, goal-setting and evaluating, are tasks of the group care worker. In attending these treatment goals, a group care worker must work not only directly with the child, but also with the child's family and the extended network. Ward (2007) argued that it are the responsibilities of a group care worker (e.g., assessing, engaging, and taking action) from which the tasks naturally emerge. In an extensive exploratory study Anglin (2002) developed a theoretical framework for understanding group home work. Specifically, Anglin identified three psychosocial processes, imitating a 'home like' environment, responding effectively and sensitively to problem behavior, and aiming for an approach that is as 'normal' as possible. Within these three psychosocial processes, several interactional dynamics at the level of group care work were considered to be of importance. These interactional dynamics include offering emotional and developmental support: establishing structure, routine, and expectations: and listening and responding with respect. The recently developed program model Children and Residential Experiences (CARE), which is being implemented throughout South Carolina (USA), contains several evidence-based principles for daily practice of all residential care staff, including being developmentally oriented and competence-centered, building relationships with children, involving the family and environment of the child, and creating an environment where traumatized children feel safe (Holden et al., 2010).

The work of the authors mentioned is of great importance to the field of youth residential care. Extended theoretical frameworks regarding the group care

profession contribute to knowledge transfer about 'theory-based best-practices' in residential care and the development of educational criteria for group care workers. However, these theoretical frameworks serve the purpose of shaping residential care (what group care workers must do), but do not provide insight into the actual content of residential care (what group care workers actually do). A broad and diverse description of the tasks of group care workers still does not provide insight into the daily interventions of group care workers in response to a child's behavior in order to shape treatment for that individual child. Further, much less is known about such interventions, the quantity and quality of how they are utilized in treatment by group care workers and the effects of these interventions on changes in behavioral patterns of children. This is remarkable because the effect of the process through which group care workers influence the treatment of children is of great importance to children in residential care (Schuengel, Slot, & Bullens, 2009).

When studying the theoretical frameworks presented, one could roughly distinguish two types of tasks for group care workers; process tasks, such as assessing, goal setting and evaluating, and more pedagogical tasks, such as, offering emotional and developmental support, teaching life skills, and providing structure and routine. When discussing group care worker interventions, this paper focused on the latter. Interventions of group care workers are defined as group care worker behaviors that are directed toward the child in order to shape treatment. Kok (1997) developed one of the most elaborated conceptual frameworks for group care worker interventions in the Netherlands. In general, Kok distinguished two dimensions of group care worker interventions, structuring interventions and stimulating interventions. The goal of the structuring interventions is to teach children behavioral control by providing a clear set of boundaries and instructions (e.g., correcting inappropriate behavior). Stimulating interventions are those that focus on warmth and support and offer security (e.g., stimulating the child to participate in activities, giving compliments, etc.). Together, these interventions form an important part of the residential treatment for the child. Additionally, these dimensions show similarity with some of the earlier mentioned interactional dynamics of group care that were described by Anglin (2002). However, there is a need for process research to gain further insight into the interventions used by group care workers (Hastings, 2005; Rosen, 1999). According

to Knorth (2005), daily interventions of group care workers should be the core of research concerning the content of residential care.

Research on group care worker interventions

A few empirical studies on group care worker interventions have focused on interviewing residential staff on issues such as group climate and environment (Anglin, 2002; Gieles, 1992; Lee, Weaver, & Hrosztowski, 2011; Van der Helm, Stams, & Van der Laan, 2011), whereas others have used files and official documents or complex observational studies (Klomp, 1992; Van den Berg, 2000). Although these studies give insight into residential care, they are very time-consuming and, therefore, expensive. The research on interventions of group care workers in residential care that has been conducted has primarily covered specific problems, such as dealing with aggression and misconduct (Harder, Knorth, & Zandberg, 2006). To the best of our knowledge, only four empirical studies have measured daily interventions of group care workers. In the first study an instrument was developed called the Staff-Client Interactive Behavior Inventory (SCIBI; Willems, Embregts, Stams, & Moonen, 2010). The goal of the study was to examine characteristics and behaviors of group care workers in a residential treatment setting for adult clients with intellectual disabilities and challenging behaviors. One part of the questionnaire assesses interventions of staff aimed at the client and consists of 20 items, that are divided into four scales: control, hostility, friendliness, and support-seeking. Findings revealed that group care workers tended to use more controlling interventions toward younger clients and clients with lower intelligence. The second study was an extensive case study in order to examine the content of residential care and behavioral change of four children who were admitted to a residential institution (Bastianoni, Scappini, & Emiliani, 1996). These scholars developed a questionnaire with twelve treatment goals (e.g., improving social competence, encouraging peer socialization) and twelve broadly defined interventions (e.g. explaining appropriate behavior, punishing). On a weekly basis, for a period of six months, group care workers completed the questionnaires with regard to treatment goals and group care worker interventions. Workers also completed a questionnaire regarding child behavior. Bastianoni et al. (1996) collected evidence for a relation between the content of the interventions, treatment goals, and children's behavioral change. In the third study, Van der Ploeg and Scholte (2003) developed a questionnaire similar to the

Italian study called the Goal/Methods questionnaire. This questionnaire contains 11 treatment interventions that are arranged into three categories: structuring, confronting, and affection and emotional support. Results showed that girls received more affective support from group care workers, while older children and immigrant children received a more confronting approach from group care workers. In the last study, conducted at day care treatment centers for youth in the Netherlands, Kloosterman and Veerman (1997) developed an intervention checklist for group care workers. This checklist, called the Group care worker Intervention Check List (GICL), contains 45 items formulated based on available literature on daily interventions of group care workers (e.g., Kok, 1997) and in collaboration with treatment staff. By completing the GICL, group care workers could report to what extent they utilized all 45 interventions in the treatment of a specific child during a specific period. However, no further outcome or process study has been conducted on the GICL after this pilot study.

The four studies discussed evaluated the content of care provided by group care workers within a residential institution. However, some questionnaires used were not suitable for a youth care setting or lacked sufficient psychometric quality. As such, the goal of the present study was to develop a short self-administrable questionnaire for group care workers with the aim to assess information about their interventions. We thereby aimed to further develop and test the GICL of Kloosterman and Veerman (1997), for use in residential practice and research. The further construction of the GICL requires exploring the concepts of interventions by group care workers.

Concepts of group care worker interventions

Earlier on, we used the theoretical framework of Kok (1997) to define group care worker interventions. Kok referred to group care work as a professionalized form of parenting, which is in line with Shealy (1996) who spoke of 'therapeutic parenting.' According to Anglin (2002), it is the task of group care workers to create a 'home like' environment where children can feel as normal as possible. A common theme among these scholars is that they compare group care work within residential youth care to parenting within a family. The pedagogical interventions are deepened by the fact that it is the profession of group care workers to use these interventions while interacting with children who have specific needs. Thereby, concepts for group care worker interventions can be seen in

the light of current literature on parental child rearing. Additionally, roughly two dimensions of interventions were recognized above, namely, stimulating behavior and structuring behavior of group care workers. These dimensions can be compared to the theoretical dimensions of the parental behaviors warmth and control (Baumrind, 1971; Maccoby & Martin, 1983). Further, Klomp (1984) suggested including another important concept in residential care: facilitating children to develop independence. Adding this dimension would allow the group care worker to stimulate and support the independence of children as well as provide children with the knowledge and skills to make their own decisions. In addition, this concept adds to the literature on parenting, namely autonomy granting (Silk, Morris, Kanaya, & Steinberg, 2003; Soenens & Vansteenkiste, 2010). To improve the Group care worker Intervention Checklist (GICL), we focused on three concepts regarding the group care worker interventions, control, warmth/support, and autonomy granting.

The present study will examine the value of the new GICL for use in residential care practice, and research. The first aim was to test the factor validity and reliability of the GICL in a sample of youth in residential care. The second aim was to investigate the criterion validity of the GICL by relating the scales of this questionnaire to specific child problem behaviors. It was expected that stimulating interventions (warmth/support and autonomy granting) would be used with internalizing behavior problems and structuring interventions (control) would be used with externalizing behavior problems.

METHOD

Participants and procedures

Data were collected during two empirical studies. The first study took place in a regional residential institution for children aged 5 to 12 years old in Nijmegen, The Netherlands (Bastiaanssen, Veerman, Kroes, & Engels, 2009). Children were placed in a youth residential care setting because of problematic child behavior or development (e.g., attention deficit hyperactivity disorder, oppositional defiant disorder, attachment disorders, and pervasive developmental disorder). In most cases, issues related to problematic family functioning were apparent (e.g., parenting, parent-child relationship, parental psychiatric problems, and parental alcohol and drug abuse). Referrals are drawn from a diversity of agencies, both

voluntary and forced care. The care provided varies from short-term shelter to more permanent stay. Despite the diversity in frequency and duration of care, all children receive treatment for emotional- and behavior problems. The campus residential setting is located at the outskirts of the City of Nijmegen, and harbours roughly 110 children, divided over 11 treatment groups (approximately 10 children per treatment group). The treatment program exists of living arrangements, education, recreational activities, and individual and family therapy, and is based on a diversity of program models. Main program models are social learning theory, system theory and PATHS (Promoting Alternative Thinking Strategies; Kam, Greenberg, & Kusché, 2004). Every child had a group care worker assigned to his or her individual case. This key worker evaluated the treatment of the child and functioned as a contact for parents, teachers, and other parties concerning the child and residential treatment. Between October 2008 and January 2010, key workers ($n=57$) completed the questionnaires regarding problem behaviors of children and their own treatment interventions for 111 children.

Data for the second study were obtained from a study that examined the effects of a new residential treatment program. Participants included five regional institutions in The Netherlands that offered compulsory residential treatment for adolescents aged 12 to 18 years old with severe behavior problems (e.g., attention deficit hyperactivity disorder, oppositional defiant disorder, conduct disorder, and attachment disorders) (Nijhof, Veerman, Engels, & Scholte, 2011). These adolescents also experienced family problems comparable to the children from the first study. The population from the first and the second study are similar with the difference that the population of the second study beholds adolescents and the residential program takes place in a secure setting where restrictions can be imposed. Together, the five institutions from the second study hold 25 treatment groups, with each treatment group containing approximately 10-12 adolescents. Similar to the first study, the treatment program exists of living arrangements, education, recreational activities, and individual and family therapy. Goals of the residential program are providing a safe and stable living situation with daily activities (school or job), and proving possibilities for positive contacts with parents, family and peers (Van der Poel, Rutten, & Sondeijker, 2008). The basis treatment program is based on two theoretical models: the social competence model (Slot & Spanjaard, 2009) and the ecological model of Bronfenbrenner (1979, 1994).

The social competence model focuses on removing risk factors and introducing protective factors. The ecological model distinguishes high risks on the individual, family, and peer group levels. This model implies that treatment of adolescents with multiple problems should include a multimodal approach. Key workers ($n=78$) completed the same questionnaires as in the first study and evaluated 101 adolescents who entered the residential treatment program between May 2007 and December 2008. In both studies, the key worker had to know the child for at least two months before completing the questionnaires. All institutions from both studies are funded by the Dutch government and quality of care is supervised by government inspectors (see for group care reporting guidelines Lee & Barth, 2011; Weems, 2011).

Combining the data of the two studies, we obtained a total sample of 212 children that covered a wide range of ages, referral problems and treatment modalities. Of the 212 children who participated in the total sample, 64% were boys and the mean age was 12.63 ($SD = 3.84$, range 5-18). In study 1 75% were boys and the mean age was 9.27 ($SD=1.77$, range 5-14). In study 2 52% were boys and the mean age was 16.33 ($SD=1.12$, range 13-18). To further describe the sample contained in the two studies, scores on internalizing en externalizing behavior problems according to key workers are presented in Table 1. On average, adolescents in study 2 experience more externalizing behaviour problems than children in study 1, $t(209) = -3.61$, $p < .00$. Because the sample consisted of under aged children and adolescents, parents were informed and had to agree with their participation. In the second study, adolescents also agreed with participation. Moreover, parental and adolescent consent was obtained allowing us to use their data for scientific purposes.

Measures

Group care worker interventions. We reconstructed the Group care worker Intervention Checklist (GICL) by adopting items of the questionnaire that were used in the Kloosterman and Veerman study (1997). Overall, we chose 36 items upon face validity that covered the three concepts regarding group care worker interventions, namely controlling (17 items), warmth/support (9 items), and autonomy granting (10 items). Group care workers reported to what extent (0 not, 1 some or 2 certainly) they used particular interventions in the treatment of a specific child.

Table 1

Mean Scores and Standard Deviations Behavior Problems of Sample Study 1, Sample Study 2, and Total Sample

	Mean (SD)		
	Study 1 (N = 111)	Study 2 (N = 101)	Total sample (N = 212)
Internalizing behavior problems	11.50 (6.79)	12.53 (7.55)	11.99 (7.16)
Externalizing behavior problems	14.53 (9.80)	19.95 (12.0)*	17.10 (11.20)

Note. * Mean Study 1 differs significantly from Mean Study 2 ($p < .00$)

Problem behavior. The Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001; 2007) was used to assess children's problem behavior according to the group care workers. All 113 items of the CBCL were measured on a 3-point scale that ranged from 0 (not at all) to 2 (often), with higher scores indicating more problems. The CBCL consists of eight first-order factors and two second-order factors. Only the latter were used in the present study. The first second-order factor, internalizing behavior, consists of three first-order factors, withdrawn behavior, somatic complaints, and anxious depressed behavior. The other second-order factor, externalizing behavior, consists of two first-order factors, rule breaking and aggressive behavior. Psychometric analysis indicated good validity and reliability of the CBCL in the U.S. (Achenbach & Rescorla, 2001) and the Netherlands (Verhulst, Van der Ende, & Koot, 1996). Although the CBCL is a parent questionnaire, group care workers can also use it (Albrecht, Veerman, Damen, & Kroes, 2001). Cronbach's alpha in the present study was .84 for internalizing behavior and .92 for externalizing behavior.

Strategy for analysis

To investigate the factor validity of the GICL scales, we conducted principal axis factoring analyses with oblique rotation (Costello & Osborne, 2005). To investigate the criterion validity of the GICL, we conducted a confirmatory factor analysis using Mplus (Muthén & Muthén, 1998). We specified that items only loaded on the supposed factor and factors were allowed to correlate with each other.

The goodness of fit of the model was assessed using several popular fit indices: the Comparative Fit Index (CFI; Bentler, 1989), the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), and the standardized root mean square residual (SRMR; Bentler, 1995). According to generally accepted cut-off criteria, CFI values above .90 indicate an acceptable fit, and values above .95 indicate an excellent fit to the data. In addition, RMSEA and SRMR values below .08 suggest an acceptable fit between the model and the data, whereas values below .05 indicate a good fit (Hu & Bentler, 1999). After determining the final set of items, we computed Cronbach's alphas to determine the reliability of the scales. Finally, to investigate the criterion validity of the GICL, we calculated Pearson's correlations to assess the relationship between the factors of the GICL scale scores and children's problem behavior scores.

RESULTS

Factor validity and reliability

We conducted exploratory factor analyses of the GICL in three steps. In the first step, we conducted an exploratory factor analysis on all the 36 GICL items. On the basis of the scree test (Cattell, 1966), the Kaiser rule (i.e. eigenvalues of 1 or greater) and the interpretability of the solution (see Zwick & Velicer, 1986), a three-factor solution was retained. In the second step, we repeated the analysis with three factors. Each of the three factors had at least six items with relatively strong unique loadings ($>.40$). Next, we removed items with low loadings on their underlying factor ($<.40$) and relatively high cross-loadings ($>.30$) from the analysis. A total of 21 items were retained. In the third step, we conducted an exploratory factor analysis with these 21 items to determine the loadings of the final item set, which resulted in three factors labeled controlling, autonomy granting, and warmth/support respectively. Together these factors explained 48.86% of the variance. Table 2 presents the factor loadings of the GICL items. Table 3 presents the correlations between the GICL scales.

In addition to the exploratory factor analysis we conducted a confirmatory factor analysis to further investigate to the extent to which the three-factor solution from the exploratory analysis fit the present data. Analysis of the three factor model revealed a satisfactory fit to the data ($\chi^2(186) = 300.8$, ($p = .00$); RMSEA was close to .05 (.054), SRMR was below .08 (.075), and CFI was close to .95 (.937).

Table 2

Factor Loadings of the GICL Items on Three Oblimin-Rotated Principal Axis Factors

	Items	Scales GICL			M	SD
		Controlling	Autonomy Granting	Warmth / Support		
1	Learning to obey	,829	-,042	,051	1,13	,788
2	Forbidding inappropriate behavior	,815	-,083	,043	,95	,804
3	Ending negative behavior	,801	-,092	-,013	1,23	,751
4	Acting strict	,796	-,056	,033	,88	,775
5	Setting boundaries	,763	,074	-,024	1,34	,740
6	Creating rules and agreements	,706	-,029	-,101	1,46	,656
7	Structuring behavior	,652	,215	,035	1,15	,782
8	Giving clear instructions	,640	,200	,037	1,36	,692
9	Increasing the ability to cope for oneself	-,070	,864	,031	1,17	,801
10	Increasing independence	-,047	,795	-,095	1,31	,738
11	Granting responsibility	-,084	,749	-,093	1,23	,731
12	Increasing social independence	-,021	,656	,172	1,28	,732
13	Teaching practical skills	,172	,572	-,011	,92	,763
14	Discussing family problems	,072	,415	,095	1,21	,727
15	Providing information	,083	,400	,122	,55	,669
16	Providing safety	,100	-,075	,760	1,51	,650
17	Creating a domestic sphere and providing companionship	-,114	-,106	,697	1,18	,714
18	Granting trust	-,136	,072	,623	1,59	,581
19	Offering individual attention	,076	,145	,518	1,42	,590
20	Offering support during anxious and threatening situations	,027	,125	,466	1,00	,763
21	Complementing / rewarding	,105	-,004	,455	1,73	,475

Note. N = 212. Factor loadings higher than .25 are listed in boldface type.

Table 3

Correlations among GICL Scales

	Autonomy Granting	Warmth / Support
Controlling	.27**	.19**
Autonomy Granting	-	.35**

Note. * $p \leq .05$; ** $p \leq .01$.

To assess the internal consistency of the GICL scales, we computed Cronbach's alphas. Internal consistency proved to be good with alpha's of .91, .83 and, .76 for controlling, autonomy granting, and warmth/support, respectively (see Table 4).

Table 4

Cronbach's Alphas Reliabilities of GICL Scales

	Total (N = 218)
Controlling	.91
Autonomy Granting	.83
Warmth/Support	.76

Criterion validity

The second aim of the present study was to test the criterion validity of the GICL. Table 5 presents Pearson's correlations among the GICL scales and CBCL problem behavior scales. The scale controlling correlated with externalizing behavior problems ($r = .54$) and warmth/support correlated with internalizing behavior problems ($r = .35$). The association between autonomy granting and internalizing behavior problems was moderately strong ($r = .21$). In response to externalizing behavior problems, group care workers tend to show more controlling behaviors. Regarding internalizing behavior problems, group care workers intervene in a

supportive way by offering warmth and stimulating independence. Correlations were also calculated for the two study's separately. Correlation differences were tested using the Fisher r-to-z transformation. The correlation between controlling and externalizing behavior problems was significantly stronger for Study 1 ($r = .70$) than for Study 2 ($r = .34$).

Table 5
Correlations among GICL and CBCL Scales

	Externalizing Behavior Problems			Internalizing Behavior Problems		
	Study 1	Study 2	Total Sample	Study 1	Study 2	Total Sample
Controlling	.70** ^a	.34** ^b	.54**	.01	-.01	.01
Autonomy Granting	.03	-.02	.132	.28**	.10	.21**
Warmth/Support	.01	.16	.064	.38**	.35**	.35**

Note. * $p \leq .05$; ** $p \leq .01$. ^{a b} Correlations differ significantly ($p < .00$)

DISCUSSION

We tested a model consisting of three concepts for tapping into group care worker interventions: controlling, warmth/support and autonomy granting. These concepts are considered to be the core dimensions of group care worker interventions. While choosing these concepts group care worker dimensions were considered to be analogous to parenting dimensions, where group care worker interventions are a professionalized form of parenting. Additionally, we adopted GICL items that assess these dimensions from earlier work on measuring group care worker interventions by Kloosterman and Veerman (1997). The first aim of this study was to test the factor validity and internal reliability of the GICL. The findings showed that the three hypothesized concepts were distinguishable.

The reliability of these scales proved to be satisfactory. The second aim of this study was to test the criterion validity of the GICL. Finding revealed that the dimensions were associated with type of problem behavior. Concerning externalizing problems, group care workers used more controlling interventions, while for internalizing problems, group care workers used more warm and supportive interventions and interventions stimulating independence. It should be stressed that it is a correlational study, and therefore causality is unclear.

This study presents three important concepts that reflect group care worker behaviors within youth residential care. Further, these concepts support the literature on group care worker behaviors and resemble concepts of parenting. A factor that has not been taken into account while developing the GICL is group care worker characteristics. The Staff-Client Interactive Behavior Inventory (SCIBI), developed by Willems et al. (2010), contains both worker interventions and worker characteristics (i.e., self-reflection, critical expressed emotion, proactive thinking). Specifically, Willems et al. (2010) found that intrapersonal staff characteristics, such as proactive thinking and self-reflection, predicted staff behavior towards clients. Emotional behavior, beliefs, and attitudes of group care workers also effect behaviors towards clients (Hastings, 2005). In the same line of thinking, the results of this study could be influenced by group care workers perceptions of behavior of children and their own interventions. For future research, the question remains whether the behaviors of group care worker are solely tuned to the behaviors of children or if other factors, such as group care worker characteristics and perceptions, strongly affect their interventions and behaviors toward children.

Furthermore, it is important to connect process elements of group care worker interventions to youth outcomes. It would be interesting to connect the interventions provided by group care workers to outcome data on child behavioral change. This information could provide more insight into the effectiveness of group care worker interventions with the intent to provide treatment to children in residential care. Along the same line of thinking, one would expect that when the behaviors of children change over time, group care worker interventions also change over time. This pleads for longitudinal assessments of both group care workers and children's behaviors over the course of treatment, preferably using multiple measurements of the GICL and child problem behaviors.

Structural observations, in combination with reports of both children and group care workers, are excellent means to obtain insight into both group care workers' engagement in specific interventions as well as the processes that underlie effective interventions. In addition, interventions of group care workers can relate to treatment goals. Confirmation to this notation would add to the evidence of the importance of group care workers tuning their interventions to the specific needs of children in order to change problem behavior (Bastianoni, et al., 1996; Cuthbert et al., 2011). If future research could uncover the ways in which these interventions contribute to the realization of treatment goals, this would add to the evidence of group care workers being change agents within residential care. This knowledge can contribute to the training and supervision of group care workers.

An important part of the content of residential care is the behaviors of group care worker within the living group environment, but it is not the only part. In addition to group care, residential care contains education, therapy, and family guidance. Together, these elements of care contribute to the treatment outcomes (Hair, 2005). For that reason it is important that studies regarding residential child care describe the characteristics of the program (Lee & Barth, 2011). A multi-modal approach with interventions that are aimed at the entire context of the child (e.g., family, school, peers) are more successful (Hair, 2005; Lundahl, Risser, & Lovejoy, 2006; Webster-Stratton & Taylor, 2001). Therefore, in addition to group care worker interventions, all interventions within the different elements of residential care (e.g., family guidance) should be considered in order to gain more insight into the functioning of residential care.

This study touched an underdeveloped area of research on residential care and was conducted within the challenging setting of real world residential practice. However, some limitations of this study need to be addressed. The first limitation concerns the relatively small sample size for the construction of a questionnaire. Preferably, the model findings must be replicated using a larger and more diverse sample (Costello & Osborne, 2005). The second limitation concerns the preliminary confirmatory factor analysis, which was conducted on the same data. In the present study the CFA was conducted primarily to obtain fit statistics regarding the match between the EFA model and the data. To obtain further evidence for the robustness of the presented model, this analysis has to be repeated with another sample. Third, the GICL is an instrument that assesses group care

workers' self-reports of their interventions that are directed at a specific child. In addition to the GICL, group care workers in this study also completed the questionnaires regarding the behavior of the child. In addition to self-reported interventions, other types of measurements and informants should be considered: for example, parents and youth (Marsh, Evans, & Williams, 2010). The final limitation that needs to be addressed is the fact that our study contained two different samples with different age groups (children vs. adolescents) and different type of residential settings (open vs. compulsory treatment); therefore, different target groups. However, our sample was sufficiently diverse to capture a wide range of ages and problems of children who are admitted into residential care. Therefore, this reflects that daily practice within residential care and generalization can be expanded to youth residential group care practice.

We stress the importance of process research concerning the content of residential care. Because the GICL is a short, self-administrable questionnaire that assesses group care workers' interventions, it can easily provide information about the content of residential care. In the future, the GICL could be used in every day clinical practice, evaluation of treatment and staff training. Through feedback from the GICL, group care workers might be able to improve the quality and effectiveness of the treatment they provide. For this reason, the GICL might constitute a unique instrument for measuring the way in which group care workers shape the treatment of children with emotional and behavioral problems via daily interventions.

3

GROUP CARE WORKER INTERVENTIONS AND CHILD PROBLEM BEHAVIOUR IN RESIDENTIAL YOUTH CARE: COURSE AND BIDIRECTIONAL ASSOCIATIONS

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ABSTRACT

The aim of the current study was twofold. First, longitudinal changes in group care worker interventions and child behaviors were investigated separately. Secondly, bidirectional influences between group care worker interventions and child behaviors were investigated. Group care workers completed the Group care worker Intervention Checklist (GICL) and Child Behavior Checklist (CBCL) for 128 children (66% boys, *M*_{age} = 8.63 years) from one residential institution at the beginning of the treatment and at two measurement intervals that followed (6 and 12 months, respectively). After analyzing the course of group care worker interventions and child behaviors during treatment separately, no significant changes appeared. The exception to this was autonomy granting, which increased over time. When investigating bidirectional associations between group care worker interventions and child behaviors, some patterns did occur. Higher levels of controlling interventions led to higher levels of externalizing problems of children. In the opposite direction, higher levels of children's externalizing problems were associated with more controlling interventions of group care workers later on. In addition, higher levels of children's internalizing problems were associated with lower subsequent levels of autonomy granting interventions. These significant longitudinal paths were only found for the first phase of treatment. Residential care institutions should be aware of the dynamics between group care workers and children. This knowledge is important for the education, training, and supervision of group care workers.

INTRODUCTION

Residential care is the most discussed type of care within youth care. Additionally, residential care is one of the most expensive and most intrusive types of care because children are placed out of their homes and away from their families. However, there is a lack of strong evidence for the effectiveness of residential youth care. Several studies that have reviewed the effectiveness of residential care concluded that placement in a residential treatment facility does improve outcomes for most children (Bettmann & Jaspers, 2009; De Swart et al., 2012; Frensch & Cameron, 2002; Hair, 2005; Knorth, Harder, Zandberg, & Kendrick, 2008; Lee, Bright, Svoboda, Fakunmojo, & Barth, 2011). However, methodological shortcomings and unclear program descriptions preclude firm conclusions on the effectiveness of residential care. As such, policymakers and funders in many Western countries continue to question the importance of residential care on the continuum of youth care (Bates, English, & Koudiou-Giles, 1997; Butler & McPherson, 2007).

A main problem in collecting evidence on the effectiveness of residential care is the diversity of care within the residential field itself (Frensch & Cameron, 2002; Lee, 2008; Lee & Barth, 2011; Palareti & Berti, 2010). Specifically, content consists of different elements of care such as the daily living group environment, education, and individual and family therapy. Individually tailored care, which varies in duration and diversity of care elements, is provided to each child who is placed in residential care. Because of this diversity, residential treatment is very difficult to operationalize as an independent variable of which effects are analyzed in a controlled study. To circumvent this problem, multiple scholars have suggested the need to involve the content of residential care in effectiveness studies (Hastings, 2005; Lee, 2008; McCurdy & McIntyre, 2004; Rosen, 1999). By connecting content variables with outcomes, important effective elements of care can be identified. Such identification may contribute to a better understanding of the connection between the content of child care interventions and outcomes (Lee & McMillen, 2008; Van den Berg, 2000).

In the search of which elements of residential care contribute to successful treatment, this study dealt with the element of care in which the largest part of treatment took place namely the daily living group environment where group care

workers shaped treatment by interacting with children. It is the care workers' task to help children through difficult events and processes (Anglin, 2000; Petrie, Boddy, Cameron, Wigfall, & Simon, 2006; Ward, 2004; 2007) as they are involved in the daily living situation and are more likely to influence children's behavioral development than are other staff members (Leichtman, Leichtman, Cornsweet Barber, & Neese, 2001; Maier, 1979). Group care workers spend the most time with children and are present during daily situations that may be challenging for children with behavioral problems. Further, the guidance of group care workers during the day can change children's behavior positively (Knorth, Harder, Huygen, Kalverboer, & Zandberg, 2010; Leichtman et al., 2001; McCurdy & McIntyre, 2004; Rosen, 1999). Unfortunately, until now, the behavior of group care workers has been largely neglected in research on residential care (Bastiaanssen et al., 2012).

In the current study, group care worker behavior was defined as interventions that are directed toward children to shape treatment (Bastiaanssen et al., 2012). Of the few studies that have been conducted on child residential care, findings have connected group care workers' interventions (i.e., explaining inappropriate behaviors, punishing, affection, and emotional support) to resident characteristics (Bastianoni, Scappini, & Emiliani, 1996; Kloosterman & Veerman, 1997; Van der Ploeg & Scholte, 2003). Group care workers used different interventions depending on gender and age of children (e.g. more controlling interventions for older boys). These studies partly support the theoretical framework on group care worker interventions developed by Kok (1997), a Dutch developmental psychopathologist, who stated that group care workers should deliberately attune their interventions to specific needs of children in residential care instead of applying the same interventions regardless of child characteristics. In general, Kok distinguished two dimensions of group care worker interventions: stimulating interventions and structuring interventions. Stimulating interventions are applied when children need warmth, support, and security. Structuring interventions are applied when children need behavioral control by providing a clear set of boundaries and instructions. In an earlier study of our own, a questionnaire on group care worker interventions was developed (Author, 2012). With this questionnaire, called the Group care worker Intervention Checklist (GICL), group care workers reported on their interventions regarding individual children. This study tested a model that consisted of three concepts of group care worker interventions, controlling,

warmth/support, and autonomy granting. These concepts were drawn from Kok's (1997) theory and literature on effective parenting behaviors (Baumrind, 1971; Maccoby & Martin, 1983; Silk, Morris, Kanaya, & Steinberg, 2003; Soenens & Vansteenkiste, 2010). Kok's dimensions of stimulating and structuring interventions can be compared to the theoretical dimensions of the parental behaviors warmth and control (Baumrind, 1971; Maccoby & Martin, 1983). A group care worker uses positive controlling interventions when he or she structures the behavior of children by giving clear instructions, setting limits, and creating rules and agreements. A group care worker is warm and supportive when he or she provides safety, is complementary, and offers support during anxious or threatening situations. More recently, another important dimension is introduced in literature and research on parenting, namely autonomy granting (Silk, Morris, Kanaya, & Steinberg, 2003; Soenens & Vansteenkiste, 2010). This dimension was once suggested by Klomp (1984) as important for group care worker interventions in residential care. In autonomy granting, the group care worker stimulates and supports the independence of children, and provides children with the knowledge and skills to make their own decisions. In the study on the GICL, results yielded an association between externalizing behavior problems of children and controlling interventions by group care workers, and internalizing behavior problems of children with applying autonomy granting and warm and supportive interventions by group care workers.

The studies mentioned above connected group care worker interventions to resident characteristics or behaviors. Few studies have investigated the effects of group care worker interventions on the outcomes of residential care. Palareti and Berti (2010) showed that interventions of group care workers who focused on relationships and open communication with youth were positively related to treatment satisfaction, psychosocial adaptation, personal reflection, orientation toward the future, and less suffering and isolation of youth. According to Scholte and Van der Ploeg (2000), a therapeutic climate with firm (not harsh) control and emotional support was related to the healthy development of youth in residential care. Harder, Kalverboer, Knorth, and Zandberg (2008) endorsed this claim following a review of studies on the relationships between group care workers and youth. According to Harder et al. positive treatment skills, such as positive control and warmth/support, can improve relationships, which, consequently,

leads to positive child outcomes. Van Dam et al. (2011) reported that group care worker interventions were related to youth problem behaviors at the beginning of treatment; controlling interventions were associated with externalizing behaviors and warm and supportive interventions were associated with internalizing behaviors of youth. However, no associations were found between group care worker interventions and treatment progress.

An important limitation of the studies on the effect of group care worker interventions on outcomes is that such interventions and child problem behaviors were measured only at one point during treatment in all studies-except Van Dam et al. (2011). As a result, we know little about how both child problem behaviors and group care workers interventions change during treatment and influence each other over time. Therefore, if residential treatment facilities want to gain insight into how group care worker interventions improve behavior, longitudinal data should be collected and greater methodological rigor in analyses should be emphasized (Bates et al., 1997; Des Jarlais, Leyles, & Crepaz, 2004; Fitch & Grogan-Kaylor, 2012). In addition, these designs can expand our knowledge about the way in which group care workers attune their interventions to child problem behaviors over time. It is expected that when a child is placed in residential care with a specific problem behavior, the group care worker use specific interventions to help the child improve the behavior. Therefore, both group care worker interventions and child problem behaviors should be measured multiple times during treatment to determine the bidirectional influences that can improve treatment outcome.

The present study aimed to extend current knowledge by means of longitudinal assessment of both group care worker interventions and child problem behavior. First, we assessed the way in which group care worker interventions and youths' problem behaviors changed during residential youth care separate from each other. Based on our previous work (Author, 2012), we used the controlling, warmth/support, and autonomy granting dimensions to conceptualize group care worker interventions. In conceptualizing child behavior problems, we distinguished between internalizing and externalizing problems. Considering the literature reviewed, it was expected that children's externalizing and internalizing problems would decrease during residential treatment. With regard to changes in group care worker interventions over time, we based our hypotheses on the

theoretical framework of Kok (1997) and our earlier work on the subject where severity of specific child problem behaviors and intensity of specific group care worker interventions proved to be associated. In response to decreasing levels of externalizing behavior, it was expected that group care workers would become less controlling during the treatment. In addition, we expected that group care workers would apply less warm and supportive and autonomy granting interventions during treatment, in response to decreasing levels of internalizing problems. Secondly, we investigated the bidirectional associations between group care workers interventions and child problem behavior. Building on our previous expectations, we hypothesized that externalizing behavior problems would be associated with an increase of controlling interventions from group care workers and internalizing behavior problems with an increase of warm/supportive and autonomy granting interventions. In the opposite direction, controlling interventions were expected to decrease youth's externalizing problems, whereas warm/supportive and autonomy-granting interventions were expected to decrease internalizing behavior problems.

METHOD

Setting, participants, and procedures

The study took place at Entréa, a regional residential institution for children aged 5 to 12 years old located in Nijmegen, The Netherlands. Children were placed in a youth residential care setting because of problematic child behaviors (e.g., attention deficit hyperactivity disorder, oppositional defiant disorder, attachment disorders, and pervasive developmental disorder). In most cases, issues related to problematic family functioning were also apparent (e.g., parenting, parent-child relationship, parental psychiatric problems, and parental alcohol and drug abuse). Referrals were drawn from various agencies, both voluntary and forced care. The clinical care provided varied from short-term shelter to more permanent stays, and from daycare to 24/7 admission. Despite the diversity in the frequency and duration of care, all children received treatment for emotional and behavior problems. The campus residential setting is located on the outskirts of Nijmegen and hosts approximately 110 children divided into 11 treatment groups (approximately 10 children per treatment group). Every living group is run by a team of 5-8 group care workers who work in shifts. During the day, there are two

group care workers within the living group, at night there is one worker. The treatment program offers living arrangements, education, recreational activities, and individual and family therapy. Residential staff do not work according to a specific program model. In the past, staff were trained in a variety of program models, such as social learning theory, systems theory, and solution-focused interventions (Bastiaanssen, Veerman, Kroes, & Engels, 2009). It is unknown the extent to which these models are applied in practice. Every child had a group care worker assigned to his or her individual case. This key worker evaluated the treatment of the child and functioned as a contact for parents, teachers, and other parties concerning the child and residential treatment.

Data were collected in six waves, every 6 months between October 2008 and May 2011 for all children who were in the residential care within that time. Children had to be at the facility for least 2 months before a key worker could report on child behaviors and his or her interventions. Key workers completed the questionnaires that assessed problem behaviors of and treatment interventions provided to 153 children. The response rate of questionnaires ranged from 90-100% per wave. Depending on the duration of admission, for most children, the questionnaires were completed more than once by the same key worker. Differences existed between children in the time spent in care at baseline. Some children were in care for several years while others were in care for only a few months. Therefore, data were reorganized so they could be linked to the phase of care. Three measurement windows were created: 2-5 months in care (T1), 6-11 months in care (T2), and 12-17 months in care (T3). Measurements were excluded from the analyses when the key worker was not the same informant across measurements. Cases were excluded when children had no data at all within these measurement windows (i.e., 17 months in care at baseline). After reorganization, data for 128 children provided by 63 key workers were available. Each case had data for at least one measurement window.

Of the 128 children who participated, 66% were boys and the mean age was 8.63 years ($SD = 1.72$, range 5-12). Of the 63 group care workers who filled out the questionnaires, 19% were men and the mean age was 31 years ($SD = 8.00$, range 20-60). Overall, 89% of group care workers had a professional bachelor or academic master degree; others had lower occupational degrees. The mean experience of group care workers was 8.33 years ($SD = 6.93$, range 0-34). Because the sample

comprised of underage children, parents were asked to provide consent for their children's participation and data use for scientific purposes.

Measures

Group care worker interventions. The Group care worker Intervention Checklist (GICL; Author, 2012) was used to assess group care worker interventions. The GICL contains 21 items that cover three concepts regarding group care worker interventions, namely controlling (8 items; e.g., giving clear instructions, creating rules, and agreements); warmth/support (6 items; e.g., complementing/rewarding and providing safety), and autonomy granting (7 items; e.g., increasing independence and teaching practical skills). Group care workers reported the extent to which they used particular interventions in the treatment of a specific child (0 = not, 1 = some, or 2 = certainly). Scale scores were obtained by summing the item scores, which resulted in possible score ranges of 0-16, 0-12, and 0-14 for controlling, warmth/support, and autonomy granting, respectively. Bastiaanssen et al. (2012) provided the first evidence that the GICL is a reliable and valid instrument for measuring important concepts regarding group care worker interventions. Cronbach's alpha in the current study were .93 for controlling, .80 for warmth/support, and .75 for autonomy granting at T1.

Problem behavior. The Child Behavior Checklist (CBCL; Achenbach, 1991; Achenbach & Rescorla, 2001; 2007) was used to assess children's problem behaviors as reported by the group care workers. All 113 items of the CBCL were measured on a 3-point scale ranging from 0 (not at all) to 2 (often), with higher scores indicating more problems. The CBCL consists of 8 first-order factors and 2 second-order factors. Only the latter were used in the present study. The second-order factor of internalizing behavior consists of 3 first-order factors, withdrawn behavior, somatic complaints, and anxious depressed behavior. The second-order factor of externalizing behavior consists of 2 first-order factors, rule breaking and aggressive behavior. Psychometric analysis indicated good validity and reliability of the CBCL in the U.S. (Achenbach, 1991) and the Netherlands (Verhulst, Van der Ende, & Koot, 1996). Although the CBCL is a parent questionnaire, group care workers can also administer it (Albrecht, Veerman, Damen, & Kroes, 2001). Following Achenbach's (1991) recommendations, we used raw scores for our analyses. Cronbach's alpha in the current study were .82 for internalizing behavior, and .90 for externalizing behavior at T1.

Strategy for analysis

To investigate the development of group care worker interventions and children's problem behavior over time, Latent Growth Curve Modeling (LGCM) was applied using Mplus (Muthén & Muthén, 1998–2006). Separate models were constructed for each dimension of group care worker interventions (i.e., controlling, warmth/support, and autonomy granting) and child problem behavior (i.e., externalizing behavior and internalizing behavior). Following the procedures recommended by Singer and Willett (2003), we used a two-step approach. In the first step, unconditional models (i.e., growth models without predictors) were specified. These models included two latent factors. The first latent factor was the intercept, and the loadings on this factor were constrained to 1 for all three measured variables. The second factor represented the slope (increase, decrease) in group care worker interventions or child problem behavior over the period of the study (i.e., from T1 to T3). We specified a linear change trajectory by fitting a model with the slope factor loadings of 0, 1, and 2 for T1, T2, and T3, respectively. To investigate whether initial status and change trajectories depended on the type of residential treatment, children's age, and gender, these variables were included as predictors of the intercept and slope factors in the second step. Although residential care can be seen as a continuum that ranged from one day per week admission, to 24/7, a split was made between daycare and day-and-night care to explore differences across types of residential treatment.

Whereas latent growth curve models are particularly well suited to study changes in youth's problem behaviors and group care workers' interventions over time, cross-lagged models are better suited to investigate the direction of effects between both types of variables (Delsing & Oud, 2008). To investigate bidirectional associations between group care worker interventions and children's problem behaviors, we specified three cross-lagged models as hypothesized. In these models, group care workers' controlling was linked to children's externalizing problems, warmth/support was linked to internalizing problems, and autonomy granting was linked to internalizing problems. These models included correlations between group care worker interventions and child problem behaviors at T1, T2, and T3, stability paths between measurement waves, and cross-lagged over-time effects of group care worker interventions on child problem behaviors and vice versa.

Because data were reorganized to link them to phases of care, missing values arose. This issue was handled by using a full-information maximum likelihood (FIML) estimator with robust standard errors for all LGCM and cross-lagged analyses. Because we used FIML, implemented as MLR in Mplus 5.1, we were able to make use of all available data and provide better estimations of standard errors when normality assumptions are violated. The full information maximum likelihood techniques are thought to provide less biased estimates compared to listwise or pairwise deletions (Schafer & Graham, 2002), and are appropriate even when data are not missing at random or completely at random (Little & Rubin, 2002). Little's (1988) MCAR tests revealed that the data in our study were missing completely at random. The proportion of missing values may be calculated with a covariance "coverage" matrix. This matrix provides an estimate of available observations for each pair of variables. In this study, all covariance coverage values exceeded the minimum recommended coverage of 0.10 (Muthén & Muthén, 2006). The COMPLEX module implemented in Mplus 5.1 was used to account for nonindependence of observations due to cluster sampling (e.g., group care workers reported with regard to more than one child). The goodness of fit of the model was assessed using chi-square and the p-value, the Comparative Fit Index (CFI; Bentler, 1989), and the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990). CFI values above 0.90 indicated an acceptable fit and values above 0.95 indicated an excellent fit to the data. In addition, RMSEA values below 0.08 suggested an acceptable fit between the model and data and values below 0.05 indicated a good fit (Hu & Bentler, 1999).

RESULTS¹

Latent growth curve models

Table 1 shows the fit indices for the unconditional and conditional latent growth curve models and the cross-lagged models². In general, the models fit

1 Means and standard deviations for the three group care worker intervention variables and the two problem behavior variables across the three measurement windows are listed in the Appendix, which also includes correlations of all variables across measurement windows.

2 Note that the models involving controlling have one more degree of freedom compared to the models involving warmth/support and autonomy granting. This difference is due to

the data well.

Table 2 shows the estimates for the means and variances of the intercept and slope factors in the unconditional growth curve models in which no predictors were included. The significant mean estimates for the intercepts of the three group care worker intervention variables and the two child problem behavior variables (first column) indicated that these scores differed significantly from zero at the first time point. As seen in the second column, the variance for the intercept factors was significantly different from zero for controlling and autonomy granting, which indicates systematic individual differences in group care workers' initial scores with regard to these variables. The variance of the intercept factor for warmth/support was not significant, which indicates that group care workers reported providing similar amounts of warmth/support at T1 to all children. For the two problem behavior variables, the intercept variance was significant, which indicates significant individual differences in group care workers' reports of children's externalizing and internalizing problems at T1.

As seen in the third column of Table 2, only the slope mean of autonomy granting was significant ($p < .05$), which indicates that group care workers displayed increasing levels of this type of behavior over time. The slope means of controlling and warmth/support were not significant, which indicates that group care workers reported, on average, similar amounts of these behaviors over time. Moreover, the slope means of children's externalizing and internalizing problems were not significant, which means that group care workers did not see significant changes in children's problem behaviors over time. Finally, the fourth column reveals that none of the slope variances was significant, which indicates no individual differences in the rate of change in group care workers' interventions and children's problem behaviors.

In the conditional models, type of residential treatment (daycare versus day-and-night care) and children's age and gender were included as predictors. Only paths from these predictors to the intercepts were specified because the slope variance was not significant in any unconditional model. In the controlling

the fact that in the former, the residual variance of the third time point was fixed to zero because of a negative variance estimate in the initial models. This also applies to the models involving externalizing problems, which have one more degree of freedom compared to the models involving internalizing problems.

model, the effects of the type of treatment and gender on the intercept factor were significant (.30, $p < .01$, and -.27, $p < .05$, respectively), which indicates higher initial levels of controlling in day-and-night care than in day care, and lower initial levels of controlling toward girls than boys. Additionally, in the externalizing problems model, the effects of type of treatment and gender were significant (.39, $p < .01$, and -.34, $p < .01$, respectively), which indicates higher initial levels of externalizing problems in day-and-night care than in day care, and lower initial levels of externalizing for girls than for boys. In the internalizing problems model, the effect of age on the intercept factor was significant (.34, $p < .05$), which indicates that older children reportedly had higher initial levels of internalizing problems. No other significant effects of the predictor variables on the intercept factor were found.

Table 1
Model Fit Indices for Latent Growth Curve Models and Cross Lagged Models

	Model Fit Indices				
	<i>N</i>	<i>df</i>	χ^2	CFI	RMSEA
Unconditional latent growth curve models					
Group care worker interventions					
Controlling	127	2	2.66	.99	.05
Warmth/Support	128	1	.05	1.00	.00
Autonomy Granting	128	1	.16	1.00	.00
Child problem behavior					
Externalizing	121	2	1.09	1.00	.00
Internalizing	121	1	2.04	.97	.09
Conditional latent growth curve models					
Group care worker interventions					
Controlling	127	6	7.48	.98	.04
Warmth/Support	128	5	6.12	.92	.04
Autonomy Granting	128	5	3.47	1.00	.00
Child problem behavior					
Externalizing	121	6	3.92	1.00	.00
Internalizing	121	5	3.38	1.00	.00
Cross-lagged models					
Controlling - Externalizing	128	4	1.75	1.00	.00
Warmth/Support - Internalizing	128	4	1.33	1.00	.00
Autonomy Granting - Internalizing	128	4	1.69	1.00	.00

Table 2

Unconditional Latent Growth Curve Results for Group Care Workers' Interventions and Children's Problem Behavior

	Intercept		Slope	
	<i>M</i>	σ^2	<i>M</i>	σ^2
Group care worker interventions				
Controlling	8.70**	16.82**	-.19	1.44
Warmth/Support	8.98**	3.32	-.25	.59
Autonomy Granting	5.25**	6.62*	.62*	.97
Children's problem behavior				
Externalizing	13.41**	78.06**	-.28	10.51
Internalizing	10.11**	25.86**	-.24	5.59

Note. * $p \leq .05$; ** $p \leq .01$

Cross-lagged panel models

In the cross-lagged models, bidirectional effects were estimated between group care workers' interventions and children's problem behaviors³. Figures 1 to 3 summarize the results of these analyses. First, significant positive associations were found at T1 between controlling and externalizing problems (see Figure 1) and between warmth/support and internalizing problems (see Figure 2). Second, bidirectional associations over time emerged between controlling and externalizing problems (see Figure 1). Higher levels of controlling at T1 were associated with higher levels of externalizing problems at T2. In the opposite direction,

3 Next to the three hypothesized models, we also analyzed remaining three models with CLPA (controlling with internalizing, warmth/support with externalizing, and autonomy granting with externalizing). In contrast to the hypothesized models, with these models, there were no significant positive associations at T1. In addition, no bidirectional associations appeared. In accordance with the hypothesized models, stability coefficients were high.

higher levels of externalizing problems at T1 were associated with higher levels of controlling at T2. This bidirectional pattern of associations was found only with regard to the first measurement interval⁴. No significant cross-lagged effects were found concerning warmth/support and internalizing problems. With regard to autonomy granting and internalizing problems, a negative unidirectional effect was found from internalizing problems at T1 on autonomy granting at T2 (see Figure 3). This finding indicates that higher initial levels of internalizing problems were associated with lower levels of autonomy granting at T2. This effect was not replicated in the second measurement interval from T2 to T3. Finally, the significant stability coefficients in all three models indicated that group care workers' interventions and children's problem behaviors were relatively stable over time. This finding means that one's relative standing at one point in time is highly predictive of his or her relative standing at the next point in time, which appears to have been especially true for the second measurement interval; that is from T2 to T3⁵.

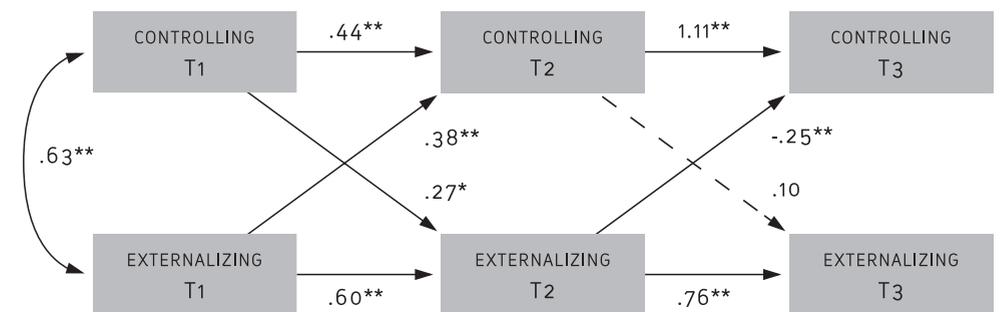


Figure 1. Three-wave cross-lagged path model examining bidirectional effects between group care worker controlling and children's externalizing problems (standardized effects). Note. Dotted arrow lines are non significant associations.

* $p \leq .05$; ** $p \leq .01$

4 A negative association was found between externalizing problems at T2 and controlling at T3. In view of the positive zero-order correlations between externalizing problems at T2 and controlling at T3, and between controlling at T2 and controlling at T3, this finding most likely reflects a suppressor effect that should be interpreted with caution.

5 Note that a standardized stability coefficient greater than 1 was found from controlling at T2 to controlling at T3; this situation is most likely due to sampling fluctuations. Constraining this parameter to a value that is slightly smaller than 1 did not alter our findings or lead to a significant deterioration in model fit.

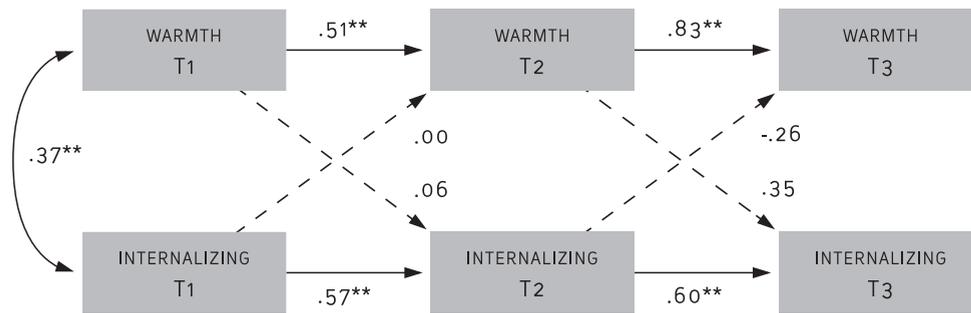


Figure 2. Three-wave cross-lagged path model examining bidirectional effects between group care worker warmth and children's internalizing problems (standardized effects). Note. Dotted arrow lines are non significant associations.

* $p \leq .05$; ** $p \leq .01$

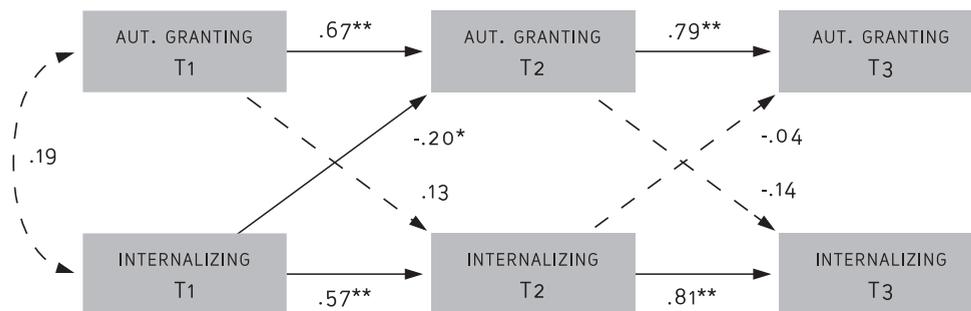


Figure 3. Three-wave cross-lagged path model examining bidirectional effects between group care worker autonomy granting and children's internalizing problems (standardized effects). Note. Dotted arrow lines are non significant associations.

* $p \leq .05$; ** $p \leq .01$

DISCUSSION

The current study focused on a prominent part of the residential care process, namely the course of interventions of group care workers and child problem behaviors and bidirectional associations between the two over time. The first aim of the study was to investigate the course of group care worker interventions and child problem behaviors during residential treatment. With regard to the course of child problem behaviors it was expected that group care workers would report progress in internalizing and externalizing behavior problems. In contrast with our hypotheses, group care workers did not report progress in problem behaviors of children. This finding contrasted reports of previous studies on the effectiveness of residential youth care (Bettmann & Jaspersen, 2009; De Swart et al., 2012; Frensch & Cameron, 2002; Hair, 2005; Knorth et al., 2008; Lee et al., 2011). This finding may also be explained by the discrepancy between parent reports, youth self-reports, and group care worker reports on behavioral changes during residential care (Hukkanen, Sourander, Bergroth, & Piha, 1999; Knorth et al., 2008; Nijhof, Veerman, Engels, & Scholte, 2011; Van Dam et al., 2011; Van der Ploeg & Scholte, 2003). While parents and youth have reported behavior improvements in previous studies, group care workers generally have not, as was the case in the current study. In some studies, group care workers have even reported an increase of behavior problems. Further, group care workers seem to be more critical about behavioral progress of children who are placed in their care. An explanation for this finding may be that group care workers have extensive knowledge of the deprived circumstances in which children placed in their care are raised and, as professionals, they know how these circumstances contribute to the development of severe problem behaviors. It may be that group care workers lack optimism about the changeability of children's problem behaviors. This perception could make them biased toward problem behaviors and behavioral changes (De Los Reyes & Kazdin, 2005).

With regard to the course of group care worker interventions it was expected that group care workers would become less controlling during treatment and apply less warm and supportive and autonomy granting interventions over time. These hypotheses were based on the theory of Kok (1997) and our earlier work on the subject (Author, 2012), where intensity of group care worker interventions and

severity of child problem behavior were associated. In contrast with our hypotheses, group care workers did not change their controlling and warmth/support over time. This may be explained by the fact that group care workers also did not report behavioral change. When group care workers do not experience change in child behaviors, they may not adjust the interventions they use. E.g., with high amounts of externalizing behaviors over time, they will still use a high amount of controlling interventions during treatment. Another explanation could be that group care workers use the same amount of warm and controlling interventions over time because it fits their personal styles (Moses, 2000; Van den Berg, 2000). We did find significant changes in autonomy granting, which suggests that the longer children are in residential care, the more group care workers promote independence. It may also be that children get older and more independent during care, thus natural development contributes more to this finding than type of problem behavior.

In addition to the over-time changes in group care workers' autonomy granting, group care workers reported differences in their interventions across children. The significant variance of reported controlling interventions at the beginning of treatment means that some children received more controlling interventions than did others. The same was true for autonomy granting. However, as indicated by the nonsignificant intercept variance for warmth/support, each child received about the same amount of warmth, which could be interpreted positively when the mean levels of warmth were relatively high, as was the case in our study. Regardless of the challenging behaviors, all children seemed to receive a fair amount of warmth and support from the group care workers in their daily living environments. Warm and supportive interventions are important for relationship building between group care workers and children. Studies have pointed out the importance of the quality of these relationships as a predictor for better outcomes for children in residential care (Green et al., 2001; Harder et al., 2008). This finding is reassuring considering the disquieting findings in earlier studies where young people with the most serious behavior problems who needed the most positive attention from group care workers received the least (Moses, 2000; Wigboldus, 2002).

Age and gender of children and type of residential placement predicted some differences in child behaviors and group care worker interventions.

According to group care workers, girls showed less externalizing behavior problems and received less controlling interventions than did boys. These findings were in line with studies cited in the introduction that connected group care worker interventions to resident characteristics (Kloosterman & Veerman, 1997; Van der Ploeg & Scholte, 2003). Furthermore, children with more severe externalizing behavior problems were placed in more intense day-and-night residential care (as opposed to only day care). Lastly, according to group care workers, older children experienced more internalizing behavior problems than did younger children. This finding may be explained by the onset of adolescence because emotional problems often occur during this developmental period, especially for children already diagnosed with mental or behavior problems (Costello, Angold, & Keeler, 1999).

The second aim of the study was to investigate bidirectional associations between child problem behaviors and group care worker behaviors over time. Several over-time effects were found. In contrast with our hypothesis, higher levels of group care workers' controlling interventions at the beginning of treatment were associated with higher, rather than lower, levels of children's externalizing problems during the first phase of treatment (i.e., between T1 and T2). For the second phase of treatment (i.e., between T2 and T3), no such association was found. Perhaps children need time to adapt to the residential treatment situation with its new environment, rules, and boundaries that are unknown to them. Children may initially become frustrated with the levels of control and rules with which they are not yet familiar, which may lead to an increase in acting out behaviors during the first treatment phase. Later on, children may become more accepting of rules and agreements. In accordance with our hypothesis, higher levels of externalizing problems at the beginning of treatment were associated with higher levels of group care workers' controlling interventions during the first phase of treatment. However, no such association was found concerning the second phase of treatment. Apparently, a structuring approach characterized by setting rules and boundaries is initially used to respond to children's aggressive and rule-breaking behaviors at the beginning of treatment, perhaps to make children aware of their new environments (Moses, 2000). Later on, group care workers may find such approach as less appropriate and necessary. Although the controlling interventions in our study were conceptualized as positive interventions with the intent to reduce externalizing problems, too much controlling interventions could have the

opposite effect and lead to more externalizing behaviors. This is a known pitfall for group care workers in residential youth care that workers should be aware of to maintain control over the residential group (Anglin, 2002; Harder et al., 2008; Moses, 2000; Wigboldus, 2002). As in parenting, it is the combination of control with warmth that leads to positive development in children (Baumrind, 1971; Mac-coby & Martin, 1983; Scholte & Van der Ploeg, 2000).

In addition to the bidirectional pattern of associations between controlling interventions and externalizing behaviors, a unidirectional negative effect was found from children's internalizing problem behaviors to group care workers' autonomy granting. This association was found only concerning the first phase of treatment. This finding indicates that, during the first phase of treatment, group care workers tend to grant less autonomy to children with higher levels of internalizing problems. This association also contrasted our hypothesis. Instead of fostering independence, group care workers may find the provision of a secure base as more appropriate for children with severe anxious or depressive symptoms during this phase.

In addition to the bidirectional associations reported above, several cross-sectional associations were found. First, our cross-lagged panel analyses revealed associations between group care worker interventions and problem behaviors of children after admissions. This is indicated by the significant initial correlations between group care workers' controlling and warmth/support on the one hand and children's externalizing and internalizing problems on the other. This finding means that children who enter treatment with relatively high levels of externalizing problems tend to receive more controlling interventions by group care workers and vice versa, whereas children with relatively high levels of internalizing problems tend to receive more warmth/support and vice versa. The level of group care workers' autonomy granting at the beginning of treatment does not seem to depend on children's problem behavioral levels. These associations are in line with our former study (Author, 2012) which partly was conducted with another sample of children, except for the absence of an association between internalizing problems of children and autonomy granting interventions of group care workers in the current sample. Our former study did partly contain the same children as the children in the current sample.

Next to the cross-lagged effects and cross-sectional associations report-

ed above, our analyses revealed that, considering the high stability coefficients between measurements, both group care workers' interventions and children's problem behaviors were relatively stable across time, especially during the second phase of treatment. When treatment continues, both group care workers' interventions and children's problem behaviors may become crystallized and less dependent on child problem behaviors and group care worker interventions, respectively. This notion is also indicated by the lack of significant cross-effects during the second phase of treatment. As with the absence of change in our LGCM models, personal style of group care workers could have a greater influence on interventions than on the needs of a child with specific problem behavior (Moses, 2000; Van den Berg, 2000).

Study limitations

This study had some limitations that need to be addressed in future research. First, the current research design contained three measurements with average intervals of about 6 months. Data could not be collected from all children until the end of treatment because several children were in residential care for longer than 18 months. This extended length of time could cause selection bias, and we do not know how group care worker interventions and child problem behaviors develop and interact during later phases of treatment or toward end of treatment.

Second, both scores for group care worker interventions and child problem behaviors were based on group care worker reports. Thus, the associations found may partly be due to shared rater variance. Future studies should use multiple independent reports of group care worker interventions and child problem behaviors to corroborate the current findings. Particularly, the data on children's perceptions of group care worker' interventions may be highly informative.

Third, this study used only questionnaires. Observational studies could provide more objective data on group care worker interventions and children's problem behaviors as well as on their underlying processes to better clarify the complex character of these relationships.

Lastly, it should be noted that no causal conclusions can be drawn from this study because we did not include a control group. Although longitudinal data were collected and the theoretical model was tested using advanced statistical procedures, the current study cannot state that there is a causal relation

between group care worker interventions and child problem behaviors. Associations found do implicate the importance of group care worker interventions in residential youth care, which deserves further looking into.

Implications for research and practice

As emphasized in the introduction of this article, results of the current study stress the additional value of connecting data on content of care with outcomes. In connecting data on content of care with outcomes, impact of interventions on outcomes can be revealed. Future effectiveness research in residential care should consider multiple measurements of both content and outcome variables throughout treatment to identify effective components of treatment. Adding to this, multiple informants should be used. Next to professionals such as group care workers, parents, teachers, and the children themselves can be important informants on content and outcomes of care. Finally, observational studies should be considered because of the lack of these type of studies in residential youth care.

Collecting longitudinal data on the content of care and treatment outcomes also helps practitioners such as group care workers and other residential staff members to become more aware of the identity of the treatment they provide and the effect of their interventions on children placed in their care. Feedback from researchers can make practitioners adjust their interventions with the aim to improve quality of care and increase treatment progress for children. In the current study, group care workers received feedback from the researchers for every questionnaire they administered. The information on the behaviors of children and their own interventions was graphically reported for each scale. On an individual level, research information helps residential staff track the content and outcomes of care. On an aggregated level, research can provide insight in what works regarding group care worker interventions in residential youth care. Therefore, research on residential care can directly contribute to practice (Bickman, Kelley, Breda, De Andrade, & Riemer, 2011).

Regarding implications for practice, residential care institutions should be aware of the dynamics between group care workers and children. Interventions of group care workers influence the quality of the daily care provided within the living group environment. This knowledge is important for the education, training, and supervision of group care workers. Studies on the effects of behavioral

management training for residential staff have reported more positive interactions between group care workers and children and fewer incidents after training (i.e., running away, violence, and inappropriate behavior) (Crosland et al., 2008; Duppong Hurley, Ingram, Czyz, Juliano, & Wilson, 2006). In the Netherlands, group care workers are often well educated in positive child rearing (Author, 2009). It is often assumed that they practice positive interventions in the care they provide. However, some results from the present study question this assumption. Training and ongoing supervision in effective responses to behavior problems can increase the impact of group care worker interventions on child behavioral changes.

Conclusion

This study was the first to collect longitudinal data on group care worker interventions and child behavior problems during residential youth care. After reviewing the scarce literature on the impact of group care worker interventions on child problem behaviors, hypotheses were formulated and tested. The intensity of controlling or autonomy granting interventions of group care workers varies per child. This is not the case for warm and supportive interventions. Overall, group care workers are warm and supportive toward all children. Looking at group care worker interventions and child behaviors separately, there were no significant changes during treatment. The exception to this is autonomy granting, which increased over time. When investigating bidirectional associations between group care worker interventions and child behaviors, some patterns do occur. Controlling interventions of group care workers are related to more externalizing problems of children and vice versa. In addition, more internalizing problems are associated with a decrease in autonomy-granting interventions. Notwithstanding the limitations and unexpected results, this study contributes to the knowledge on group care worker interventions available to date. There is some evidence for the attunement of group care worker interventions to child behaviors. This finding points to the potential role of group care workers in residential youth care and further stresses the need for more attention of this role within the treatment of children with behavior problems.

Appendix

Mean Scores, Standard Deviations of, and Correlations between All Scales on Three Measurement Windows (T1, T2, and T3)

	Mean (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
GICL															
1. Controlling T1	8.89 (4.89)	-													
2. Controlling T2	8.32 (4.75)	.71**	-												
3. Controlling T3	8.30 (4.59)	.66**	.92**	-											
4. Warmth/Support T1	8.91 (2.06)	.20*	.11	.07	-										
5. Warmth/Support T2	8.75 (2.30)	.16	.18*	.26**	.49**	-									
6. Warmth/Support T3	8.75 (2.41)	.11	.08	.18*	.74**	.83**	-								
7. Aut. Granting T1	5.46 (3.06)	.26**	.23**	.18*	.46**	.51**	.56**	-							
8. Aut. Granting T2	5.87 (2.81)	-.10	.07	.05	.34**	.41**	.66**	.66**	-						
9. Aut. Granting T3	6.46 (3.27)	.11	-.08	.10	.19*	.41**	.61**	.56**	.67	-					
CBCL															
10. Externalizing T1	13.26 (8.77)	.70**	.72**	.66**	.03	.01	-.14	.05	-.30**	-.26**	-				
11. Externalizing T2	13.33 (8.90)	.74**	.81**	.67**	.03	.08	-.13	.14	-.18*	-.23**	.84**	-			
12. Externalizing T3	12.47 (7.72)	.62**	.72**	.72**	-.25**	.04	-.14	-.17	-.20*	-.11	.65**	.83**	-		
13. Internalizing T1	10.52 (6.13)	-.05	-.19*	-.39**	.36**	.24**	.11	.22*	-.02	-.34**	.07	-.06	-.47**	-	
14. Internalizing T2	9.52 (4.78)	.12	.10	-.01	.30**	.48**	.25**	.32**	.08	-.29**	.11	.21*	-.04	.71**	-
15. Internalizing T3	9.12 (5.18)	.04	-.18*	-.10	.22*	.62**	.33**	.15	-.27**	-.06	.08	.08	.02	.34**	.54**

Note. * $p \leq .05$; ** $p \leq .01$

4

OBSERVATIONS OF GROUP CARE WORKER-CHILD INTERACTION IN RESIDENTIAL YOUTH CARE: PEDAGOGICAL INTERVENTIONS AND CHILD BEHAVIOUR

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ABSTRACT

The aim of the current study was to observe the pedagogical interventions of group care workers within residential youth care and their associations with child behaviors. Group care worker interventions and child behaviors were videotaped during structured observations. Participants included 95 children (64% boys, *Mean* = 9.19) and 53 group care workers (74% female, *Mean* = 33.79 years) from two residential institutions. A coding system was developed to code pedagogical interventions and child behaviors. Group care workers mainly used positive pedagogical interventions (warmth/support and positive control) and seldom used negative pedagogical interventions (permissiveness and negative control). Group care workers who used more warm and supportive interventions, tended to use less negative control and more positive control. Frustration and anger of children was associated with positive controlling interventions and permissiveness of group care workers. The current study outlined the importance of group care workers concerning the influence of their pedagogical interventions on the quality of residential youth care. Pedagogical interventions should be part of education, training, and supervision of group care workers.

INTRODUCTION

In the Netherlands, approximately 30,000 children are placed in residential care every year because of behavioral problems, developmental disorders, and family dysfunction (Sociaal Cultureel Planbureau [SCP], 2009). Residential care is 24/7, and includes various components such as living arrangements, education, family care, and individual and group therapy. Next to school attendance and therapy, children spend most of their time in residential care within the living group environment; aptly put as “the other 23 hours” (Trieschman, Whittaker, & Brendtro, 1969). The current study deals with this component of care in which the largest part of treatment takes place. Within the living group environment, group care workers are the most important staff members (Bastiaanssen et al., 2012; Knorth, Harder, Huygen, Kalverboer, & Zandberg, 2010; Smith, Fulcher, & Doran, 2013). It is the task of group care workers to shape treatment by interacting with children and helping them through difficult events and processes (Anglin, 2002; Petrie, Boddy, Cameron, Wigfal, & Simon, 2006; Ward, 2004, 2007). However, the role of group care workers in residential care has been largely neglected in research. After reviewing the literature on the role of group care workers, Knorth et al. (2010) suggested that “what their precise share in the ‘production’ of behavioral improvement is cannot be given on the basis of empirical research” (p. 61). However, according to these authors, researchers do know whether the work of group care workers substantially influences the quality of care for looked-after children. Studies that picture this quality of care and demonstrate a relationship between quality and child problem behaviors are very much needed (Lee & McMillen, 2008). The present study aimed to be a step in this direction.

The activities of group care workers include not only physical and material matters, but also pedagogical and psychological care (Knorth et al., 2010). Some empirical studies on the quality of the relationship and working alliance between group care workers and youth in residential care do exist (Handwerk et al., 2008; Harder, Knorth, & Kalverboer, 2012a, 2012b; Moses, 2000). These studies have reported on the associations between alliance skills of residential staff, quality of the relationship between staff and youth, and treatment outcomes. In addition to basic skills for building relationships and working alliances with youth, group care workers also have a pedagogical task. Several scholars have described the

work of group care workers in youth residential care as professional parenting. McGuinness and Dagan (2001) compared group care workers to parents, as these workers fulfill the role of parents. Smith et al. (2013) referred to group care workers as being corporate parents. Shealy (1996) developed the Therapeutic Parent Model as a guideline for the selection and training of group care workers. The theoretical and empirical foundations from the Therapeutic Parent Model are based on the literature on associations between parenting and child psychopathology and common factors of therapist efficacy. According to the Therapeutic Parent Model, group care workers must be predictable and consistent, not abusive, know about teaching and counseling, and supervise residents. Cameron and Maginn (2011) highlighted the importance of high quality of parenting by group care workers because they work with children who are often traumatized within their families of origin. These scholars stated: “Professional residential and foster ‘parenting’ for particularly vulnerable children and young people demands that the skills and knowledge of parenting cannot be left to trial and error, but need to be unpacked, analyzed, understood and implemented so that even in challenging circumstances, the ‘professional parents’ will know what they should do” (p. 49). This view on group care workers as professional parents is in line with Kok’s (1997) theory. Specifically, Kok developed one of the most elaborated conceptual frameworks for group care worker interventions in the Netherlands. He described the tasks of group care workers as being specific parenting where pedagogical interventions of these workers are tuned to the specific needs of looked-after children. The current study focused on the pedagogical component of residential care. The behavior of group care workers that constitutes this component is defined here as *pedagogical interventions*.

When group care workers are viewed as professional parents and child rearing is an important task, interest in the content and quality of their pedagogical interventions increases. Further, evidence exists for features of good parenting (Baumrind, 1971; Maccoby & Martin, 1983) in which warmth and control stand out as pivotal parenting dimensions in healthy child upbringing. Not surprisingly, several authors have mentioned the combination as an impetus for pedagogical interventions of group care workers (Bastiaanssen et al., 2012; Harder, Kalverboer, Knorth, & Zandberg, 2008; Holmqvist, Hill, & Lang, 2007; Kok, 1997; Shealy, 1996; Stein, 2009). Some authors have especially mentioned the importance of warm

and supportive interventions (Boendermaker, Van Rooijen, & Berg, 2012; Cameron & Maginn, 2008, 2011).

Few empirical studies have dealt with measuring pedagogical interventions of group care workers. Van der Ploeg and Scholte (2003) conducted a study in a Dutch adolescent residential care facility and found that group care workers used somewhat more controlling interventions than affection and support. In another comparable study, Scholte and Van der Ploeg (2000) connected problem behaviors of children with pedagogical interventions of group care workers. These researchers found that a pedagogical climate of firm, not harsh, control together with consistent, non-obtrusive, emotional support, promoted healthy development of youth in residential care. Andersson and Johansson (2008) interviewed group care workers to explore and systemize their ideas about the treatment of individual youth. The researchers developed a model that consisted of categories and conditions of treatment as provided by group care workers. Conditions of treatment were control and protection, holding and containing, conflict management, learning and organizing. The intentions of group care workers to use certain treatment conditions were individualized to specific children. However, this study did not specify the type of problem behaviors among the youth; therefore, the model provides no guarantee that treatment conditions were according to youths' needs.

In a study from our team, we further developed the Group Care Worker Intervention Checklist (GICL; Bastiaanssen et al., 2012), which is a questionnaire first developed in the 1980s by Kloosterman and Veerman (1997). Parenting dimensions were at the base of conceptualizing the GICL. With the GICL, group care workers report on their pedagogical interventions toward a specific child. The questionnaire reveals three concepts: controlling, warmth/support, and autonomy granting. In this study, controlling interventions appeared to be associated with externalizing problem behaviors of children, and warm, supportive, and autonomy granting interventions were associated with internalizing problem behaviors (Bastiaanssen et al., 2012). These findings show that group care workers use pedagogical interventions during interactions with children in their care and preliminary evidence exists that pedagogical interventions of group care workers are associated with child behaviors.

To date, all studies conducted have used surveys or interviews in which

group care workers reported on their own behaviors. In self-report studies, informants are, by nature, biased; therefore, it is pivotal to use multiple strategies to gather data on group care worker interventions. Specifically, observations of pedagogical interventions of group care workers might provide another source of information (Lee & McMillen, 2008). Few observational studies regarding group care worker interventions exist. Van den Berg (2000) conducted an observational study on interactions between group care workers and children in residential child care for children under 12 years. In 60% of their interactions with children, group care workers used warm and supportive interventions. Next to warm interventions, group care workers used structuring and controlling interventions (25%). Negative interactions between group care workers and children seldom occurred. Crosland et al. (2008) observed interactions between group care workers and children before and after staff training in behavioral management. After training, more positive interactions occurred between group care workers and children. There was no decrease in negative interactions; however, as in Van den Berg (2000), there were few negative interactions at baseline. They also found that staff interacted more with children after training. The absence of interactions with children (e.g., administration, chores, or interacting with other care workers) also decreased substantially. Embregts (2002) used video-feedback to train group care workers and simultaneously observed their behaviors in a residential institution for youth with mild intellectual disabilities and attention deficit hyperactivity disorder (ADHD). After training, appropriate responses of group care workers to youth behavior increased. Van den Berg (2000), Crosland et al. (2008), and Embregts (2002) did not relate group care worker interventions with child behaviors.

The current study focused on pedagogical interventions of group care workers with the belief that pedagogical interventions are a core aspect of group care work in residential youth care. A few studies have investigated the content of pedagogical interventions of group care workers using questionnaires or observational research. Some questionnaire studies have connected pedagogical interventions to child behaviors, and reported associations between pedagogical interventions of group care workers and specific child behaviors (Andersson & Johansson, 2008; Bastiaanssen et al., 2012). The observational studies reviewed did not report on associations with child behaviors. The aim of the current study

was to observe the pedagogical interventions of group care workers within residential youth care systematically and their associations with children's behaviors. Building on the knowledge of pedagogical interventions of group care workers, important parental dimensions of warmth and control are combined with positive and negative interactions between group care workers and youth in residential care. Firstly, it was expected that group care workers would use pedagogical interventions while interacting with children and the proportion with which group care workers put these interventions into practice could be measured. Therefore, a structured observation protocol and coding system were developed. In view of reviewed studies on group care worker interventions to date, it was expected that group care workers would mainly use positive pedagogical interventions. Secondly, it was expected that pedagogical interventions of group care workers would be associated with specific child behaviors. When children displayed externalizing behaviors, group care workers would use controlling interventions. Conversely, when children displayed internalizing behaviors, group care workers would use more warm and supportive interventions.

METHOD

Participants and setting

This study took place in the residential departments of two youth care institutions for children aged 5 to 12 years old in east Netherlands. Children were placed in a youth residential care setting because of problematic child behaviors (e.g., ADHD, oppositional defiant disorder, attachment disorders, and pervasive developmental disorder). In most cases, issues related to problematic family functioning were apparent (e.g., problems with parenting or in the parent-child relationship, parental psychiatric problems, and parental alcohol and drug abuse). Referrals were made by various agencies, and care was either voluntary or forced. The residential care varied from short-term shelter to more permanent stays; therefore, varied in frequency and duration of care. The two residential settings together hosted approximately 80 children, divided over 8 treatment groups (approximately 10 children per treatment group). The treatment program consisted of living arrangements, education, recreational activities, and individual and family therapy.

Observations were collected at six residential units of one institution between February 2010 and July 2011. In February and March 2011, observations were collected at two residential units of the second institution. All children in residential care during the time of data collection participated in this study except for four children whose parents did not provide informed consent. Of the 95 children who participated, 64 % were boys ($M_{age} = 9.19$ years, $SD = 1.93$, range 5-15⁶). Children had been in residential care for 1 to 88 months ($M = 10.8$). All group care workers in the residential institutions at the time of data collection participated in this study ($N = 53$), except for those who worked only a few hours a week or were substitutes and did not know the children very well. Of the group care workers, 74% were female ($M_{age} = 33.79$ years, $SD = 9.80$, range 22-60) and 85% had professional bachelor's degrees. Because there were more children than group care workers, some workers participated more than once with a maximum of three times. All parents or caretakers were informed of the study and were asked to provide consent for their child to participate and for the use of the data for scientific purposes.

Observation procedure

Observations took place between group care worker and child in a familiar room within the living group environment. Observing interactions between group care workers and children away from other staff and children makes comparison across children possible. To elicit interactions that represented daily living in the unit, a structured observation protocol was developed that included different tasks for group care workers and children. In constructing the protocol, knowledge was drawn from commonly used protocols for observing parent-child interactions (e.g., Granic, Hollenstein, Dishion, & Patterson, 2003; Granic, O'Hara, Pepler, & Lewis, 2007; Hollenstein, Granic, Stoolmiller, & Snyder, 2004). The protocol was developed in collaboration with psychologists coordinating the living units in the residential institutions to make sure it came close to the day-to-day interactions between group care workers and children.

⁶ All children belonged to the age category for residential care for younger children (5-12 years old), except for one child (15 years old). When excluding this child, $M_{age} = 9.13$ years, $SD = 1.85$, range 5-12.

Observations were videotaped and group care workers and children were aware that they were being videotaped. Two video cameras were used to guarantee at least one usable videotape; one placed in sight and the other placed out of sight. The researcher explained the tasks and waited outside the room during the tasks. The researcher entered the room after each task ended to instruct the child and group care worker of the next task.

The first task was a warm-up task meant to get participants started on a positive, not too difficult, note. The child and group care worker were instructed to plan a birthday party for the child. The second task was a frustration task that consisted of four puzzles from the intelligence test SON-R, subtest Mosaics (Snijders, Tellegen, & Laros, 1988). Each child was given one minute per puzzle, which is not enough for the vast majority of children this age to finish the puzzle. The intent of this task was to induce frustration and elicit interventions from the group care worker. Each group care worker was asked to keep track of the time with the help of a stopwatch and tell the child when to move on to the next puzzle. After 4 minutes, the researcher reentered the room even if the child had not finish the task. The third task was a conflict-solving task. Before observations began, group care workers administered the Conflict Questionnaire, which is an adapted version of the Issues Checklist (Prinz, Fosters, Kent, & O'Leary, 1979). This questionnaire lists a number of potential sources of conflict between group care workers and children (e.g., lying, swearing, and conflicts with other children in the living group). In the conflict task, the researcher introduced a recent and serious conflict topic reported by the group care worker. Participants were instructed to discuss the topic and try to solve the problem. The fourth task was a cooling-down task. During this last task, each child and group care worker engaged in a short game that was appropriate for the child to end the observation in a positive manner. The first task, intended for warming up, was 2 minutes in length, and the other three tasks were 4 minutes each. Tasks 2 and 3 (frustration and conflict tasks, respectively) were the core tasks intended to elicit child behaviors and group care worker pedagogical interventions. The choice for these tasks was based on literature on healthy child development. Frustration tolerance and conflict-solving skills are important developmental tasks for children and are especially challenging for children in residential youth care (Pazaratz, 2000; Small, Kennedy, & Bender, 1991).

Table 1
Global Ratings Coding System for Group Care Worker Pedagogical Interventions and Child Behavior, Examples of Attributes and Origin

Variable	Attributions (examples)	Origin
Group Care Worker Pedagogical Interventions	<p>Warmth/Support Joy, compliments, reassurance, validation</p> <p>Positive Control Providing clarification, setting limits, establishing rules</p> <p>Permissiveness Not reprimanding, not setting limits, not establishing rules, being peers with the child</p> <p>Negative Control Harsh/punitive, negative affect, invalidation, lecturing, interrupting</p>	<p>SPAFF Code no. 1,2+4</p> <p>De Schipper et al. (2009)</p> <p>CIS</p> <p>Granic Coding Lab</p>
Child Behavior	<p>Contempt Scorn/contempt, hostile humor, insults, physical cues</p> <p>Anxiety/Nervousness Fear, tension, fidgeting, embarrassment/shame</p> <p>Frustration/Anger Irritation/annoyance, raising voice, visible impatience</p>	<p>SPAFF Code no. 7</p> <p>SPAFF Code no. 8</p> <p>SPAFF Code no. 9</p>

Note. SPAFF= Specific Affect Coding System (Gottman, 1995); CIS = Caregiver Interaction Rating Scale (Arnett, 1989).

Evidence suggests that conflict-solving tasks differentiate clinic-referred from normal children (e.g., Borduin, Henggeler, Hanson, & Pruitt, 1985; Forgatch, Fetrow, & Lathrop, 1985; Kazdin, Esveldt-Dawson, French, & Unis, 1987). Concerning warm-up Task 1 and cooling-down Task 4, planning a birthday party and playing a game are familiar activities for group care workers and children.

Coding procedure

To code pedagogical interventions of group care workers and child behaviors, a coding system was developed (Bastiaanssen & O'Hara, 2012). With regard to existing knowledge on effective parental and care giving behaviors, concepts for the coding system were derived from a variety of existing systems on the subject (i.e., the Specific Affect Coding System [SPAFF; Gottman, 1995], the Caregiver Interaction Rating Scale [CIS; Arnett, 1989], the Positive Control Scale [De Schipper, Riksen-Walraven, Geurts, & de Weert, 2009] and the Global Ratings Manual of the Granic Coding Lab in Toronto [Granic Coding Lab, 2008]). Pedagogical interventions for group care workers were operationalized with the variables warmth/support, positive control, permissiveness, and negative control. The first two concepts, warmth/support and positive control, were positive pedagogical interventions. When a group care worker was warm and supportive, he or she was reassuring the child, being affectionate, giving compliments, and enjoying the company of the child. Positive control meant that the group care worker used an appropriate and positive degree of verbal and nonverbal structuring in response to a child's behaviors. The remaining two pedagogical interventions, negative control and permissiveness, were negative pedagogical interventions. Negative control included the use of control in a negative manner such as being too harsh or punitive and using negative affect. Permissiveness included a lack of control, where the group care worker was compliant when a child acted out. For coding child behaviors, three variables were derived from SPAFF: contempt, anxiety/nervousness, and frustration/anger (Gottman, 1995). Table 1 explains the variables and their origins. For each variable, several attributes were formulated (for examples see Table 1) to define the concept further. Both group care worker and child variables were given one score for each task. Scores ranged from 1 to 5 (1 = not at all, 3 = somewhat, 5 = very much). After watching the completed task (often more than once), the coder decided on a score for each group care worker intervention and child behavior variable separately. The amount and variety of observed attri-

butes added to the scores on the variable.

In addition, the coder scored whether group care workers and children were off topic during the conflict-solving task. Off topic was scored if the group care worker and child talked about something other than the conflict topic for 10 seconds or more. It is important to know whether conflict discussions went off topic because talking about other, possibly less difficult, topics might influence the scores on the variables. Of the conflict discussions, 32% were off topic for some time during the conflict task. Ten of the off topic situations were examined more closely. On average, the conflict discussions were off topic for 33 seconds or 14% of the total duration of the task. Given the small amount of time that group care workers and children were off topic, the researchers decided to include the off topic videos in the analyses of the material.

Some minor adjustments were made to the coding system during the training period prior to the actual coding of material to enhance inter-observer agreement (For all attributes, see the manual for the Global Ratings Coding System [Bastiaanssen & O'Hara, 2012]). In addition to the variables described, two additional concepts were part of the total coding manual: engagement and group care worker contempt. These variables were not included in the analyses for this article. Engagement was a dyad variable where the group care worker child dyad shared a score. The current study was only interested in individual group care worker and child variables. Group care worker contempt was not included in the analyses because this variable is not a pedagogical intervention of group care workers, rather an affect variable.

Before coding the videotaped interactions, the coder underwent weekly training sessions led by the first author who codeveloped the global ratings system in which the observer and trainer were required to reach a minimum criterion of 80% agreement and kappa of .60 (unweighted) or .75 (weighted⁷). After 7 weeks, this criterion was met. The coder coded all 95 observations within a period of 9 weeks. Every week, one or two files of the videotaped interactions were randomly

⁷ Weighted kappa is useful when codes are ordered because it considers the distance between differing scores (Cohen, 1968). When calculating the weighted kappa, three matrices are involved. In addition to the matrix of observed scores and the matrix of expected scores, based on chance agreement (used in unweighted Kappa calculations), the unweighted Kappa are also used in a weight matrix. Only variables that were used in the analyses for this article were included in calculating the Kappa.

selected and compared to a “gold standard” file of the same session that was coded by the trainer. This was done for 15% of all videotaped interactions. The coder was blind to which sessions were chosen to assess observer agreement. The final coder agreement using the gold standard method was .74 (unweighted kappa) and .87 (weighted kappa), which was good to excellent. During weekly sessions, codes that differed were discussed to prevent observer drift. Data from the coder were kept for the analyses. For one observation, both video cameras failed at the beginning of the observation; therefore, there was no footage of the first task and no scores on the variables. The remaining three tasks were captured on tape and were coded.

Strategy for analysis

Means and standard deviations were calculated for all group care worker and child variables per task. A repeated measures ANOVA was conducted to calculate differences in mean scores on the variables between tasks. Associations between pedagogical interventions of group care workers and child behaviors were analyzed by combining group care worker and child variables in correlational analyses using Mplus 5.1 (Muthén & Muthén, 1998–2006). The COMPLEX module implemented in Mplus 5.1 was used to account for nonindependence of observations due to cluster sampling (group care workers participating in observations). These analyses were conducted for the frustration and conflict-solving tasks because these tasks were developed to elicit specific behaviors of children in residential care and group care workers’ responses to these behaviors. Analyses were conducted in two steps. In the first correlational analysis, variance in scores of all variables was tested. Variables that showed no significant variance in scores were left out during the second step of the analyses at which point the remaining variables were correlated.

RESULTS

Content of pedagogical interventions and child behaviors

Means and standard deviations of all observation variables of group care workers and children were calculated per task. Results are displayed in Table 2. Overall, group care workers used positive pedagogical interventions during observations (i.e., warmth/support and positive control). Group care workers rarely

used negative pedagogical interventions (permissiveness and negative control). Children sometimes showed anxiety or nervousness during tasks, were frustrated and angry, or showed contempt toward the group care workers. The repeated measures ANOVA revealed differences in mean scores on variables between tasks (see Table 2). In general, mean scores on all variables were higher for the frustration and conflict-solving tasks. Group care workers used more warmth and positive control during frustrating or conflict-solving tasks (Tasks 2 and 3) than during more positive tasks (Task 1: warm-up and Task 4: cooling-down). Group care workers used more negative control during the conflict-solving task. There were no significant differences for permissiveness. Regarding child behaviors, children showed more anxiety during the frustrating or conflict-solving tasks than during the positive tasks. Children also showed more anger and frustration during the conflict-solving task. There were no significant differences for contempt.

Associations between pedagogical interventions and child behaviors

To connect pedagogical interventions of group care workers to child behaviors, correlations were calculated for both the frustration and the conflict-solving tasks in two steps. In the first step, the analysis contained all group care worker observation variables (warmth/support, positive control, permissiveness, and negative control) and all child observation variables (child contempt, anxiety/nervousness, frustration/anger). Within this first step, results for the frustration task showed no significant variance for the group care worker variables of permissiveness and negative control and child variable of contempt. Therefore, these variables were removed from the next step of the analysis. The first step in the analysis for the conflict-solving task showed significant variances for all group care worker and child variables; therefore, all variables were included in the analysis for the conflict-solving task.

Results from the correlational analyses for both tasks are displayed in Tables 3 and 4, respectively. For the frustration task, a significant and large correlation was found between frustration/anger and positive control ($r = .51$). The more frustrated and angry a child was during the frustration task, the more the group care worker used positive control. The same relation, though somewhat smaller, was found during the conflict-solving task ($r = .29$). Analysis of the conflict-solving task also revealed relations between all child variables and the group care worker variable of permissiveness.

Table 2
Mean (M) and Standard Deviations (SD) of all Variables per Task

	Task 1 Warm-up		Task 2 Frustration		Task 3 Conflict-solving		Task 4 Cooling-down		F	df
	M	SD	M	SD	M	SD	M	SD		
Group Care Pedagogical Interventions										
Warmth/Support	3.13 ^c	0.63	4.03 ^a	0.98	3.54 ^b	0.79	3.28 ^c	0.85	37.43 ^{**}	93
Positive Control	2.90 ^c	0.39	3.04 ^a	0.44	3.13 ^a	0.53	2.40 ^b	0.69	42.79 ^{**}	93
Permissiveness	1.03	0.18	1.03	0.23	1.09	0.35	1.06	0.29	1.58	93
Negative control	1.12 ^b	0.32	1.06 ^b	0.29	1.21 ^a	0.46	1.13 ^{ab}	0.34	4.60 ^{**}	93
Child Behavior										
Contempt	1.05	0.37	1.05	0.27	1.13	0.51	1.13	0.42	2.21	93
Anxiety/Nervousness	1.22 ^c	0.49	2.05 ^a	0.87	1.46 ^b	0.70	1.02 ^d	0.15	58.80 ^{**}	93
Frustration/Anger	1.13 ^{bc}	0.49	1.15 ^b	0.55	1.28 ^a	0.65	1.05 ^c	0.27	6.32 ^{**}	93

Note. * $p \leq .05$; ** $p \leq .01$
Superscripts indicate significant differences in means between tasks.

Table 3
Correlations among Group Care Worker Pedagogical Interventions and Child Behavior during the Frustration Task

	1	2	3
Group Care Worker Pedagogical Interventions			
1. Warmth/Support			
2. Positive Control	.15		
Child Behavior			
3. Anxiety/Nervousness	.21	.11	
4. Frustration/Anger	.03	.51 ^{**}	.05

Note. * $p \leq .05$; ** $p \leq .01$

Permissiveness had a large positive relation with contempt ($r = .72$), and a medium association with frustration/anger ($r = .44$). Thus, the more frustrated, angry, and contemptuous children behaved during the conflict-solving task, the more permissive the group care workers became. The latter was examined more closely because permissiveness seldom occurred. Permissive interventions were seen in only six observations. In almost all of these six cases, children showed challenging behaviors (contempt, anger, or frustration). Additionally, permissiveness had a small negative association with anxiety/nervousness ($r = -.16$). This finding indicates that when children showed more anxious and nervous behaviors during the conflict-solving task, group care workers were less permissive. In addition to relations between group care worker and child variables, were relations within group care worker and child variables during the conflict-solving task. Warmth/support showed a negative, medium relation with negative control ($r = -.30$), and a positive, but smaller, relation with positive control ($r = .19$). Group care workers who used more warm and supportive interventions during the conflict-solving task, tended to use less negative control and more positive control. Within the child variables, contempt had a small negative relation with anxiety/nervousness ($r = -.16$), and a medium positive relation with frustration/anger ($r = .45$).

Table 4
Correlations among Group Care Worker Pedagogical Interventions and Child Behavior during the Conflict-Solving Task

	1	2	3	4	5	6
Group Care Worker Pedagogical Interventions						
1. Warmth/Support						
2. Positive Control	.19*					
3. Permissiveness	-.13	.06				
4. Negative Control	-.30*	-.07	.16			
Child Behavior						
5. Contempt	-.04	.26	.72**	.16		
6. Anxiety/Nervousness	.01	-.04	-.16**a	.10	-.16**	
7. Frustration/Anger	-.07	.29*	.44* ^b	.14	.45**	-.27**

Note. * $p \leq .05$; ** $p \leq .01$

^a^b The coefficient of $-.16$ was significant at the 1% level, whereas the coefficient of $.44$ was only significant at the 5% level. This paradoxical result occurred because the standard error of the latter estimate was larger than the former.

Children who showed more contempt during the conflict-solving task were less nervous and anxious, but showed more frustration and anger. In addition, anxiety/nervousness and frustration/anger were negatively related ($r = -.27$); children who were anxious showed less frustration.

DISCUSSION

The first aim of the current study was to observe the pedagogical interventions of group care workers within residential youth care. Group care workers use pedagogical interventions while interacting with children; the proportion in which group care workers put these interventions into practice can be measured reliably. The hypothesis that group care workers mainly use positive pedagogical interventions was confirmed. In the current study, group care workers were warm and supportive during observations and used positive controlling interventions with children. These findings are in line with those of previous studies that have observed group care workers interacting with children on the daily living unit (Crosland et al., 2008; Van den Berg, 2000). Although the design of those studies differed from the current study, group care workers in these studies also mainly showed positive interactions with children during observations. Additionally, warm and positive controlling interventions are considered important for the positive development of children (Cameron & Maginn, 2011; Knorth et al., 2010; Scholte & Van der Ploeg, 2000). In addition to these results, it should be noted that the levels of warmth and positive controlling interventions that group care workers displayed during observations were not extremely high. This means that group care workers could be warmer when interacting with children.

Although rarely, group care workers did use negative interventions (e.g., when they invalidated feelings or opinions of children or were permissive by avoiding conflict with children when they engaged in challenging behaviors). Indulgent parenting styles are known to have a negative impact on the behaviors of children (Cameron & Maginn, 2008). Therefore, group care workers should try to avoid negative pedagogical interventions as much as possible. Of course, this suggestion applies for all children, but is especially important for children in residential care because of their social, emotional, and behavioral needs (Crosland et al., 2008).

The second aim of this study was to investigate the relations between group care worker interventions and children's behaviors. The hypotheses were

partly confirmed. When children were frustrated during observations, group care workers used positive controlling interventions. In a previous study with a different sample, similar results were found when group care workers filled out questionnaires on child behaviors and their own interventions (Bastiaanssen et al., 2012). In contrast with the questionnaire study, anxious behaviors of children were not related to warm and supportive interventions of group care workers. This finding might be due to internalizing behavior problems such as anxiety or nervousness being less noticed by group care workers during observations compared to the externalizing nature of contempt, anger, or frustration. It could also be that group care workers do not listen enough to children to detect internalizing problems. When children behaved contemptuous, angry, or frustrated during the conflict situations, group care workers were permissive, meaning that they avoided conflict by not placing value on obedience, not setting limits, and not establishing rules. Permissiveness only seldom occurred, but when it did, challenging behaviors were also apparent in almost all cases. This might explain the association; however, considering the low number of permissive interventions, these results should be interpreted cautiously.

Next to associations between group care worker interventions and child behaviors, were associations between group care worker interventions. Group care workers who used more warm and supportive interventions during the conflict-solving task, tended to use less negative control and more positive control. This finding fits with the discussion provided in the introduction that a combination of warm and controlling parental dimensions are considered important in healthy child upbringing (Baumrind, 1971; Maccoby & Martin, 1983).

The observation protocol elicited behaviors of children and response to group care workers systematically. This makes comparison across children possible. It is not awkward for group care workers and children to talk separately with each other outside the group; however, group care workers usually intervene with children in the presence of other children and group care workers. This could explain the fact that, during observations, there was little variance in negative pedagogical interventions (e.g., negative control) or child behaviors (e.g., contempt). Negative interactions could occur more often in the daily residential unit, where group care workers may be tested more when working with a group of children who display challenging behaviors. Studies that have observed group care

workers and children in their natural environments have found similar results with mainly positive interactions between group care workers and children (Crosland et al., 2008; Van den Berg, 2000). Additionally, the group care workers were highly educated as most staff had professional bachelor's degrees. The Netherlands is known to have a high proportion of qualified staff working in residential youth care compared to other countries within the European Union (Crimmens, 1998). This high amount of professional staff can also explain the low occurrence of negative pedagogical interventions of group care workers in this study, as more education generally contributes to better quality of care. Although there was a low occurrence of negative group care worker and child behaviors, behaviors differed between the different tasks as constituted in the observation protocol. Children showed more anxious and frustrating behaviors during difficult tasks than during positive tasks. Further, group care workers used more pedagogical interventions during difficult tasks as a way to guide the child. This finding suggests that, to a certain extent, the different tasks in the observation protocol elicited different behaviors of children and group care workers.

This study is one of the first to observe pedagogical interventions of group care workers and child behaviors in residential care. Although the study contributes to knowledge on the content of group care work, some limitations need to be addressed. The first limitation concerns the fact that the group care workers and children were aware of the observations. This fact introduces a disadvantage that participants may have modified their behaviors because they knew they were being taped with a video camera and watched by researchers. It might be that group care workers and children used more positive interactions because they knew that the researchers would watch the tapes. Still, observational studies can provide another valuable source of data on group care worker interventions and children's problem behaviors next to questionnaire studies. Secondly, the current study was not able to draw causal inferences concerning the associations between child behaviors and group care worker interventions. The researchers hypothesized that group care workers would attune their interventions to the behaviors of the children. There were indeed associations between child behaviors and group care worker interventions; however, nothing can be said about the direction of these associations. This limitation is relevant because the global coding procedure in which group care worker and child variables were coded globally

and separately from each other. Real time, moment-to-moment coding could have made it possible to track interaction patterns between group care workers and children and provide the possibility of using more distinguished methodology to investigate the direction of associations between variables (Granic, 2005). Third, the results were based on data obtained from a sample of children and group care workers at two residential youth care institutions. Using more institutions throughout the Netherlands would be desirable to obtain information concerning the generalizability of the current results. However, collecting observational data on different group care worker-child dyads is a complicated and time-consuming operation.

Despite limitations, this study offers implications for future research and practice. Observational studies can provide objective data on the content of care that group care workers provide. Content of care should be part of studies on the quality and effectiveness of residential youth care. This knowledge could improve the quality of care and outcomes for children. Concerning practice, pedagogical interventions should be part of education, training, and supervision of group care workers. Despite the fact that group care workers usually have knowledge on adequate pedagogical skills (i.e., warmth and control), working with children who display severe behavior problems is challenging. This is especially the case during busy hours and crisis situations where group care workers might react negatively to maintain control or the opposite, to avoid confrontation. Working toward positive behaviors with young people takes persistence and courage to address unacceptable behaviors consistently, sensitively, and authoritatively (Smith, et al., 2013). Supervision and coaching-on-the-job can enhance group care workers' use of appropriate interventions. Studies on the effects of behavioral management training for residential staff have reported more positive interactions between group care workers and children (Crosland et al., 2008; Duppong Hurley, Ingram, Czyz, Juliano, & Wilson, 2006). Group care workers could also overlook important signals of children. This is often the case with internalizing behaviors such as anxiety or nervousness occurs and warm and supportive interventions are needed to provide the necessary safety. In the current study, video cameras were used for research purposes; however, video footage can also be a tool for coaching group care workers. In the Netherlands, some residential institutions use video cameras within the daily living unit for supervision purposes (De Lange

& Chênevert, 2011; Embregts, 2002). Videotaped interactions between group care workers and children are viewed with individual or teams of group care workers to discuss appropriate responses. This method can increase the quality of group care workers' interventions (Embregts, 2002). Residential institutions should consider video-feedback as a tool for supervision and training of group care workers.

This study provided the first step in observing pedagogical interventions of group care workers and associations with child behaviors within residential youth care. Group care workers mainly used warm and positive controlling interventions when interacting with children. Frustration and anger of children was associated with positive controlling interventions as well as with permissiveness of group care workers. The current study outlined the importance of group care workers concerning the influence of their pedagogical interventions on the quality of residential youth care. Residential childcare institutions should support group care workers in this important, but complex, profession.

5

MULTI-TRAIT MULTI-METHOD ASSESSMENT OF GROUP CARE WORKER INTERVENTIONS AND CHILD BEHAVIOURS IN RESIDENTIAL YOUTH CARE

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ABSTRACT

The aim of the current study was to investigate the validity of questionnaire and observational measures of group care worker interventions and child behaviours in residential youth care using a multi-trait multi-method design. Group care worker interventions and child behaviours were videotaped during structured observations. Participants included 95 children (64% boys, *Age* = 9.19) and 53 group care workers (74% female, *Age* = 33.79 years) from two residential institutions. A system was developed to code pedagogical interventions and child behaviours. Prior to observations, group care workers filled out questionnaires regarding child problem behaviours and their own interventions. Analyses did not provide evidence for convergent or discriminant validity of measurement for group care worker interventions. We did find evidence for the convergent validity of measurement for externalising child behaviours, but not for internalising behaviours. Criterion validity was strongest between questionnaires on group care worker interventions and child problem behaviours. Reported controlling interventions of group care workers were associated with reported externalising behaviour problems of children, and reported warm and supportive interventions were associated with reported internalising behaviour problems. To expand our knowledge on the subject, more research on valid measurements of group care worker interventions is needed with the aim to provide quality of care for looked-after children.

INTRODUCTION

Within residential youth care, group care workers are important actors as these workers shape treatment by interacting with children and helping them through difficult events and processes (Anglin, 2002; Bastiaanssen et al., 2012; Cameron, Wigfal, & Simon, 2006; Knorth, Harder, Huygen, Kalverboer, & Zandberg, 2010; Petrie, Boddy, Smith, Fulcher, & Doran, 2013; Ward, 2004, 2007). The guidance of group care workers during the day can change children's behaviours positively (Knorth et al., 2010; Leichtman, Leichtman, Cornsweet Barber, & Neese, 2001; McCurdy & McIntyre, 2004; Rosen, 1999). The activities of group care workers involve not only physical and material matters but also pedagogical and psychological care taking (Knorth et al., 2010).

Group care workers are often referred to as "therapeutic parents" (Cameron & Maginn, 2011; McGuiness & Dagan, 2001; Shealy, 1996; Smith et al., 2013). Therefore, the quality of pedagogical interventions of group care workers is likely to affect the quality of residential treatment in general (Bastiaanssen, Delsing, Geijsen et al., 2014; Knorth, et al., 2010). In parenting research, warmth and control are viewed as important parenting dimensions for healthy child upbringing (Baumrind, 1971; Maccoby & Martin, 1983). Not surprisingly, several authors have mentioned these dimensions as an impetus for interventions for group care workers (Bastiaanssen et al., 2012; Harder, Kalverboer, Knorth, & Zandberg, 2008; Holmqvist, Hill, & Lang, 2007; Kok, 1997; Shealy, 1996; Stein, 2009). Some authors have especially mentioned the importance of warm and supportive interventions (Boendermaker, Van Rooijen, & Berg, 2012; Cameron & Maginn, 2008; 2011). In the current study, group care worker behaviours were defined as interventions directed toward children to shape treatment (Bastiaanssen et al., 2012). Therefore, we focused on the important pedagogical dimensions of warmth and control to determine whether the interventions that group care workers applied were associated with child behaviours.

Little is known about group care worker interventions in residential youth care and how these interventions are related to child behaviours. Van der Ploeg and Scholte (2003) examined Dutch facility for adolescent residential care and developed the Goal/Methods questionnaire. This self-report questionnaire for group care workers measures three categories of group care worker interventions:

Structuring, Confronting, and Affection and Emotional Support. Results showed that group care workers used somewhat more controlling interventions than providing affection and emotional support. Scholte and Van der Ploeg (2000) concluded that a combination of firm control and warm and supportive interventions of group care workers lead to healthy development of children in residential care. However, no information exists regarding the validity of the questionnaires used in these studies. Bastiaanssen et al. (2012) further developed the Group care worker Intervention Checklist (GICL) using parenting dimensions as the base of conceptualization for this questionnaire. With the GICL, group care workers reported on their pedagogical interventions toward a specific child, which lead to three concepts: controlling, warmth/support and autonomy granting. Bastiaanssen et al. (2012) found that controlling interventions were positively associated with externalising behaviour problems of children, and warm, supportive, and autonomy granting interventions were positively associated with internalising behaviour problems. Van Dam et al. (2011) used the GICL at several Dutch residential institutions for adolescents with severe behaviour problems. The study included longitudinal data on behaviour problems of adolescents as perceived by group care workers as well as data of group care workers who retrospectively reported their interventions at the end of treatment. No associations were found between pedagogical interventions of group care workers and behavioural change of adolescents. Bastiaanssen, Delsing, Kroes, Engels, and Veerman (2014) collected longitudinal data for a sample of younger children (5-12 years) placed in residential care for child behaviour problems and group care worker interventions. Bastiaanssen et al. investigated bidirectional associations between pedagogical interventions of group care workers and behavioural changes of children during treatment. Externalising behaviour problems of children were associated with higher subsequent levels of controlling interventions by group care workers and more controlling interventions of group care workers were associated with higher subsequent levels of externalising behaviour problems. Additionally, children's internalising behaviour problems were associated with lower subsequent levels of autonomy granting interventions by group care workers.

The studies all used questionnaires that measured group care worker interventions. However, researchers have also conducted observational studies on interventions of group care workers. Van den Berg (2000) observed the social

interactions between group care workers and children using a coding system based on the Structural-Analysis-of-Social-Behaviour model by Benjamin (1993; 1994). This comprehensive coding system also measured interventions of group care workers; namely, nurturing and protecting, affirming and understanding, watching and controlling, asserting and separating, and freeing and forgetting. The researcher found that 60% of the interactions between group care workers and children beheld the first two categories: warm and supportive interventions. The next two categories, watching and controlling and asserting and separating, which could be considered controlling interventions, occurred in 25% of the interactions. Bastiaanssen, Delsing, Geijsen et al. (2014) also conducted an observational study and found that group care workers mainly used positive pedagogical interventions (warmth/support and positive control) and seldom used negative pedagogical interventions (permissiveness and negative control). In contrast to Van den Berg (2000), Bastiaanssen, Delsing, Geijsen et al. analyzed the associations of group care worker interventions with child behaviours during observations. Results showed that frustration and anger of children was associated with positive controlling interventions and permissiveness of group care workers.

Based on the few studies on group care worker interventions to date, these workers tend to use pedagogical interventions during interactions with children in their care. Warmth and control seem to be relevant concepts regarding group care worker interventions and different types of interventions are associated with different types of child problem behaviours. The aim of the current study was to investigate the validity of questionnaire and observational measures to assess the interventions of group care workers in residential youth care. We used data from an earlier study where we reported on the content of observed group care worker interventions and child behaviours (Bastiaanssen, Delsing, Geijsen et al., 2014) and collected questionnaires. In the present study, both questionnaire and observational methods were combined, and associations between interventions and child behaviours were investigated. The multi-trait multi-method (Campbell & Fiske, 1959) made it possible to explore the convergent and discriminant validity of the GICL scales and observational measures of the same concepts. Convergent validity refers to the extent to which questionnaire and observational measures of similar constructs are related. Discriminant validity refers to the extent to which measures of theoretically unrelated constructs are indeed unrelated.

Similar constructs are referred to as monotrait and dissimilar constructs as heterotrait. Similarly, multiple methods are used to examine the differential effects (or lack thereof) caused by method-specific variance (i.e., questionnaires and observations). Similar methods are referred to as monomethod, and dissimilar methods as heteromethod (Campbell & Fiske, 1959). The basic assumption is that associations between similar constructs measured with different methods should be the highest (monotrait-heteromethod), and associations between dissimilar traits and different methods should be the lowest (heterotrait-heteromethod).

In this study, we expected that reported warm and supportive interventions by group care workers would be associated with observed warm and supportive interventions of group care workers. We also expected that reported controlling interventions by group care workers would be associated with observed controlling interventions of group care workers. The same relations were expected with reported child behaviour by group care workers and observed child behaviours (externalising and internalising behaviours). Including both group care worker interventions and child behaviours provided the additional ability to test the criterion validity of both questionnaire and observation measures and the multi-trait multi method assessment of group care workers and child behaviour separately. We expected that warm and supportive interventions of group care workers would be associated with internalising behaviours and controlling interventions of group care workers with externalising behaviours.

METHOD

Participants and setting

This study took place in the residential departments of two youth care institutions for children aged 5 to 12 years old in east Netherlands. Children were placed in a youth residential care setting because of problematic child behaviours (e.g., ADHD, oppositional defiant disorder, attachment disorders, and pervasive developmental disorder). In most cases, issues related to problematic family functioning were apparent (e.g., problems with parenting or parent-child relationship, parental psychiatric problems, and parental alcohol and drug abuse). Referrals were drawn from a diversity of agencies, and care was either voluntary or forced. The residential care varied from a short-term shelter to more permanent stays; therefore, frequency and duration of care varied. The two residential settings

together hosted approximately 80 children, divided over 8 units (approximately 10 children per treatment group). The treatment program consisted of living arrangements, education, recreational activities, and individual and family therapy.

All children in residential care during the time of data collection participated in the study except for four children whose parents did not provide consent. Of the 95 children who participated 64% were boys ($M_{age} = 9.19$ years, $SD = 1.93$, range 5-15⁸). Children were in residential care for 1 to 88 months ($M = 10.8$). All group care workers in the residential institutions at the time of data collection participated in this study ($N = 53$) except for those who worked only a few hours a week or who were substitutes and did not know the children very well. Of the group care workers, 74% were female ($M_{age} = 33.79$ years, $SD = 9.80$, range 22-60) and 85% of group care workers had professional bachelor degrees. Because there were more children than group care workers, some workers participated more than once with a maximum of three times. All parents or caretakers were informed of the study and were asked to provide consent for their child to participate and for the researchers to use of the data collected for scientific purposes.

Procedure

Observations were collected at six residential units of one institution between February 2010 and July 2011. In February and March 2011, observations were collected at two residential units of the second institution. One week prior to the observations, questionnaires were sent to group care workers about the problem behaviour of the child with whom they participated in the observation and their pedagogical interventions with that child. For two children, no questionnaires were returned, and for one child, the questionnaire was incomplete; therefore, some scales could not be calculated. Regarding the observational part of this study, a structured observation protocol was developed that included four different tasks for group care workers and children. The aim of the tasks was to elicit specific behavioural responses from the children as well as the group care workers' responses to those behaviours, which were assumed to represent day-to-day interactions in the residential units.

⁸ All children belonged to the age category for residential care for younger children (5-12 years old), except for one child (15 years old). When excluding this child, $M_{age} = 9.13$ years, $SD = 1.85$, range 5-12.

Observations took place between child and group care worker in a familiar room within the residential unit. Observations were videotaped. Tasks were explained by the researcher who waited outside the room during the observations. The researcher entered the room after each task ended to instruct the child and group care worker of the next task. The first task was a warm-up task and the child and group care worker were instructed to plan a birthday party for the child. The second task was a frustration task that consisted of four puzzles taken from the intelligence test SON-R subtest Mosaics (Snijders, Tellegen, & Laros, 1988). Each child was given one minute per puzzle, which is not enough for the vast majority of children this age to finish. This intent of this task was to induce some frustration in the child. The third task was a conflict-solving task where the researcher introduced a recent and serious conflict topic. Participants were instructed to discuss the topic and to try to solve the problem. The conflict topic was reported by the group care worker on the Conflict Questionnaire just before observation started. The Conflict Questionnaire is an adapted version of the Issues Checklist (Prinz, Fosters, Kent, & O'Leary, 1979) and lists a number of potential sources of conflict between group care workers and children (e.g., lying, swearing, and conflicts with other children in the living group). During the fourth task, child and group care worker engaged in a short game to end the observation in a positive manner. The first task was 2 minutes in length, and the other three tasks lasted 4 minutes each. Tasks 2 and 3 were core tasks intended to elicit child behaviours and group care worker pedagogical interventions. For a more detailed description of the observation protocol see Bastiaanssen, Delsing, Geijsen et al. (2014).

Measures

Observations of group care worker interventions and child behaviours.

A system was developed to code the interventions of group care workers and child behaviours (Bastiaanssen & O'Hara, 2012). For a more detailed description of the complete coding system see also Bastiaanssen, Delsing, Geijsen et al. (2014). To address the research questions, four variables of the coding system were used (i.e., two for group care worker interventions and two for child behaviours). For group care worker interventions during observations, warmth/support and positive control were included. When a group care worker was warm and supportive, he or she was reassuring the child, being affectionate, giving compliments,

and enjoying the company of the child. Positive control meant that the group care worker used an appropriate and positive degree of verbal and nonverbal structuring in response to the child behaviours. Two variables were included to code the child behaviours during observations: anxiety/nervousness and frustration/anger. Scores for both group care worker interventions and both child behaviours ranged from 1 to 5 (1 = not at all, 3 = somewhat, 5 = very much). All variables were given a score for each task. After watching the complete task, the coder decided on a score for the amount of warm and controlling interventions used by the group care worker and the amount of nervous and frustrating behaviours displayed by the child.

Before coding the videotaped interactions, the coder underwent weekly training sessions led by the first author who codeveloped the coding system in which the coder and trainer were required to reach a minimum criterion of 80% agreement with a kappa of .60 (unweighted) or .75 (weighted). This criterion was met after 7 weeks. The coder coded all 95 observations within a period of 9 weeks. Every week, one or two files of the videotaped interactions were randomly selected and compared to a “gold standard” file of the same session that was coded by the trainer. This was done for 15% of all videotaped interactions. The coder was blind to which sessions were chosen to assess observer agreement. The final coder agreement for the set of variables used was .67 (unweighted kappa) and .82 (weighted kappa), which was good to excellent (Altman, 1991). During weekly sessions, the trainer and coder discussed codes that differed from the “golden standard” to prevent observer drift. Data from the coder were used for analyses.

Questionnaires for group care worker interventions and child behaviours.

Group care worker Intervention Checklist

The GICL (Bastiaanssen et al., 2012) is a questionnaire used to assess group care worker interventions. The GICL contains 21 items that cover three concepts regarding group care worker interventions: warmth/support (6 items), controlling (8 items), and autonomy granting (7 items). Group care workers reported the extent to which (0 = not, 1 = some, or 2 = certainly) they used particular interventions in the treatment of a specific child. Scaled scores were obtained by summing the item scores. This study included the scales warmth/support and controlling with

possible score ranges of 0-12 and 0-16, respectively. Bastiaanssen et al. (2012) provided the first evidence that the GICL is a reliable and valid instrument to measure important concepts regarding group care worker interventions. Cronbach's alpha was .79 for warmth/support and .93 for controlling.

Child Behaviour Checklist

The Child Behaviour Checklist (CBCL; Achenbach, 1991; Achenbach & Rescorla, 2001; 2007) is a questionnaire used to assess children's problem behaviours according to group care workers. All 113 items of the CBCL were measured on a 3-point scale that ranges from 0 (not at all) to 2 (often) with higher scores indicating more problems. The CBCL consists of eight first-order factors and two second-order factors. Only the second-order factors, internalising and externalising behaviour, were used in this study. The first second-order factor, internalising behaviour (32 items), consists of three first-order factors: withdrawn behaviour, somatic complaints, and anxious depressed behaviour. The other second-order factor, externalising behaviour (35 items), consists of two first-order factors: rule breaking and aggressive behaviour. Following Achenbach's (1991) recommendations, we used raw scores for our analyses. Scale scores were obtained by summing the item scores with possible score ranges of 0-64 for internalising behaviour and 0-70 for externalising behaviour. Psychometric analysis indicated good validity and reliability of the CBCL in the United States (Achenbach, 1991) and the Netherlands (Verhulst, Van der Ende, & Koot, 1996). Although the CBCL is a parent questionnaire, it can also be administered by group care workers (Albrecht, Veerman, Damen, & Kroes, 2001). Cronbach's alpha in the current study was .89 for internalising behaviour, and .91 for externalising behaviour.

Strategy for analysis

Associations between interventions of group care workers and child behaviours were analyzed by combining reported and observed group care worker and child variables in correlational analyses in Mplus 5.1 (Muthén & Muthén, 1998–2006). Mplus was used for two reasons. First, three cases had missing data, which was handled using a full-information maximum likelihood (FIML) estimator implemented as MLR in Mplus 5.1. By using MLR, we could make use of all available data and provide better estimations of standard errors when normality assumptions are violated. Little's (1988) MCAR tests revealed that data in our study were missing completely at random, which justified the use of the FIML approach.

All covariance coverage values exceeded the minimum recommended coverage of 0.10 (Muthén & Muthén, 1998–2006). Second, Mplus was used because of the COMPLEX module implemented in the program to account for nonindependence of observations due to cluster sampling (group care workers participating with more than one child). These analyses were conducted for Tasks 2 and 3 separately because these tasks were developed to elicit specific behaviours of children in residential care and group care workers' responses to those behaviours.

RESULTS

Tables 1 and 2 detail the correlation coefficients between questionnaire variables and observed variables during Tasks 2 and 3, respectively. Means and standard deviations for all variables are listed in the Appendix.

Multi-trait multi-method assessment of group care worker interventions

In the upper left part of Tables 1 and 2, associations concerning multi-trait multi-method assessment of group care worker interventions, are positioned with respect to observations. Monotrait-heteromethod correlation coefficients are indicated with a superscript a and were expected to be the highest. There were no significant associations between reported and observed group care worker warmth/support or between reported and observed group care worker control. These results are apparent for observed variables during Tasks 2 and 3. The coefficient between reported and observed warmth/support during Task 2 was negative ($r = -.10$, n.s.). Although this correlation was not significant, within multi-trait multi-method theory, methods measuring the same trait should not be below zero. Considering these results, convergent validity between observed and reported group care worker interventions could not be proven.

Heterotrait-monomethod correlation coefficients are indicated with a superscript b and were expected to be lower than monotrait-heteromethod coefficients. There was a small significant correlation between the GICL scales warmth/support and controlling ($r = .25$, $p \leq .05$). Group care workers who were warm and supportive also used controlling interventions. The same result was found for those observation variables in Task 3. There was a small correlation between warmth/support and positive control ($r = .19$, $p \leq .05$). Group care workers who

displayed warm and supportive interventions also used positive controlling interventions while engaging with children during a conflict-solving task. The associations between the constructs of both methods provided no direct support for the discriminant validity of these constructs, although the correlations were low.

The heterotrait-heteromethod coefficients are indicated with a superscript c in both tables and were expected to be the lowest. Patterns of these correlation coefficients provided mixed results. There was a small negative association between reported controlling interventions and observed warmth/support during Task 3 ($r = -.24$, $p \leq .05$). Group care workers who reported more controlling interventions used less warm and supportive interventions during a conflict-solving task with children. Although other heterotrait-heteromethod coefficients were not statistically significant, almost all were smaller than the monotrait-heterotrait coefficients. Together with the previously reported negative association between reported control and observed warmth/support, this finding provides marginal evidence for the discriminant validity.

Multi-trait multi-method assessment of child behaviours

In the lower right part of Tables 1 and 2, associations concerning multi-trait multi-method assessment of child behaviours are positioned regarding observations during Tasks 2 and 3, respectively. Again, correlation coefficients are indicated with superscripts a, b, and c, for monotrait-heteromethod, heterotrait-monomethod, and heterotrait-heteromethod coefficients, respectively. There were small significant correlations between reported externalising behaviour problems and observed frustrating and angry behaviours of children; these associations were apparent in Task 2 ($r = .27$, $p \leq .01$) and Task 3 ($r = .20$, $p \leq .05$). When group care workers reported more externalising behaviour problems, children displayed more frustrating and angry behaviours during observations. There was a small negative association between reported internalising behaviour problems and observed anxious and nervous behaviours of children during Task 3 ($r = -.18$, $p \leq .05$). When group care workers reported more internalising behaviour problems, children displayed less anxiety and nervousness during the conflict-solving task. During Task 2, this coefficient was negative and non significant. Given the results on these monotrait-heteromethod associations, convergent validity between reported and observed group care worker interventions could only be ascertained for reported and observed externalising behaviour, not for internalising behaviours.

Table 1
Correlations between Reported and Observed Group Care Worker Interventions and Child Behaviours during Task 2

	Group Care Worker Interventions				Child Behaviours		
	Questionnaires (GICL)		Observations		Questionnaires (CBCL)		Observations
	Warmth/ Support	Controlling	Warmth/ Support	Positive Control	Internalising	Externalising	Anxiety/ Nervousness Frustration/ Anger
Group Care Worker Interventions	Questionnaires (GICL)						
	Warmth/Support	-					
	Controlling	.25* ^b	-				
	Observations						
	Warmth/Support	-.10 ^a	-.13 ^c	-			
	Positive Control	-.03 ^c	.08 ^a	.15 ^b	-		
Child Behaviours	Questionnaires (CBCL)						
	Internalising	.46**	-.01	.07	-.05	-	
	Externalising	.01	.63**	.19	.23**	.15 ^b	-
	Observations						
	Anxiety/ Nervousness	-.06	-.04	.21	.11	-.11 ^a	.29** ^c
	Frustration/ Anger	.10	.17	.03	.51**	.02 ^c	.27** ^a

Note. * $p \leq .05$; ** $p \leq .01$. ^a Monotrait-Heteromethod: Correlations were expected to be the highest. ^b Heterotrait-Monomethod: Correlations were expected to be lower than ^a. ^c Heterotrait-Heteromethod: Correlations were expected to be the lowest.

Table 2
Correlations between Reported and Observed Group Care Worker Interventions and Child Behaviours during Task 3

	Group Care Worker Interventions				Child Behaviours		
	Questionnaires (GICL)		Observations		Questionnaires (CBCL)		Observations
	Warmth/ Support	Controlling	Warmth/ Support	Positive Control	Internalising	Externalising	Anxiety/ Nervousness Frustration/ Anger
Group Care Worker Interventions	Questionnaires (GICL)						
	Warmth/Support	-					
	Controlling	.25* ^b	-				
	Observations						
	Warmth/Support	.00 ^a	-.24* ^c	-			
	Positive Control	-.10 ^c	.03 ^a	.19* ^b	-		
Child Behaviours	Questionnaires (CBCL)						
	Internalising	.46**	-.01	.19*	-.02	-	
	Externalising	.00	.63**	-.02	.17	.15 ^b	-
	Observations						
	Anxiety/ Nervousness	-.03	.01	.01	-.04	-.18* ^a	.00 ^c
	Frustration/ Anger	.05	.06	-.07	.29*	.14 ^c	.20* ^a
							-.27** ^b

Note. * $p \leq .05$; ** $p \leq .01$. ^a Monotrait-Heteromethod: Correlations were expected to be the highest. ^b Heterotrait-Monomethod: correlations were expected to be lower than ^a. ^c Heterotrait-Heteromethod: Correlations were expected to be the lowest.

Concerning heterotrait-monomethod, there was a small negative association for observed anxiety and nervousness and frustration and anger during Task 3 ($r = -.27, p \leq .01$). Children who showed more anxiety during a conflict-solving task showed less frustration. This result together with the non significant very small associations between the other constructs within the same method, provided evidence for discriminant validity.

Lastly, heterotrait-heteromethod coefficients revealed a small association. When group care workers reported more externalising behaviour problems, children showed more anxiety during the frustration task ($r = .29, p \leq .01$). This unexpected association was not reported during Task 3. Given these results, only marginal evidence is provided for the discriminant validity of reported and observed externalising behaviours. Concerning reported and observed internalising behaviours, the heterotrait-heteromethod coefficient was higher than was the monotrait-heteromethod coefficient in both tasks indicating no discriminant validity for reported and observed internalising behaviours.

Criterion validity of group care worker interventions and child behaviours

In addition to the assessment of convergent and discriminant validity examined with the multi-trait multi-method approach, criterion validity was tested by relating specific group care worker interventions with specific child behaviours. There were no associations between reported interventions of group care workers and observed child behaviours during either observational tasks. However, there were associations between reported behaviours and observed interventions. There was a small association between reported internalising behaviour problems and observed warm and supportive interventions during Task 3 ($r = .19, p \leq .05$). Group care workers who reported more internalising behaviour problems for a specific child, used more warm and supportive interventions while interacting with that child during the conflict-solving task. This association was not found for Task 2. There was an association between reported externalising behaviour problems and observed positive controlling interventions during Task 2 ($r = .23, p \leq .01$). Group care workers who reported more externalising behaviour problems for a specific child, used more positive controlling interventions during the frustrating task. This association was not found for Task 3.

Secondly, there were associations between reported group care worker interventions and reported child behaviours, and observed group care worker interventions and observed child behaviours. Concerning the questionnaire variables, reported internalising behaviours were associated with reported warm and supportive interventions of group care workers ($r = .46, p \leq .01$), and reported externalising behaviours were associated with reported controlling interventions of group care workers ($r = .63, p \leq .01$). Associations between observed group care worker and child variables during both tasks were reported in an earlier study by our group (Bastiaanssen, Delsing, Geijsen et al., 2014).

Concluding on the criterion validity of the questionnaires and observational measures used in this study, expected associations between questionnaires and observations could only be established between child behaviours as reported by group care workers with questionnaires and interventions that group care workers applied during those observations. However, these results differed between the different observational tasks. During the conflict-solving task, internalising behaviour problems of children were associated with warm and supportive interventions of group care workers. During the frustration task, externalising behaviour problems of children were associated with controlling interventions of group care workers. Criterion validity was strongest for the questionnaire method; both types of child behaviours (i.e., internalising and externalising behaviours) were associated with both types of group care worker interventions (i.e., warmth/support and control, respectively).

DISCUSSION

The aim of the current study was to investigate the validity of a measurement for group care workers interventions and child behaviours in residential youth care. Results could not provide evidence for the convergent validity of the measurement for group care worker interventions. There could be a discrepancy between what interventions group care workers report and those they actually put into action when confronted with child problem behaviours. When reporting about their interventions, group care workers may report on what they believe they should do given specific problem behaviours of children, rather than their actual behavioural responses. Another explanation for the lack of convergent validity could be that the operationalisation of group care worker interventions

differed between the GICL questionnaire and the observations. For example, items that allowed group care workers to report about warm and supportive interventions (e.g., offering support during anxious and threatening situations) are not exactly the same as attributes of warm and supportive interventions coded by the researcher during observations (e.g., reassuring). In some cases, items on the GICL questionnaire were difficult to code during observations because intentions are not always visible during observations (e.g., granting trust), especially while observing a group care worker interacting with one child away from the living unit (offering individual attention).

Results could not provide convincing evidence for the discriminant validity of the measurement for group care worker interventions. In contrast with the expectations, warm and supportive and controlling interventions of group care workers were associated within both methods (i.e., questionnaires and observations). According to Campbell and Fiske (1959), traits for investigating discriminant validity should be different enough to be distinct; however, similar enough to be worth examining with the multi-trait multi-method. As stated in the introduction, the combination of warmth and control is important for healthy child upbringing within the family (Baumrind, 1971; Maccoby & Martin, 1993) as well as within residential youth care (Bastiaanssen et al., 2012; Harder, et al., 2008; Holmqvist, et al.; Kok, 1997; Scholte & Van der Ploeg, 1993; Shealy, 1996; Stein, 2009). Maybe, because of the significance of the combination of warm/supportive interventions and controlling interventions, these traits are not distinctive enough to discriminate.

Support for the convergent validity of both types of measures to tap child problem behaviours was only found with regard to externalising behaviours, not internalising behaviours. Because externalising behaviours of children are more overt than are internalising behaviours, it is easier to notice these than internalising behaviours such as anxiety, depression, or nervousness. Additionally, externalising behaviours such as anger, frustration, and rule breaking require immediate intervention from group care workers because these behaviours are disturbing for other children and group care workers within the residential unit (Kroes, Veerman, & De Bruyn, 2000).

Convergent and discriminant validity of the measurement of group care worker interventions could not be proven in this study, and only partial support

was found for the convergent validity for measurement of child behaviours. On the contrary, reliability of both the observational method and the included questionnaire scales proved to be good. Concerning the fact that more support was found for the validity of the measurement for child behaviours, it may be that children are less influenced by the presence of video cameras than are group care workers. Although group care workers were not informed about the aim of the study, they might have felt that the researchers would judge their professional actions, which may have modified their interventions.

Criterion validity was strongest between questionnaires on group care worker interventions and child problem behaviours. With these results, the current study replicated earlier findings on associations between group care worker interventions and child behaviours using questionnaires exclusively (Bastiaanssen et al., 2012). Same results were also found for a different sample of children; reported controlling interventions of group care workers were associated with reported externalising behaviour problems and reported warm and supportive interventions of group care workers were associated with reported internalising behaviour problems.

This study combined questionnaires and observations to add to the knowledge of measurements for group care worker interventions and child behaviours in residential youth care. Although this study was the first to do so, some limitations need to be addressed. First, because of the correlational analyses, it was not possible to draw causal conclusions. The question remains whether group care worker interventions influence child behaviours or vice versa. The behaviours of group care workers and youth in care could be considered a dynamic system in which the behaviours of both parties are reinforced over time (Watts, Reed, & Hastings, 1997; Oliver, 1995). However, how these mechanisms work exactly is unknown. Because of the latter, associations should be interpreted carefully. Caution should also be taken in interpreting these results because some associations were only present during the frustrating task and others only during the conflict-solving task, and associations were generally small. Secondly, the results are based on data obtained from a small sample of children and group care workers at two residential youth care institutions; therefore, it is unknown whether the results can be generalised to other residential youth care environments. However, collecting questionnaire data together with observational data within residential

youth care is a complicated and time-consuming operation. The third limitation of our study concerns the validity of our observation protocol. Group care workers and children were isolated during observational sessions. This created the advantage that behaviours of children and responses of group care workers were elicited systematically, which makes comparison across children possible. However, group care workers usually intervene with children in the presence of other children and group care workers. Isolation from the living unit might have influenced participants' behaviours. However, it is not awkward for group care workers and children to talk separately with each other outside the group because treatment does also involve individual conversations outside the group. In addition, participants may have modified their behaviours because they were aware of the observations. This explanation seems more apparent for group care workers than for children, which may have influenced the measurement of group care worker interventions. The observation protocol was necessary to provide answers to the research questions in our study; when developing the protocol, we tried to elicit real life interactions between group care workers and children as much as possible.

The following provides suggestions for future research on measuring group care worker interventions. First, similar constructs of group care worker interventions measured with different methods (e.g., questionnaires and observations) should be precisely tuned to measure the same construct (e.g., items used in questionnaires should also be observable). In addition, including more methods in the multi-trait multi-method matrix could provide a better understanding about which methods are the most valid in measuring group care worker interventions. For example, interviews could be added to the design. With that, other informants should be considered such as children, parents, or other staff members (Marsh, Evans, & Williams, 2010). Lastly, different constructs of group care worker interventions could be included to provide evidence for discriminant validity. Overall, when professional behaviours are studied, observations should be part of the design. Professionals often know what they should do, but in real world practice such as residential youth care, putting theory into practice is complicated given all of the factors involved (e.g., personal, emotional, organizational). Further, real-time coding of observational material could provide better insight into temporal order of group care workers interventions and child behaviours (Granic, 2005). Given implications for practice, residential youth care institutions should

be aware of the importance of the quality of interventions. Warmth and control are important parenting dimensions, which also seem relevant for interventions by group care workers. When controlling interventions are necessary because of challenging child behaviours, there should also be sufficient warm and supportive interventions toward children. Group care workers should also be aware of internalising behaviours of children, which can be easily overlooked. In these cases, warm and supportive interventions are needed to provide the necessary safety in overcoming anxiety and nervousness.

The current study provided the first step in the direction of valid measurement of group care worker interventions. Questionnaire and observational measures may tap different aspects of group care worker interventions and child behaviours and may be complementary. To expand our knowledge on the subject further, more research on the valid measurement of group care worker interventions is needed with the aim to provide quality of care for looked-after children.

Appendix

Mean (M) and Standard Deviations (SD) of Observation Variables for Tasks 2 and 3, and Questionnaire Variables GICL and CBCL

		<i>n</i>	<i>M</i>	<i>SD</i>		
Group Care Worker Interventions	Questionnaires (GICL)					
		Warmth/Support	92	9.16	2.42	
		Controlling	93	8.52	5.00	
		Observations				
		Warmth/Support	Task 2	95	4.03	0.98
			Task 3	95	3.54	0.79
		Positive Control	Task 2	95	3.04	0.44
			Task 3	95	3.13	0.53
	Child Behaviours	Questionnaires (CBCL)				
			Internalising	93	11.12	8.28
		Externalising	93	13.55	9.37	
		Observations				
		Anxiety/ Nervousness	Task 2	95	2.05	0.87
			Task 3	95	1.46	0.70
		Frustration/ Anger	Task 2	95	1.15	0.55
		Task 3	95	1.28	0.65	



GENERAL DISCUSSION

GROUP CARE WORKER INTERVENTIONS

The present dissertation addressed the pedagogical care provided by group care workers. Methods were developed to measure the content of group care worker interventions. First, a short, self-administrable questionnaire was developed called the Group Care Worker Intervention Checklist (GICL). A model was constructed concerning three concepts of interventions, control, warmth/support and autonomy granting. Concepts supported the literature on group care worker interventions and resembled concepts of parenting. As expected, these concepts proved distinguishable with the GICL.

Second, this study investigated interventions of group care workers by observing workers and children interacting with each other. A structured observation protocol and coding system were developed for data collection during this phase of the study. Pedagogical interventions for group care workers were operationalised with the variables warmth/support, positive control, permissiveness, and negative control. As expected, group care workers mainly displayed positive pedagogical interventions (warmth/support and positive control). This finding is in line with previous studies that observed group care workers interacting with children in the daily living unit (Crosland et al., 2008; Van den Berg, 2000). Moreover, group care workers who used more warm and supportive interventions, tended to use less negative control and more positive control. A combination of warm and positive controlling interventions is considered important for the positive development of children (Cameron & Maginn, 2011; Knorth, Harder, Huygen, Kalverboer, & Zandberg, 2010; Scholte & Van der Ploeg, 2000). Although rarely, it should be noted that group care workers did use negative interventions (e.g., when they invalidated feelings or opinions of children or were permissive by avoiding conflict with children when engaged in challenging behaviours). Indulgent parenting styles are known to have a negative effect on the behaviours of children (Cameron & Maginn, 2008). Thus, it is important to further study the affect of negative pedagogical interventions on child behaviour. This line of research is especially important for children in residential care because of their social, emotional, and behavioural needs (Crosland et al., 2008).

ASSOCIATIONS BETWEEN GROUP CARE WORKER INTERVENTIONS AND CHILD BEHAVIOURS

In addition to the content of group care worker interventions, this dissertation investigated associations between these interventions and child behaviours. It was expected that group care workers would attune their interventions to specific problem behaviours of children with the intent of helping children improve these behaviours. First, group care workers reported on their interventions using the GICL and reported on child problem behaviour with the Child Behaviour Checklist (CBCL; Achenbach & Rescorla, 2001; 2007). As expected, externalising problems were related to controlling interventions of group care workers, and internalising problems were related to warm and supportive interventions as well of those that stimulated independence.

Second, during observations the same result was found with regard to externalising problems. When children were frustrated during observations, group care workers used positive controlling interventions. In contrast to the questionnaire study, anxious behaviours of children were not related to warm and supportive interventions of group care workers. This finding might be due to internalising behaviour problems such as anxiety or nervousness being less noticed by workers compared to the externalising nature of contempt, anger, or frustration (Kroes, Veerman, & De Bruyn, 2000).

Third, the current study also investigated the course of interventions of group care workers and child problem behaviours during residential treatment, using questionnaires. Concerning the course of child problem behaviours, group care workers did not report progress in problem behaviours of children. This finding contrasts previous studies on the effectiveness of residential youth care (Bettmann & Jaspersen, 2009; De Swart et al., 2012; Frensch & Cameron, 2002; Hair, 2005; Knorth, Harder, Zandberg, & Kendrick, 2008; Lee, Bright, Svoboda, Fakunmojo, & Barth, 2011). However, several studies have reported a discrepancy between parent reports, youth self-reports, and group care worker reports on behavioural changes during residential care (Hukkanen, Sourander, Bergroth, & Piha, 1999; Knorth et al., 2008; Nijhof, Veerman, Engels, & Scholte, 2011). Specifically, while parents and youth have reported behavioural improvement group care workers generally have not as was the case in the current study.

Group care workers seemed to be more critical about behavioural progress of children who are placed in their care. It may be that group care workers lack optimism about the changeability of children's problem behaviours. This perception could make workers biased towards problem behaviours and behavioural changes (De Los Reyes & Kazdin, 2005).

Concerning the course of interventions, the average amount of warmth/support and control provided by group care workers did not change over time. This finding may be explained by the fact that group care workers did not report behavioural changes for type and severity of problem behaviours and group care worker interventions were related. Another explanation could be that group care workers used the same amount of warm and controlling interventions over time because it fit their personal styles (Moses, 2000; Van den Berg, 2000). When group care workers do not change their interventions over time, children may not change their behaviours. This notion could also explain the absence of behavioural change. We did find significant changes in autonomy granting interventions, which suggests that the longer children are in residential care, the more group care workers promote independence. It may also be that children get older and more independent during care, thus natural development contributes more to this finding than does type of problem behaviour.

Fourth, although group care workers did not change their interventions over time, the data analyses revealed differences in interventions of group care workers across children. Specifically, some children received more controlling interventions than did others. The same was true for autonomy granting. Each child did receive about the same amount of warmth, which could be interpreted positively when mean levels of warmth are relatively high as seen in our study. Regardless of the severity of challenging behaviours, all children seemed to receive a fair amount of warmth and support from the group care workers in their daily living environments. Warm and supportive interventions are important for relationship building between group care workers and children. Regardless of the severity of problem behaviours, all children need to receive warmth from group care workers (Koren-Karie, Oppenheim, Yuval-Adler, & Mor, 2013). Studies have pointed to the importance of the quality of the relationship between residential staff and children as a predictor for better outcomes for children in residential care (Green et al., 2001; Harder, Kalverboer, Knorth, & Zandberg, 2008). The finding that all children

in the study received warmth is reassuring considering disquieting findings in earlier studies (Moses, 2000; Wigboldus, 2002). In these studies, young people with the most serious behaviour problems who needed positive attention from group care workers often received the least.

The data revealed no change in group care worker interventions and child behaviours over time when investigated separately. However, this dissertation also investigated bidirectional associations between interventions of group care workers and child problem behaviours during residential treatment over time using questionnaires. It was expected that controlling interventions of group care workers would lead to a decrease in externalizing behaviour problems. In contrast to the proposed hypothesis, higher levels of controlling interventions at the beginning of treatment were associated with higher, rather than lower, levels of children's externalising problems during the first phase of treatment. Perhaps children need time to adapt to the residential treatment situation with its new environment, rules, and boundaries that are unknown to them. Children may initially become frustrated with the levels of control and rules with which they are unfamiliar, which may lead to an increase in acting out behaviours during the first treatment phase. Although the controlling interventions were conceptualized as positive with the intent to reduce externalising problems, too much controlling interventions could have an opposite effect and lead to more externalising behaviours. This explanation is a known pitfall for group care workers in residential youth care when trying to maintain control over the residential group (Anglin, 2002; Harder et al., 2008; Moses, 2000; Wigboldus, 2002). In accordance with our expectation, higher levels of externalising problems at the beginning of treatment were associated with higher levels of group care workers' controlling interventions during the first phase of treatment.

In addition to the bidirectional pattern of associations between controlling interventions and externalising behaviours, group care workers tended to grant less autonomy to children with higher levels of internalising problems. This association also contrasted our hypothesis. Instead of fostering independence, group care workers may find the provision of a secure base as more appropriate for children with severe anxious or depressive symptoms. However, stimulating children to face their insecurities and exposing them to situations they fear, could stimulate the development of children (Van Rooijen & Ince, 2013).

RELIABILITY AND VALIDITY OF MEASUREMENTS

For the most part, this dissertation reports on the measuring group care worker interventions and child behaviours in residential youth care. To achieve this research goal, several instruments were developed including the GICL questionnaire, the observation protocol, and the coding system. In this paragraph, reliability and validity of these methods are discussed.

Concerning the GICL questionnaire, findings showed that the three hypothesized concepts were distinguishable and could be measured reliably. Associations between specific concepts of group care worker interventions and specific child behaviours provided evidence for criterion validity. In other words, comparisons of group care worker concepts with an already validated instrument for child behaviours (CBCL) added to the evidence of the validity of the GICL.

The observation protocol was developed to provide answers to the research questions. Group care workers and children were isolated during observational sessions, which created the advantage that behaviours of children and responses of group care workers were elicited systematically. In creating a systematic process for observations, comparisons across children were possible. It is quite natural for group care workers and children to talk separately with each other outside the group because treatment also involves individual conversations aside from the group. Therefore, the goal of the various tasks of the observation protocol was to elicit different behaviours that represented daily living in the residential unit. Children showed more anxious and frustrating behaviours during difficult tasks than during positive tasks. Further, group care workers used more pedagogical interventions during difficult tasks to guide children. These findings suggest that, to a certain extent, different tasks in the observation protocol elicited different behaviours of children and group care workers. The latter provided some evidence for the ecological validity of the observation protocol; however, some issues remain. Group care workers usually intervened with children in the presence of others. Participants may have displayed different behaviours within the living unit compared to away from the living unit. Participants also may have modified their behaviours because they were aware that they were being observed. Little variance was observed on negative pedagogical interventions (e.g., negative control) or child behaviours (e.g., contempt). Negative interactions may

occur more often in the daily residential unit where group care workers are tested more when working with a group of children who display challenging behaviours. Studies that have observed group care workers and children in their natural environments have found similar results with mainly positive interactions between group care workers and children (Crosland et al., 2008; Van den Berg, 2000). Additionally, the group care workers were highly educated; most staff had professional bachelor's degrees. The Netherlands is known to have a high proportion of qualified staff working in residential youth care compared to other countries within the European Union (Crimmens, 1998). This high rate of professional staff may explain the low occurrence of negative pedagogical interventions among group care workers found in this study. As one might assume, more education generally contributes to better quality of care.

Concerning the developed coding manual and procedure, this study provided evidence that observations of group care worker interventions and child behaviours could be reliably coded. To investigate the validity of the questionnaire and observational measures used to assess interventions of group care workers in residential youth care; this dissertation combined both methods and applied of Campbell and Fiske's (1959) multi-trait multi-method. This method made it possible to explore the convergent and discriminant validity of the GICL scales and observational measures of the same concepts. Results could not provide evidence for the convergent validity of the measurement for group care worker interventions. In other words, no relation existed between the same concepts of group care worker interventions when measured with different methods (e.g., reported and observed warmth/support). There could be discrepancy between reported and used interventions among group care workers. When reporting on their interventions, group care workers may have reported on what they believed they should do given specific problem behaviours, rather than their actual behavioural responses. Another explanation for the absence of convergent validity could be that the operationalisation of group care worker interventions differed between the GICL questionnaire and observations. For example, items on the GICL that indicate warm and supportive interventions (e.g., offering support during anxious and threatening situations) were, of course, not exactly the same as attributes of warm and supportive interventions coded by a researcher (e.g., reassuring). In some cases, items on the GICL questionnaire were difficult to code during observations because intentions

were not always visible (e.g., granting trust) especially while observing group care workers interacting with children away from the living unit (e.g., offering individual attention).

Results also could not provide convincing evidence for the discriminant validity of measurement of group care worker interventions. Opposite to convergent validity, discriminant validity refers to the extent in which measures of theoretically unrelated concepts of group care worker interventions are unrelated. In contrast to the expectations, warm and supportive, and controlling interventions of group care workers were associated within both data collection methods (questionnaires and observations). According to Campbell and Fiske (1959), traits for investigating discriminant validity should be different enough to be distinct; however, similar enough to be worth examining with the multi-trait multi-method. The combination of warmth and control seems to be important for healthy child upbringing within the family (Baumrind, 1971; Maccoby & Martin, 1993) as well as within residential youth care (Harder et al., 2008; Holmqvist, Hill, & Lang, 2007; Scholte & Van der Ploeg, 2000). It may be that because of the significance of the combination of warm/supportive interventions and controlling interventions, these traits were not distinctive enough to discriminate.

Regarding child behaviours, support was found for only the convergent validity of the measurement for externalizing behaviours, not internalising behaviours. Because externalising behaviours of children are more overt than are internalising behaviours, they are easier to notice. Additionally, externalising behaviours such as anger, frustration, and rule-breaking require immediate interventions from group care worker, because they are disturbing to other children and group care workers within the residential unit (Kroes et al., 2000). While this study showed that group care worker interventions can be reliably measured, validity of the measures developed in this dissertation needs further attention from research.

LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

This study had some limitations that need to be addressed in future research. The first limitation concerns the sample. For the construction of the GICL questionnaire, the sample size was relatively small. Preferably, the model findings should be replicated using a larger and more diverse sample (Costello

& Osborne, 2005). The same applies to the observational study, which should be replicated using a wider range of institutions and ages of children. The current sample included children between 5 and 12 years old. Observations of group care workers interacting with adolescents could provide other information because adolescents require different interventions given differences in their developmental stages.

The second limitation of this dissertation concerns the use of questionnaires. Both scores for interventions and child problem behaviours were based on group care worker reports. Associations found may partly be due to shared rater variance. Additionally, with the GICL, group care workers reported on their own interventions. Self-report measures have several validity issues (e.g., social desirability) that may influence informants or one could simply be mistaken or misremember when reporting (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In addition to self-reported interventions, it is essential for future studies to use multiple independent reports of group care worker interventions and child problem behaviours to corroborate the current findings. Particularly, the data on children's perceptions of group care worker interventions may be highly informative, e.g. by using interview methods (Gallagher & Green, 2012; Holland, 2009). Also, as in the current study, observations should be part of investigating the content of group care worker interventions.

The third limitation concerns the longitudinal measurement of group care worker interventions and child behaviours during treatment. This design included three measurements with average intervals of about 6 months. Data could not be collected from all children until the end of treatment because several children were in residential care for longer than 18 months at the beginning of the study. Measurements for this group of children were excluded from the analyses, which could have caused selection bias. We do not know how group care worker interventions and child problem behaviours develop and interact during later phases of treatment or toward the end of treatment. Therefore, future research on group care worker interventions should include longitudinal measurements of these interventions through the end of treatment and connect findings with outcomes. Such research designs could provide sufficient evidence to add to the knowledge on what works and would be especially suitable for research in real world practice (Des Jarlais, Lyles, & Crepaz, 2004). The current dissertation could not provide

evidence for the effectiveness of group care worker interventions on behavioural progress for children in residential care. In addition to standardized questionnaires to measure outcome, interventions of group care workers could be related to the realization of treatment goals. In contrast with a lack of behavioural progress, as reported using standardized questionnaires, group care workers report progress of children through the realisation of treatment goals (N. Wiltink, personal communication, September 16, 2013). Confirmation of this notion would add to the evidence that supports the importance of group care workers tuning their interventions to the specific needs of children to change problem behaviour (Bastianoni, Scappini, & Emiliani, 1996; Cuthbert et al., 2011). Moreover, one may wonder whether measurement of behavioural progress as the only outcome indicator does justice to residential youth care. Stabilizing children's living situations, providing necessary routine and safety, and restoring family relationships are of great importance, but do not always establish behavioural change directly (N. Wiltink, personal communication, September 16, 2013). Data on realisation of treatment goals or quality of life indicators would be valuable outcome measures for residential youth care (Ottova, Hjern, Rasche, Ravens-Sieberer, & RICHe project group, 2012; Ravens-Sieberer et al., 2005; The KIDSCREEN Group Europe, 2006).

The fourth limitation concerns the differences of conceptualisation of group care worker interventions between the questionnaire and observational methods. Autonomy granting was part of the GICL questionnaire but was not part of the coding manual used for observations. This exclusion made it difficult to investigate validity of the measurement concerning autonomy granting interventions further.

The fifth limitation concerns the analyses conducted to investigate associations between group care worker interventions and child behaviours in the questionnaire and observational parts of this study. Correlational analyses do not make it possible to draw causal conclusions. It was hypothesized that group care workers would attune their interventions to the children's behaviours. There were indeed associations between child behaviours and group care worker interventions; however, nothing can be said about the direction of these associations. There is one exception to this limitation. The cross-lagged panel analyses conducted on the data made it possible to provide information about the direction between group care worker interventions and child behaviours.

Cross-lagged models circumvent the difficult problem of assessing causal directions in cross-sectional research as the causal direction of these cross-lagged panel models are not based on instantaneous relations between simultaneously measured variables x and y . Instead, different variables are used for opposite directions where variables at one measurement time point are regressed on their own lagged score plus the lagged score plus that of the other variable a previous measurement time point. The resulting cross-lagged coefficients inform about the direction between both variables. Therefore, some evidence exists for the attunement of group care worker interventions to child behaviours. Future research should focus on bidirectional associations between group care worker interventions and child behaviours. As stated, such studies could add to the knowledge of effective group care worker interventions. The current dissertation provided a first step in this direction.

The same limitation concerns the associations in the observational part of the study. Here, the question remains whether group care worker interventions influenced child behaviours or vice versa. Behaviours of group care workers and youth in care could be considered a dynamic system in which the behaviours of both parties are reinforced over time (Oliver, 1995; Watts, Reed, & Hastings, 1997). However, how these mechanisms work exactly is unknown. Therefore, it should be noted that associations should be interpreted carefully. During the coding procedure, group care worker and child variables were coded globally and separately from each other. Real time, moment-to-moment coding could have made it possible to track interaction patterns between group care workers and children and provide the possibility to use more distinguished methodology to investigate the direction of associations between variables (Granic, 2005).

Finally, a host of factors may be very relevant to residential youth care, yet could not be included in this dissertation. Common factors such as therapeutic alliance, quality of relationships between group care workers and youth, and therapeutic climate are relevant to consider. Another factor that has not been considered when measuring group care worker interventions is characteristics of group care workers. Personality, beliefs, and attitudes of group care workers affect behaviours toward clients (Hastings, 2005; Willems, Embregts, Stams, & Moonen, 2010). According to De Swart (2011), emotionally stable and resilient group care workers contribute to the quality and effectiveness of youth care.

In addition to group care, residential care includes education, therapy, and family guidance. Together, these elements of care contribute to treatment outcomes (Hair, 2005). For that reason, it is important that studies regarding residential child care describe the characteristics of the program (Lee & Barth, 2011).

The current dissertation focused on one element of residential care within group care, pedagogical interventions of group care workers. How content and quality of pedagogical interventions are related to common factors in group care work, characteristics of group care workers, and other elements of residential care outside group care, is unknown. It would be interesting to investigate these elements, their associations, their development during treatment, and how they can lead to positive outcomes for looked-after children. For the most part, data were collected at one residential institution. Findings need to be replicated in other studies and other institutions. In deepening the complex content of residential care, it is important to develop instruments that are reliable and valid concerning variables of residential treatment.

IMPLICATIONS FOR PRACTICE

Residential youth care institutions are in constant quandary. Their mission statements often include the notion that children should live with their own families. However, “there simply will always be children who require (temporary) placements and, as such, residential treatment will remain an integral component of a comprehensive system of care for children and youth with serious emotional and behavioural disorders” (Frensch & Cameron, 2002, p. 337). Therefore, residential institutions provide the necessary care for this complex group of children and their families. However, being the most unpopular, residential institutions are often poorly funded, and with little means, they have to account for the quality of care they provide (Lee & McMillen, 2008). Residential youth care institutions can strengthen their care by (a) implementing research and applying the latest knowledge on quality criteria and guidelines, (b) collecting data on the content of care, (c) being aware of the dynamics between group care workers and children, (d) providing for supervision and coaching of group care workers, and (e) implementing evidence-based principles in residential group work.

Residential youth care institutions should collaborate with researchers and universities to evaluate the services they provide, and improve their care.

Recently, the Research Committee for the American Association of Children’s Residential Centers (AACRC) concluded: “the growth and sustainability of residential treatment as a viable service option may depend upon the field’s willingness to track results, partner with families and the youth they serve, and to make themselves accountable to all stakeholders in the children’s services system” (Sternberg et al., 2013, p. 94). Some institutions have successfully implemented Routine Outcome Measurement (ROM; Lyons, Terry, Martinovich, Peterson, & Bouska, 2001; Sternberg et al., 2013), and collaborated with other institutions in developing benchmarks to evaluate and improve their outcomes (Remondet Wall, Koch, Lin, & Graham, 2010). In addition to research, residential youth care institutions should continually inform themselves on the latest developments regarding quality criteria for residential care and guidelines (De Lange & Chênevert, 2011; Lee & McMillen, 2008; Stein, 2009).

Residential institutions should also collect data on the content of care they provide. In doing so, they would not only contribute to knowledge on what works, but would also help practitioners (e.g., group care workers and other residential staff members) become more aware of the identity of treatment they provide as well as the effect of their interventions on children placed in their care. In the current study, group care workers received feedback from the researchers for the questionnaire they administered. Information on the behaviours of children and worker interventions was graphically reported for each scale. On an individual level, this information helped residential staff track the content and outcomes of care. Therefore, research on care can directly contribute to practice as seen in Bickman, Kelley, Breda, De Andrade, and Riemer (2011) for home-based treatment received by youth.

Regarding the content of residential group care, institutions should be aware of the dynamics between group care workers and children. Interventions of group care workers are intended to influence the quality of daily care provided within the residential unit. Group care workers who participated in this study were often well educated (Bastiaanssen, Veerman, Kroes, & Engels, 2009). It is often assumed that group care workers practice positive interventions in the care they provide. However, working with children who display severe behaviour problems is challenging; this is especially the case during busy hours and crises where group care workers might react negatively to maintain control or, the opposite,

to avoid confrontation. Working toward positive behaviours with young people takes persistence and courage to address unacceptable behaviours consistently, sensitively, and authoritatively (Smith, Fulcher, & Doran, 2013). Children with challenging behaviours need positive pedagogical interventions from group care workers (Crosland et al., 2008; Koren-Karie et al., 2013; Shirk & Karver, 2003; Moses, 2000). Group care workers could also overlook important signals from children. This is often the case with internalizing behaviours such as anxiety or nervousness and warm and supportive interventions are needed to provide the necessary safety. This knowledge should be part of education, training, and supervision of group care workers.

Supervision and on-the-job coaching can enhance group care workers' use of appropriate pedagogical interventions, which can increase the effect of these interventions on child behavioural changes (McLean, 2013). In the current study, video cameras were used for research purposes; however, video footage can also be a tool for coaching group care workers. In the Netherlands, some residential institutions use video cameras within the daily living unit for supervision purposes (De Lange & Chênevert, 2011; Embregts, 2002). Videotaped interactions between group care workers and children are viewed with individuals or teams of group care workers to discuss appropriate responses. This training method can increase the quality of group care workers' interventions (Embregts, 2002). Thus, residential institutions should consider video feedback as a tool for supervision and training of group care workers.

Another factor that influences quality of care is the implementation of evidence-based principles in residential group care, which may help group care workers shape treatment. Often, evidence-based interventions aimed at the family are added as an extra element of residential care (James, Alemi, & Zepeda, 2013). However, these home-based interventions do not directly lead to improvement in the quality of group care worker interventions. Some studies and initiatives have implemented evidence-based principles to improve group care worker interventions within the daily unit. Studies on the effects of behavioural management training for residential staff have reported more positive interactions between group care workers and children and fewer incidents after training (i.e., running away, violence, and inappropriate behaviour) (Crosland et al., 2008; Duppong Hurley, Ingram, Czyz, Juliano, & Wilson, 2006). Several examples are available on the

development and implementation of systematic treatment models in residential care which contain evidence-based principles such as behavioural management and trauma approached treatments (e.g., Abramovitz & Bloom, 2003; Holden et al., 2010). The competence-based model by Slot and Spanjaard (2009), which is widely used in residential care in the Netherlands, has shown some evidence of effectiveness (Kok, Menkehorst, Naayer, & Zandberg, 1991). A more recent initiative in the Netherlands is the implementation of elements of Triple P in residential group care for adolescents (De Graaf; in press-a, in press-b). Although no results on the effectiveness of this program are available, the program model named ConnXionz is based on the principles of Triple P. Fitch and Grogan Kaylor (2012) reported on another example of implementing a program model in residential youth care. Within this university-institution collaboration project, extensive longitudinal data were collected. The study provided evidence for an increase in positive outcomes after implementation of the program model. According to these researchers, using administrative data and advanced statistical models was extremely helpful for organizational decision making and evidence-based programming.

In 1996, Slot wrote an essay on the history of the profession of group care workers in residential youth care. He concluded that over the decades, two themes emerged, recognition and professionalization. Today, these themes are still apparent. In the Netherlands, group care workers are as highly educated as are social workers who work directly with families; however, the salary of group care workers is substantially lower. Over the last 20 years, politics, policies, and research have focused on less intrusive and less expensive care options (e.g., home-based treatment), thereby neglecting the professionalization of residential youth care. This lack of status and career opportunities has led to low job satisfaction and high staff turnover in residential care (Knorth et al., 2010). Insufficient support from the organisation is also reported more often as an explanation for staff turnover than is the challenging nature of working in residential youth care (Colton & Roberts, 2006; Tham, 2007). As group care workers care for children, residential institutions should care for their workers (Maier, 1979). Suggested implications for practice abstracted from this dissertation can further contribute to the recognition and professionalization of group care worker within residential youth care.

CONCLUDING STATEMENT

This dissertation examined an underdeveloped area of research on residential youth care within the challenging setting of real world residential practice. In spite of the limitations discussed, this dissertation provided a first step to measuring pedagogical interventions of group care workers and associations with child behaviours. As always, more research is necessary to extend the current knowledge on how pedagogical interventions of group care workers influence quality and outcomes of residential care. When a child is placed out of home, away from parents, siblings, family, school and everything familiar, that child is affected significantly. Warm and firm guidance by group care workers can be of great support for that child. This need becomes clearly understood from the conversation between one group care worker and an 8-year-old boy while discussing a difficult topic during observations:

Group care worker: "What can you do to prevent getting really angry and start shouting at us?"

Child: "I can go sit on the time out pillow?"

Group care worker: "That is a good idea! And what is it that I can do to help you prevent getting angry?"

Child: "Do not hold onto me."

Group care worker: "You mean, don't cuddle me?"

Child: "Yes, not when I'm angry."

Group care worker: "I understand. Maybe later on, when you are not angry anymore?"

Child: "Yes, than you may cuddle me."

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SAMENVATTING (Summary in Dutch)

HANDLE WITH CARE

Interventies van pedagogisch medewerkers in de residentiële jeugdzorg

ACHTERGROND

Een uithuisplaatsing heeft grote impact op het leven van kinderen. Kinderen worden uit hun vertrouwde omgeving gehaald weg van gezinsleden, familie, school en buurt. De jeugdzorg in Nederland probeert al enkele decennia om een dergelijke maatregel te voorkomen, onder andere door te investeren in ambulante vormen van jeugdzorg met als doel het gezin bij elkaar houden. Desalniettemin worden in Nederland ieder jaar 30.000 kinderen in de residentiële jeugdzorg geplaatst vanwege ernstige gezinsproblemen en gedrags- en ontwikkelingsproblemen (SCP, 2009). Bij plaatsing in de residentiële jeugdzorg verblijven kinderen in een leefgroep waar zij worden begeleid door pedagogisch medewerkers. Tijdens hun dagelijkse interactie met kinderen geven pedagogisch medewerkers vorm aan de behandeling. Deze zorg kan worden gezien als de kern van de residentiële jeugdzorg. Er is echter weinig bekend over de inhoud en kwaliteit van de zorg die pedagogisch medewerkers bieden, en wat het aandeel is van die zorg in de effectiviteit van de behandeling binnen een residentiële instelling. Het huidige onderzoek is uitgevoerd binnen de residentiële afdeling voor kinderen van 5 tot 12 jaar oud van Entréa, een jeugdzorginstelling in Gelderland. Het doel van dit onderzoek was het identificeren van effectieve interventies voor pedagogisch medewerkers binnen de residentiële zorg. Daarbij richt dit proefschrift zich op pedagogische zorg, concreter geformuleerd als pedagogisch handelen. Pedagogische handelen is gedefinieerd als interventies van pedagogisch medewerkers die zijn afgestemd op het gedrag van kinderen met als doel kinderen helpen hun gedrag te verbeteren. Naast de inhoud van pedagogisch handelen, worden in dit onderzoek de

relaties tussen pedagogisch handelen en probleemgedrag van kinderen onderzocht. Hoofdstuk 1 van dit proefschrift gaat uitgebreid in op beschikbare literatuur over en onderzoek naar pedagogisch leefgroep werk, concepten van pedagogisch handelen en de relatie met probleemgedrag van kinderen.

PEDAGOGISCH HANDELEN

Het onderzoek is gestart met het ontwikkelen van methoden om pedagogisch handelen te meten, beschreven in Hoofdstuk 2 en Hoofdstuk 4. Hoofdstuk 2 uit dit proefschrift rapporteert over de ontwikkeling van een korte vragenlijst voor pedagogisch medewerkers, genaamd Vragenlijst Handelen Groepsleiders (VHG). Vanuit de literatuur werd een model geconstrueerd met drie concepten voor pedagogisch handelen binnen de residentiële jeugdzorg, namelijk: controle, warmte/steun en autonomie. Pedagogisch medewerkers maken gebruik van controlerende interventies wanneer zij het gedrag van kinderen structureren door middel van duidelijke instructies geven, grenzen stellen en regels en afspraken maken. Zij zijn warm en steunend wanneer zij zorgen voor veiligheid, complimenten geven, en ondersteuning bieden bij angstige of bedreigende situaties. Bij het verlenen van autonomie, stimuleren pedagogisch medewerkers de onafhankelijkheid van kinderen en worden kennis en vaardigheden aangeboden zodat kinderen hun eigen beslissingen kunnen nemen. De vragenlijst is door pedagogisch medewerkers ingevuld voor 212 jeugdigen die bij hen in zorg waren. Factoranalyses toonden aan dat deze drie concepten inderdaad statistisch te onderscheiden zijn met behulp van de VHG.

Hoofdstuk 4 van dit proefschrift beschrijft de studie naar pedagogisch handelen door middel van het observeren van pedagogisch medewerkers en kinderen. In dit deel van het proefschrift wordt de ontwikkeling van gestructureerd observatieprotocol en een codeersysteem beschreven. Het observatieprotocol bestaat uit vier taken die door een kind en een pedagogisch medewerker werden uitgevoerd. De eerste taak was een warming-up taak waarbij pedagogisch medewerker en kind een verjaardagsfeestje moesten plannen. De tweede taak was een frustratietask waarbij het kind moeilijke puzzels moest maken onder tijdsdruk. De derde taak was een conflictoplossingstaak waarbij de pedagogisch medewerker en het kind samen tot een oplossing moesten komen voor een actueel conflict. Input voor deze taak werd geleverd vanuit de conflictvragenlijst

die voorafgaand aan de observatie door pedagogisch medewerkers was ingevuld. De vierde en laatste taak was een cooling-down taak waarbij de pedagogisch medewerker en het kind samen een spel speelden. De eerste taak duurde twee minuten en de overige taken duurden vier minuten. Totaal zijn 95 kinderen samen met 53 groepsleiders geobserveerd terwijl ze in duo's de vier taken uitvoerden. Pedagogisch handelen van pedagogisch medewerkers en gedrag van kinderen werd opgenomen op video en achteraf gecodeerd. In het codeersysteem werd pedagogische handelen geoperationaliseerd middels de concepten: warmte/steun, positieve controle, permissiviteit en negatieve controle. De eerste twee concepten, warmte/steun en positieve controle, zijn positieve pedagogische interventies. Pedagogisch medewerkers zijn warm en steunend wanneer zij een kind gerust stellen, complimenten geven en empatisch zijn. Positieve controle is een passende en positieve mate van verbale en non-verbale structurering in reactie op gedrag van een kind. De overige twee pedagogische concepten van pedagogisch handelen, negatieve controle en permissiviteit, zijn negatieve pedagogische interventies. Negatieve controle omvat het gebruik van controle op een negatieve manier, zoals te straffend handelen. Permissiviteit behelst een gebrek aan controle, zoals toegeeflijk zijn wanneer een kind grensoverschrijdend gedrag vertoont. Uit de analyses bleek dat pedagogisch medewerkers vooral positieve pedagogische interventies (warmte/steun en positieve controle) gebruikten. Pedagogisch medewerkers die meer warme en steunende interventies gebruikten, maakten ook meer gebruik van positieve controle dan van negatieve controle. Soms gebruikten pedagogisch medewerkers negatieve pedagogische interventies, bijvoorbeeld wanneer zij gevoelens of meningen van kinderen afwezen of permissief reageerden op grensoverschrijdend gedrag van kinderen.

RELATIES TUSSEN PEDAGOGISCH HANDELEN EN PROBLEEMGEDRAG VAN KINDEREN

Naast de inhoud van het pedagogisch handelen werd in dit proefschrift ook de relatie tussen pedagogisch handelen en gedrag van kinderen onderzocht. Deze relatie is op verschillende manieren onderzocht en de bevindingen zijn in verschillende hoofdstukken beschreven. De verwachting was dat pedagogisch medewerkers hun handelen afstemden op specifiek probleemgedrag met de bedoeling om kinderen te helpen hun gedrag te verbeteren.

In Hoofdstuk 2 van dit proefschrift werd de relatie onderzocht tussen concepten van pedagogisch handelen en probleemgedrag van kinderen, beide gemeten met vragenlijsten. Pedagogisch medewerkers vulden de VHG en de CBCL (Child Behavior Checklist; Achenbach & Rescorla, 2001, 2007) in voor 212 kinderen. Uit correlatieve analyses bleek dat externaliserend probleemgedrag gerelateerd was aan controlerende interventies van pedagogisch medewerkers. Internaliserend probleemgedrag bleek gerelateerd aan warme en steunende interventies van pedagogisch medewerkers en aan interventies die autonomie verlenen.

In Hoofdstuk 4 werd de relatie tussen pedagogisch handelen en gedrag van kinderen onderzocht middels observaties. Naast pedagogisch handelen werd in dit deel van de studie ook het gedrag van kinderen geobserveerd, waaronder angst/nervositeit en frustratie/boosheid. Net als bij het meten van pedagogisch handelen en kindgedrag met vragenlijsten, lieten de observatiedata een verband zien tussen externaliserend probleemgedrag en controlerend handelen van pedagogisch medewerkers. Wanneer kinderen tijdens de observaties gefrustreerd of boos waren, gebruikten pedagogisch medewerkers meer positieve controle. Een verband tussen angstig en nerveus gedrag van kinderen en warme en steunende interventies van pedagogisch medewerkers kon tijdens observaties niet worden vastgesteld.

Hoofdstuk 3 van dit proefschrift gaat over het verloop van pedagogisch handelen en probleemgedrag van kinderen gedurende de residentiële behandeling. Dit hoofdstuk rapporteert over het longitudinale deel van de studie in tegenstelling tot de andere hoofdstukken van dit proefschrift, waarin resultaten uit cross-sectioneel onderzoek worden gepresenteerd. Pedagogisch medewerkers vulden de VHG en de CBCL in voor 128 kinderen op drie momenten gedurende de behandeling (tussen 2-5 maanden, tussen 6-11 maanden en tussen 12-18 maanden). Pedagogisch medewerkers rapporteerden geen verbetering in gedragsproblemen over tijd, en ook geen verandering in de mate van controle en warmte/steun gedurende de residentiële behandeling. Wel bleken pedagogisch medewerkers gedurende de behandeling meer autonomie te verlenen aan kinderen. Naast dat verandering in pedagogisch handelen en probleemgedrag apart van elkaar werden geanalyseerd zijn ook bidirectionele invloeden onderzocht middels cross-lagged analyses. Daaruit bleek dat een hogere mate van controle tijdens de beginfase van de behandeling samenhang met een toename in externaliserend probleem-

gedrag bij kinderen tussen de beginfase (2-5 maanden) en de daaropvolgende fase van de behandeling (6-11 maanden). Omgekeerd leidde een hogere mate van externaliserend probleemgedrag tijdens de beginfase van de behandeling tot een toename in controlerende interventies van pedagogisch medewerkers tussen eerder genoemde tijdstippen. Daarnaast bleken pedagogisch medewerkers minder autonomie te gaan verlenen wanneer kinderen in de beginfase van de behandeling een hogere mate van internaliserende problemen vertoonden. Er werden geen bidirectionele verbanden gevonden tussen internaliserend probleemgedrag en warme en steunende interventies van pedagogisch medewerkers.

BETROUWBAARHEID EN VALIDITEIT VAN MEETINSTRUMENTEN

Een groot deel van dit proefschrift rapporteert over de ontwikkeling van instrumenten voor het meten van pedagogisch handelen binnen de residentiële jeugdzorg, namelijk de vragenlijst VHG en het observatieprotocol plus codeersysteem. Tijdens de ontwikkeling van de VHG, beschreven in Hoofdstuk 2, bleek de interne consistentie van de drie schalen goed. De concepten controle, warmte/steun en autonomie kunnen betrouwbaar worden gemeten met de vragenlijst. Ook bleek uit Hoofdstuk 4 dat pedagogisch handelen betrouwbaar kon worden geobserveerd. Na coderen van het videomateriaal was de overeenstemming tussen beoordelaars goed tot uitstekend.

In deze studie is gekozen voor gestructureerde observaties van pedagogisch medewerkers en kinderen. De taken zijn zo gekozen dat zij gedragingen van kinderen en handelen van pedagogisch medewerkers oproepen welke vergelijkbaar zijn met de dagelijkse interactie tussen pedagogisch medewerkers en kinderen binnen de leefgroep. Deze gestructureerde observatie, samen met het feit dat pedagogisch medewerkers en kinderen geïsoleerd waren van de leefgroep, hadden als voordeel dat vergelijkingen tussen pedagogisch medewerkers en tussen kinderen mogelijk waren. Uit variantieanalyses tussen de verschillende taken bleek dat kinderen meer angstig en gefrustreerd gedrag vertoonden tijdens moeilijke taken (frustratie- en conflictoplossingstaak) dan tijdens positieve taken (feest plannen en spel spelen). Verder gebruikten pedagogisch medewerkers meer pedagogische interventies tijdens moeilijke taken om kinderen bij deze taken te begeleiden. Deze bevindingen suggereren dat het geobserveerde gedrag overeenkomt met de dagelijkse interactie tussen pedagogisch medewerkers en

kinderen binnen de leefgroep.

Hoofdstuk 5 van het proefschrift rapporteert over verder onderzoek naar de validiteit van gebruikte vragenlijst en codeersysteem. Daarbij is gebruik gemaakt van Campbell en Fiske 's (1959) multi-trait multi-method analyse. Deze methode maakte het mogelijk om convergente en discriminante validiteit van de VHG en het codeersysteem te onderzoeken. Uit de resultaten bleek dat er geen bewijs gevonden kon worden voor de convergente en discriminante validiteit van concepten van pedagogisch handelen. Ten aanzien van gedrag van kinderen werd steun gevonden voor de convergente validiteit van externaliserende problemen. Met andere woorden, er bleek een verband tussen gerapporteerd externaliserend probleemgedrag en geobserveerd externaliserend probleemgedrag.

Samengevat kon middels dit onderzoek worden vastgesteld dat pedagogisch handelen betrouwbaar kan worden gemeten. De validiteit van het meten van pedagogisch handelen vraagt echter nog verder onderzoek.

DISCUSSIE EN CONCLUSIE

In het zesde en laatste hoofdstuk van het proefschrift worden de belangrijkste bevindingen samengevat en bediscussieerd. Daarnaast komen de beperkingen van het onderzoek aan bod en worden aanbevelingen voor toekomstig onderzoek en de praktijk beschreven.

Het huidige onderzoek was gefocust op één element van de residentiële jeugdzorg, namelijk pedagogische handelen van pedagogisch medewerkers. Hoe pedagogisch handelen zich verhoudt tot andere algemeen werkzame factoren binnen leefgroepwerk (bijvoorbeeld therapeutische alliantie en leefklimaat), kenmerken van pedagogisch medewerkers (geslacht, leeftijd, persoonlijkheid) en andere elementen van de zorg (therapie, onderwijs, gezinsbegeleiding), is niet onderzocht. Het zou interessant zijn om al deze factoren te onderzoeken, tezamen met onderlinge relaties en ontwikkeling tijdens de behandeling. Dit zal bijdragen aan de kennis over wat werkt voor kinderen in de residentiële jeugdzorg.

De residentiële jeugdzorg heeft te maken met een voortdurend dilemma. In de missie en visie van instellingen is altijd opgenomen dat kinderen in principe thuis horen. Maar uit de praktijk blijkt dat er altijd kinderen zijn die (tijdelijk) moeten worden opgevangen. Om die reden zal de residentiële jeugdzorg altijd deel uit blijven maken van een uitgebreid systeem van zorg voor jeugdigen met

ernstige gedrags-en emotionele stoornissen (Frensch & Cameron, 2002). Maar als meest impopulaire jeugdzorgvorm wordt de residentiële jeugdzorg vaak slecht gefinancierd en moeten zij de kwaliteit van de zorg verantwoorden met behulp van de weinig middelen die ze tot hun beschikking hebben (Lee & McMillen, 2008). Residentiële jeugdzorg instellingen kunnen de kwaliteit van hun zorg versterken door (a) onderzoek te implementeren en de meest recente kennis over kwaliteitscriteria en richtlijnen toe te passen, (b) naast uitkomsten ook gegevens verzamelen over de inhoud van de zorg, (c) op de hoogte zijn van de dynamiek tussen pedagogisch medewerkers en kinderen en het effect daarvan op de kwaliteit van de zorg bij het maken van beleidskeuzes, (d) opleiding, supervisie en coaching faciliteren, en (e) het implementeren van evidence-based principes binnen de leefgroep. Zoals pedagogisch medewerkers moeten zorgen voor de kinderen, zo moeten instellingen zorgen voor hun medewerkers. De suggesties voor de praktijk die beschreven zijn in het proefschrift kunnen bijdragen aan verdere professionalisering en erkenning van het beroep pedagogisch medewerker binnen de residentiële jeugdzorg.

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OVER DE AUTEUR (About the author)

Inge Bastiaanssen werd geboren op 15 maart 1974 in Haps (Noord-Brabant). Na het behalen van haar havodiploma in 1991 volgde zij een studie Maatschappelijk Werk en Dienstverlening aan de Sociale Faculteit van Hogeschool Gelderland (nu Hogeschool Arnhem en Nijmegen). In 1995 rondde zij deze studie af met een diploma en zij besloot pedagogiek te gaan studeren aan de Katholieke Universiteit Nijmegen (nu Radboud Universiteit). Zij koos voor de afstudeerrichting Gezinspedagogiek, waarin zij in 1998 afstudeerde. Hierna heeft zij verschillende betrekkingen gehad in maatschappelijk werk en jeugdzorg waaronder pleegzorgbegeleider bij het Centrum voor Pleegzorg in Eindhoven (nu Combinatie) en gezinshulpverlener bij Pactum in Ede. In 2005, na ruim 6 jaar van uitvoerende functies in de zorg, maakte zij een overstap naar beleid en onderzoek. Zij werkte onder meer als projectmedewerker bij de Brancheorganisatie Jeugdzorg Gelderland en als beleidsmedewerker en onderzoeker bij Pactum. Deze functies combineerde zij met een deeltijdfunctie bij Praktikon, een organisatie voor praktijkgestuurd effectonderzoek in jeugdzorg en onderwijs in Nijmegen.

Sinds 2007 werkt zij voltijd bij Praktikon aan verschillende onderzoeksprojecten waaronder effectonderzoek naar STOP4-7, een interventie voor jonge kinderen met ernstige gedragsproblemen en (meer recent) aan kwaliteitsmeting Families First en Ambulante Spoedhulp voor de Vereniging Crisisjeugdzorg Nederland. Daarnaast verzorgt zij bij Praktikon trainingen en coachings bij het implementeren van effectonderzoek en Routine Outcome Monitoring binnen instellingen. Ook begeleidt zij studenten van de Radboud Universiteit bij scriptieonderzoek in de praktijk van de jeugdzorg.

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