On describing the residential care process: social interactions between care workers and children according to the Structural Analysis of Social Behavior (SASB) model

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6 Discussion

6.1 Introduction

As argued in this study, both researchers and practitioners acknowledge that the care process in residential child care is still insufficiently specified. The central theme of the present research project pertains to what is happening within the residential care process. This care process is shaped by social interactions between residential child care workers and children who suffer from severe behavioral and emotional problems. This study was aimed at a systematic description of social interactions between child care workers and children in a Dutch residential treatment center, called The Widdenck. Additionally, it was explored whether two approaches in treatment could be distinguished according to characteristics of social interactions between care workers and children. These different approaches concern residential living units in which primarily structure (STR) is provided and residential living units in which primarily emotional and affective care (EAC) is provided.

Benjamin’s Structural Analysis of Social Behavior (SASB) model (Benjamin, 1974, 1987) was used to describe the dyadic social interactions between residential child care workers and children. As the use of the SASB model is a novelty in the Netherlands with respect to describing the residential care process, a methodological evaluation of this model is added as a secondary theme of the present study. On the basis of experiences with applying the model in this study, some psychometric characteristics of the SASB instrument are discussed in the present chapter.

Social interactions between care workers and children in both types of living units were described in chapter 4 and chapter 5. It was demonstrated that similarities between the two treatment approaches are much more striking than the differences. In this chapter the research results are discussed (paragraph 6.2). Comments are made on the meaning of the similarities in the interaction patterns as well as on the meaning of the lack of differences between the two treatment approaches.

Obviously, the results of the present study are related to the strength of the research instrument. Therefore, critical remarks on the SASB model are presented (paragraph 6.3). The reliability, validity, time-efficiency, and clinical use of the SASB model are discussed. This implies an answer to the secondary research question.

In the last three paragraphs of this chapter critical remarks about the research design are made (paragraph 6.4), the meaning of the results for the field of residential child care is discussed (paragraph 6.5), and directives for future research are presented (paragraph 6.6).
6.2 Comments on the research results

The summaries of chapter 4 and chapter 5 give an overview of all social interaction patterns between care workers and children, both in STR and in EAC residential living units, that were described in the current process evaluation study. The purpose of such a description is providing more insight into the residential care process. According to the line of thought that was followed in this research project, it was expected that the different residential treatment approaches could be distinguished by characteristic interpersonal behaviors of care workers and children in daily life situations within the living units. As demonstrated, the results revealed far more similarities than differences.

Before it is discussed what interpretations can be drawn from the lack of differences between the two residential treatment approaches, it is first discussed what meaningful conclusions can be derived from the similarities in interpersonal behaviors of both types of care workers and children. In other words, it is specified what kind of understanding about the residential care process is provided by the current description of common social interactions in the living units. Interpersonal behaviors of care workers and those of children are evaluated in combination with each other.

6.2.1 Interpretation of the observed similarities

In general, a basic assumption of behavioral science is that human behavior is orderly and lawful. Systematically describing human behavior leads to the recognition of these laws or patterns in human behavior and to the recognition of which particular behaviors will tend to be associated with each other. Patterns of behavior that are revealed in this way should explicate an abundance of phenomena (Benjamin, 1974; Hinde, 1979; Martin & Bateson, 1993).

In the present study similarities between interpersonal behaviors of care workers and children in the two different types of residential living units disclose common social interactions patterns that occur in daily life situations in residential child care. These patterns may to a certain extent generate a feeling of familiarity. Therefore the observations might seem trivial (Benjamin, 1984). However, this is due to the clarity of the SASB clarifications. Besides, as Martin and Bateson (1993) argued, the feeling that a discovery is obvious after having been made is not the same as knowing it all along.

The overall interaction patterns are evaluated with respect to the fundamental treatment philosophy. Recall that the underlying dynamics of the treatment environment in the residential child care setting are based on several basic elements (Kok, 1973, 1995). One such basic element is that care workers not only have to pay attention to overt symptoms or verbally expressed problems, but also have to be focussed on covert needs of the child and make considerable effort to understand the meaning of the child’s behavior. In addition, care workers have to create opportunities for the children to have positive experiences that will challenge them to give up their maladaptive behavior and to start showing more adaptive behavior. One more basic element is that care workers guarantee basic security, which means both physical safety and psychological safety.
Next the common interaction patterns are discussed according to the concepts of focus, affiliation, interdependency, complementarity, antithesis, and asserting and separating behavior.

**Focus**
Regarding the concept of focus, the most obvious law or pattern of interpersonal behavior in residential living units was described. Care workers mainly show behaviors with focus on other, whereas children mainly show behaviors with focus on self. It means that care workers mostly are concerned with what is going to be done to or for the children and that the children mostly are concerned with what is going to be done to or for themselves. Obviously, this corresponds to the defined roles in which care workers as well as children are in a residential treatment setting. Care workers hold the role of adults, who are in charge of the setting, have parental responsibilities in raising the children, and are supporting the children’s development. Children hold the role of immature human beings with dependency needs, who are trying to develop and have to adhere to certain rules of the setting. Just because both care workers and children behave mainly in accordance with their roles, for staff members in clinical practice it can be useful to pay attention to social interaction situations in which there is a reversal of roles between care workers and children. This refers to social interaction patterns in which behavior with focus on other of the children is followed by behavior with focus on self of the care workers.

**Affiliation**
Respecting the concept of affiliation it was demonstrated that both care workers and children in daily life in the residential units show a great deal of truly friendly behaviors and only low frequencies of truly hostile behaviors. Note, however, that children more frequently are hostile (approximately 5%) than care workers (approximately 1.5%).

Care workers mostly are friendly in response to friendly child behaviors, such as expressings (cluster 2-2), joyfully connecting (cluster 2-3), and trusting and relying (cluster 2-4) behavior. If care workers respond to hostile child behavior in a friendly way, they mostly use friendly controlling behavior. In case care workers are hostile, this mostly is a reaction to very submitting child behavior (cluster 2-5), or to very hostile child behavior (cluster 2-6), or to extremely demanding behavior (cluster 1-5).

Also children mostly are friendly in response to friendly behaviors of the care workers, like affirming and understanding (cluster 1-2), loving and approaching (cluster 1-3), and nurturing and protecting (cluster 1-4). If children show hostility this often is a reaction to strong controlling behavior of the care workers (cluster 1-5 and cluster 1-6).

This finding of the existence of such a great deal of friendliness in the residential living units might be not such a matter-of-course as it seems to be. In this respect it would be useful to compare the current findings with profiles of parent / child interactions in ‘normal’ families. Unfortunately, there is surprisingly little objective information on the interactions of ‘ordinary’ parents with their children (Casas, 1995). However, the impression is that the interaction patterns in the residential living units are quite similar to interaction patterns in ‘normal’ families. According to Benjamin (1974) such friendliness is typically obtained in
normal populations and from subjects who were asked to rate their ideal of what a good relationship should be. A study of Van den Boom and Hoeksmata (1994) suggests that mothers of irritable infants differ from those of nonirritable infants in that mothers of irritable infants are more focused on negative emotionality and are less responsive to positive signals. However, respecting the comparison between ‘normal families’ and the context of residential care, one subtle distinction can be made. It is reasonable to believe that in ‘normal families’ the number of active love / reactive love (cluster 1-3 / 2-3) interchanges appear much more often than observed in the context of residential living units.

With respect to the basic treatment philosophy, care workers have to create a climate of basic security. Besides physical safety, basic security means psychological safety, guaranteed by treating the children in a caring, fair, humane, respectful, predictable, and positive way. Referring to the great amount of affiliation that was observed, the results seem to indicate that the children benefit from a predominantly pleasant atmosphere in the residential living units. It is stated that the care workers take credit for the overall part of friendly situations in the residential living units. They are capable of shaping social interactions with children that suffer from severe emotional and behavioral problems in such a way that these interaction patterns seem to be quite ‘normal’. Although these positive interaction patterns might sound so natural, the importance of it should not be underestimated. As known ever since Bowlby (1969), a positive affective climate is crucial to the development of a positive bond between a parent and a child. Also the development of a child’s empathic response to others is related to the degree to which parents respond empathically. And a supportive family climate facilitates the individuation process of a child (e.g., Bell & Bell, 1983). In general, in an atmosphere of neutral warmth and acceptance, people are more likely to be attentive and responsive to the perspectives and needs of others (e.g., Martin & Bateson, 1993). And Natta, Holmbeck, Kupst, Pines, and Schulman (1990) concluded that in a setting of a psychiatric inpatient unit punitive and isolating behaviors of staff members were reliably associated with an increase in subsequent negative child behaviors and a decrease in subsequent positive child behaviors. Nevertheless, note that also hostile behavior to a certain extent accounts for the socialization of children, since they have to learn how to cope with their own feelings that are evoked when encountering hostility.

**Interdependency**
Considering the concept of interdependency it was demonstrated that child care workers put little emphasis on controlling behaviors in comparison with autonomy-giving behaviors. Children in almost two thirds of all their interpersonal behaviors show autonomy-taking behavior and in one third of all their interpersonal behaviors they are submitting.

With respect to the care workers the relatively great amount of autonomy-giving behaviors is striking. Grubben (1994) reviewed that care workers according to their own perception spent a substantial part of their time at taking charge of everything and making the children follow the rules. On the basis of the perception that care workers mainly function as disciplinarians one might have expected more controlling behavior. In general, it is acknowledged that an inordinate focus on controlling behaviors provokes defensive communication patterns (Watzlawick et al., 1967). Studies to interpersonal behaviors of teachers and children in Dutch classrooms revealed connections of strong controlling
behaviors of teachers to strong controlling behaviors of children, to less experience of teachers, and to low self-esteem of the teachers (Créton and Wubbels, 1984; Van Tartwijk and Brekelmans, 1996).

**Complementarity**
The SASB principle of complementarity is explicit about how interpersonal behaviors tend to elicit each other. It states that if a care worker is focusing on other, there is a strong draw for a child to react by focus on self with the same amount of affiliation and interdependence. Conversely, also if a child is focusing on self there is a strong draw for a care worker to react by focus on other with an equal amount of affiliation and interdependence. It was demonstrated that complementary interaction patterns structure a great deal of the interpersonal behaviors of care workers and children. Nearly all pairings of complementary behaviors were shown more frequently than could be expected by chance.

Referring to the basic treatment philosophy, care workers have to create a climate of basic security with both physical and psychological safety. This requires, among other things, care workers to be predictable. The fact that the principle of complementarity is so obviously demonstrated, to a substantial degree guarantees predictability of the care workers. By reacting complementary the children know what to expect from the care workers. A complementarity relationship means a stable relationship. However a distinction between positive and negative complementarity is important. Negative complementarity increases the risks for bad results of the treatment. Henry et al. (1986) demonstrated that therapy outcome is poor if therapists are not able to resist the strong draw for showing hostile behavior as a complementary reaction to hostile behavior of a patient. For this reason, care workers should know that they have to be careful with showing hostile complementary behaviors towards the children. Nevertheless, it would be useful to investigate when complementary reactions are effective and when they are not. At critical moments in the care process, negative complementary reactions probable are inadequate. In daily life situations, by contrast, negative complementarity may have a function. Outside the setting of the care process children will encounter hostile behaviors of other people, so in order to learn how to cope with this hostility, it might be necessary that children experience some hostility within the living unit. Another reason for more research to the effectiveness of complementarity is that it might well be possible that in some contexts it would pedagogically be more effective to refrain from the natural complementary reactions.

Since the interpersonal mechanism of complementarity became so apparent in the data of the present study, it is stated that this mechanism can serve as a guideline in clinical practice. It enables behavioral predictions because it can suggest what may follow a given interpersonal behavior. So it can be useful in choosing an intervention.

**Antithesis**
Because the principle of complementarity is revealed so obviously, and because the principle of complementarity underlies the principle of antithesis, the latter principle may also be applied in clinical practice of residential care. The principle of antithesis predicts the behavior of the care worker that has the best chance of helping the child to forward to adequate
behavior. Antithesis is defined as the opposite to the complement of a specific behavior. Two kinds of antithetic reactions are shown relatively often by child care workers in the present study. By showing very controlling behavior (cluster 1-5) as an antithetic reaction to very separate child behavior (cluster 2-1), the care workers try to provoke submitting child behavior (cluster 2-5). And by showing separate behavior (cluster 2-1) as an antithetic reaction to very demanding child behavior (cluster 1-5) the care workers try to reach that the children leave them alone (cluster 1-1), often for the mere reason they are busy.

Worth mentioning also is a kind of antithetic reaction that care workers show less often than could be expected by chance. To friendly and expressing child behavior (cluster 2-2), the care workers do not react by the antithetic behavior of hostile blaming (cluster 1-6). Fortunately so, because this blaming behavior would provoke hostile sulking (cluster 2-6) of the children.

Since this principle of antithesis is a therapeutic concept, the care workers could apply this more often and more consciously in their daily practice. Very constructive antithetic behavior would be showing understanding and inviting behavior (cluster 1-2) as a reaction to hostile sulking of the children (cluster 2-6). Care workers show this antithetic reaction relatively rarely. And yet it provides the best chance of helping sulking children to switch to friendly expressing behavior (cluster 2-2).

However, as for the principle of complementarity, also for this principle of antithesis it is necessary to investigate to what degree it is pedagogically effective. If care workers in everyday situations excessively apply this principle, children might get used to this therapeutic reaction too much. Consequently, the children will not be able to cope with mechanisms of more natural communication the way it happens in the outside world, where people are not always as friendly or as understanding as one may hope.

**Asserting and separating behavior**

One more comment on the common interaction patterns is made here. From 1320 minutes of videotape a total of 14585 behavioral units of the care workers were coded. This implies that care workers in their interpersonal processes with children are showing interpersonal behavior about every five seconds. These findings once again endorse that child care workers have a demanding job. In the present research project the number of subjects that is talked about was not considered. But De Ruyter (1971) in the early seventies demonstrated that care workers in a Dutch residential setting with eight children in one living unit talk about forty different subjects per half an hour.

One of the consequences of the busyness in the living unit is that care workers to a substantial degree focus on self by showing neutral asserting and separating (cluster 2-1) behavior towards the children, whatever the preceding child behavior is. So regardless of the kind of antecedent behavior of the children, child care workers follow to some extent with continuing doing their own things. Doing his or her own things in relation to one particular child often means that the care worker at that time is interacting with another child. It regularly happens that a care worker needs to shift attention to another demanding child in such a way that it prevents this care worker from continuing to focus on the child whom (s)he was interacting with. So being busy with one child can implicate not having time or possibilities to pay attention to another child. In addition, this cluster 2-1 behavior is often
seen at the end of a series of interchanges between a care worker and a child, when both persons go about their own separate way.

6.2.2 Lack of differences

In order to underline the conclusion that the two approaches in residential treatment can not be distinguished on the basis of characteristics of everyday social interactions between care workers and children, the following is recapitulated.

At first, the chi-square test, which was used for the purpose of testing differences between the two types of care, demonstrated significant differences. However, owing to a large sample size, in this case being the large number of coded behavioral units, small differences may be easily found significant. Furthermore, the effect sizes appeared to be rather small, meaning that the magnitude of the differences is very small.

Additionally, interpersonal behaviors of care workers within the same type of care appeared to differ as much as interpersonal behaviors of care workers between the two types of care. The same applied for interpersonal behaviors of children. This finding leads to the conclusion that individual persons in the residential living units, children as well as care workers, apparently react more in accordance with their own personal style instead of reacting in a way that is supposed to be characteristic for the kind of living unit they belong to.

So far these conclusions all concern the frequencies of interpersonal behaviors of care workers and children. Nevertheless, even if the frequencies of behaviors of two groups are comparable, there may still be meaningful differences due to different sequences. In case of different sequences, both groups show different kinds of consequent behaviors in reaction to the same kind of antecedent behavior. However, also with respect to the observed sequences, similarities in the current findings were more striking than differences. Again, the effect sizes appeared to be very small, meaning that the magnitude of the differences is very small. The same conclusions were drawn with respect to complex communication between both types of care workers and children.

Moreover, demonstrated small differences apparently were not easy to interpret with respect to the characteristics of the specific treatment philosophy of both types of care. Some observations intuitively seem to correspond to one of the specific treatment approaches, while others do not. Although the findings for that reason have put up quite a few hypotheses that are suitable for further research, these findings are hard to interpret in one obvious direction.

It is for all those reasons that it was concluded that the similarities between the two treatment approaches appeared to be far more prominent than the differences. For this conclusion the following three interpretations are possible.

Firstly, SASB is not a valid instrument for measuring the intended behavioral consequences of the two treatment philosophies. The SASB model is further discussed in paragraph 6.3.
The second interpretation is that the study is not well enough designed and that inaccuracies in the research techniques are responsible for not reproducing differences. The research design is evaluated in paragraph 6.4.

The third interpretation is that the different treatment approaches are not adequately implemented in the care workers' behavior. Here sceptics may claim that child care workers evidently do not fulfil their professional tasks the way they are supposed to. Nevertheless, the results of the present study show that residential care workers do not act arbitrarily. Interpersonal behaviors of care workers are associated with interpersonal child behaviors according to recognizable patterns. But they seem to act more in accordance with their personal style and from a general professional desire to help, than to applying a specific treatment philosophy. This raises the question whether or not theoretical models underlying the different treatment approaches should be revised. All this refers to the issue of what implications the lack of differences might have in clinical practice in residential child care. This issue is further discussed in paragraph 6.5. But before that the SASB model (paragraph 6.3) and the research design (paragraph 6.4) are evaluated.

6.3 Critical remarks about the SASB model

The accuracy of the research results depends for an important part on the adequacy of the SASB model as the measurement system. Therefore, some psychometric characteristics and the clinical usefulness of the SASB instrument are explicitly discussed. This provides an answer to the secondary research question, which was stated as follows: Is the SASB model a reliable, valid, and time-efficient method to operationalize social interaction patterns in a Dutch residential treatment center for children? And is it clinically useful? Successively, the reliability, validity, and time-efficiency of the SASB model are considered. Its clinical usefulness is discussed in paragraph 6.5.

Reliability of the SASB model

With respect to the reliability of the SASB model the concepts of interrater and intrarater reliability, calculated with weighted Cohen's kappa, are vital. In the literature Cohen's kappas up to .94 are mentioned for ratings on the SASB cluster model (Benjamin et al., 1986; Junkert, 1993). As reported in chapter 3, in the present study kappas of .70 to .92 were reached for interrater reliability and a kappa of .91 was reached for intrarater reliability. Therefore, it is ascertained that the SASB model can produce reliable results when applied to a Dutch treatment center for children. Note that intensive coder training had to be provided in order to reach adequate reliability.

In addition, Benjamin calculated test-retest reliability or stability of the questionnaires, which were developed to generate the classifications on the SASB model. Stability refers to the degree in which similar results are produced in repeated measurements. Questionnaires that are connected to the full SASB model (figure 1), showed a test-retest product-moment correlation of .87, which is to be regarded adequate. Measures on the questionnaires that are connected to the SASB cluster version showed a test-retest product-moment correlation of
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.79, which is also adequate (Benjamin, 1988). Since in the present study the SASB model was applied as an observational method, the stability of the SASB questionnaires in a Dutch setting was not tested.

Validity of the SASB model

Benjamin took great effort to carefully establish the validity of the SASB model. In order to do so, several SASB questionnaires were used. Benjamin developed a set of questionnaire items that describe each of the 108 points on the full SASB model and a set of questionnaire items describing each of the 24 clusters of the SASB cluster model. As described in chapter 2, these self-report measures involve ratings (on a scale ranging from 0-100) about a person’s relationship to some significant other person, to the mother, to the father, and to the self, all during states described as ‘best’ and ‘worst’. These are ratings of perceptions, because of the assumption that a person is moved by how he or she sees the world, more than by how the world really is represented by the actual behavior. The most important concepts with respect to validity concern construct validity, content validity, and predictive validity (Benjamin, 1974, 1986, 1988).

Construct validity refers to the degree in which items conform to theoretical expectation and content validity refers to the degree in which these items conform to what they claim to measure. Both construct and content validity of the SASB model is strengthened by means of autocorrelation and factor analysis (Benjamin, 1974, 1988, 1994; Alpher, 1988). These involve the testing of the basic logic of arranging behaviors on a closed continuum, which allows definitions of opposites and complements. Techniques of within-subject autocorrelation support the structure of the model: adjacent categories have high positive correlations; categories 90 degrees apart have no correlation, and categories 180 degrees apart have high negative correlations. Between-subject factor analyses on the SASB dimensions of focus, affiliation, and interdependence generated reasonable facsimiles of the SASB model. Results of the autocorrelations and factor analysis were highly consistent across normal as well as psychiatric subjects.

The present research was not designed to establish the validity of the SASB model in a Dutch setting. However, a few evaluative comments can be made on the extent to which this model is likely to produce valid results in a Dutch setting.

The first comment on the validity of the SASB model in a Dutch setting concerns the fact that the observations in this study were not equally spread over the 16 different categories of the SASB model. Especially the positive SASB clusters 1-2, 1-4, 2-2, and 2-4 are very frequently observed. This raises the question of whether the SASB is too excessive. However, one should realize that the SASB model is developed to completely describe the domain of all human interpersonal behaviors, and for that purpose not only friendly but also hostile items are to be included. A good example concerns an abusive parent-child relationship. Besides by positive interpersonal behaviors such a relationship will be characterized by very hostile and very controlling interpersonal behaviors. Newspapers regularly report about ex-lovers not being able to forget the intimate relationship they once had (SASB cluster 1-3 and 2-3), and subsequently committing a capital crime directed against the life of the person they are obsessed with (SASB cluster 1-7). If one describes dyadic interactions between children, one
certainly will need a wide range of SASB clusters, since children easily switch from joyful
playing to fighting and visa versa.

The fact that in the present study there are so many observations in the positive SASB
clusters, is linked with the choice in the research design to describe the social interaction
patterns in everyday situations in the residential living units. In these daily life situations there
is a positive atmosphere with much positive interpersonal behavior. Hostile interpersonal
behaviors are less present in such daily life situations. This picture will probably be different
if one succeeds in eliminating the critical therapeutic moments from the everyday situations
and pays attention to these critical elements exclusively, or if there is a focus on specific
situations like conflict situations, as Giele's (1992) did.

The issue here is the discriminatory power of the SASB model. The discriminant
validity of the SASB model has been supported by comparisons among various research
groups. Examples include findings of differences in family relationships between families
with a bulimic-anorexic daughter and normal control families (Humphrey et al., 1986);
 differences in the interpersonal processes between therapists and clients during a shortterm
psychoanalytic therapy and a cognitive behavior therapy (Grawe-Gerber, 1993); and
differences in interpersonal patterns of individuals diagnosed as having different kinds of
personality disorders (Benjamin, 1994).

Benjamin (1988) acknowledges that the SASB cluster model likely has less
discriminatory power than the SASB full model, since the cluster model only provides one
item per cluster. The cluster model especially is shown to advantage if differences between
groups are relatively large. In order to increase the discriminatory power in the present study,
it probably would have been useful to code the interpersonal behaviors within those frequently
observed SASB clusters on the basis of the full SASB model.

In the present study SASB measurement did not discriminate between the specific
residential treatment approaches. However, it will be clear from the above that the SASB
model demonstrates discriminatory power. This is one more reason to assume that in everyday
situations in the residential living units differences between the two treatment approaches do
not exist.

By applying the SASB model in this study interpersonal processes in a Dutch treatment
setting for children could be revealed. It has resulted in more insight into what is happening
within the residential care process. Especially the way in which interpersonal behavior of care
workers and children is structured has become more clearly. With respect to the treatment
philosophy some of the social interactions between residential care workers and children that
were described appeared to be logical and comprehensible, whereas others intuitively seemed
to be less logical. These raise questions and generate hypothesis that again could be
investigated in order to further improve the understanding of residential treatment. One might
argue that in the future it would be more efficient to restrict to operationalizing critical
elements in the treatment process or to predefined specific situations, instead of everyday
situations, and this issue is further discussed in the next paragraph.

Furthermore, within the context of the present study the SASB model could be
adequately applied to explore various issues, for example: which interpersonal behaviors are
characteristic for one particular STR care worker and one particular EAC care worker (Van
Houten & Van den Berg, 1997); to what extent the principle of complementarity is observed
in a residential living unit (Dwarshuis, 1995; Hemminga, 1996); in what way care workers react to very controlling, blaming, and asserting child behavior (Bruin, 1996); in what way children react when care workers are on their own or forget about the children (Hemricia, 1997); and in what way the concept of providing structure is recognizable in the interpersonal behaviors of the care workers (Schaper, 1997; Horeman, 1997). In addition, the SASB model was applied to provide a diagnosis of the interpersonal behaviors of a child (Vreugdenhil, 1995). And the SASB model has been applied in exploring which interpersonal behaviors are characteristic for male care workers and which are for female care workers (Van Merkestein, 1996). Two female care workers more frequently showed strong controlling behaviors and also more asserting and separating behavior than two male care workers at the same living unit. Finally, exploration of interpersonal behaviors of Dutch children versus children of different extraction demonstrated that children of the second category more frequently are very submitting to the care workers (Woerdings, 1996).

In addition, the applicability of the SASB model has been explored in another Dutch setting. Plooij (1994) discussed the applicability of the SASB model to evaluate the social skills and the personality development of preschool children during primary education and Plooij and Grovenstein (1997) adequately described interpersonal behaviors of a preschool child with behavioral problems and the teacher in the classroom.

A second comment on the validity of the SASB model concerns predictive validity. Predictive validity refers to the extent to which an instrument can be used to predict findings. This may be tested by longitudinal studies. The structure of the SASB permits the generation of a range of predictions about social behavior of human beings, especially by the predictive principles of opposition, similarity, complementarity, antithesis, and Shaurette. Studies have been conducted that show these predictions to be valid in relation to other factors. Henry et al. (1986, 1990) conducted some of the most powerful studies, in which they related specific therapist behaviors to eventual outcome of the therapy. The nature of the therapeutic relationship proved to be the single best process predictor of outcome. The presence of negative complementary behaviors shown by the therapist is predictive of poor therapy outcome for the patient.

In the current study the mechanisms of similarity, complementarity, and antithesis strongly appeared to be present. This implicates that these mechanisms can be applied as guidelines in clinical practice.

A third comment on the validity of the SASB model in a Dutch setting concerns an informal face validity check that was carried out in the Widdonck in the present study. The researcher confronted a team of care workers with nameless profiles (histograms) of the interpersonal behaviors of four different care workers from the team. The researcher asked the care workers to match each profile to the right person. The care workers faultlessly selected their own representations and without much discussion they agreed on the profiles of their colleagues. In the opinion of the care workers, SASB measures make sense to these practitioners, which was once more confirmed in two presentations by the researcher to the whole staff of the Widdonck.

A valuable completion with respect to validity would have been to have the care workers and children fill in the SASB questionnaires parallel to the observations.
Time-efficiency
One of the most important critical remarks about the SASB model concerns its labour-intensiveness. In this study it took a full working day (almost 8 hours) on average to describe one video recording of 15 minutes accurately. Additionally per minute of videotape recording approximately 65 minutes were needed to carry out the SASB coding. On top of that, coders need intensive training before they actually could start their coding work. Clearly, applying the SASB system is time-consuming. On the other hand, it is not to be denied that interpersonal human behavior is a matter of tremendous complexity. Would it be reasonable then to expect that this human interpersonal behavior could be described with little effort in a short period of time? Obviously it would not. As Alpher (1988) already stated, the SASB is a comprehensive system that is parsimonious without sacrificing understanding of complexities. Because SASB coding basically comes down to repeatedly making the same three judgements, namely assessing focus, affiliation, and interdependence, it is relatively uncomplicated. Since reliability and validity of the model have been established, applying it is worth the effort, especially if one realizes that it describes complex reality in a way that is comprehensible. Moreover, one of the risks in observational research is that expectations about results influence the observations in the expected direction (Martin & Bateson, 1993). An advantage of the labour-intensiveness of the SASB model might be that it decreases this risk, since during the period of observation it is too hard for the researcher to gain a comprehensive view of whether or not all the observations point in the expected direction.

6.4 Critical remarks about the research design

In this paragraph some critical remarks about the present process evaluation study, more or less designed as a static-group comparison (Campbell & Stanley, 1963), are made. These critical remarks are directed at choices that may have affected the ability of the study to detect underlying dynamics of the residential care process and the ability to detect differences between the two treatment approaches.

A threat to the ability of the study to detect differences between the treatment approaches might be the choice for recording the interpersonal behaviors during the children’s spare time. It may be possible that critical moments with respect to the implementation of the treatment philosophy have been left out, for example the meals, or the moments when children leave school and meet the care workers at the schoolyard, or the moments when a care worker is taking a child to bed and is having close and private contact with the child. On the other hand there is no reason to believe that the richness of social interactions during the children’s spare time would not demonstrate the critical characteristics of those interactions. In addition, during the study in none of the residential living units an extreme event has ever been reported that might have influenced the interpersonal processes in an unusual way.

However, as a result of the present study the choice for describing everyday situations should be evaluated. The everyday situations did not disclose social interaction patterns that are characteristic for each different treatment approach. It might be worth the effort to eliminate everyday conversations and trying to define critical moments in the care process.
Probably it is more efficient to operationalize the interpersonal processes within these typical features of the therapeutic environment.

Furthermore, it sounds reasonable to believe that besides the social interactions in daily life situations more components of residential care are necessary to accommodate all theoretical and pragmatic reality of each treatment approach. So there are probably more sources for differences between two types of care, among others the general rules that underlie a program and regulate social interactions in the living units, or properties specific to groups that are not present in their component dyadic relationships. Also the contents of the social interactions could be a source for differences. The present study focused on the interpersonal processes, that is on the information that defines the relationship between care workers and children. The verbal information in communication was left outside of consideration. However, it was remarkable that the contents of interactions of cluster 1-3 (approaching) and cluster 2-3 (joyfully connecting) behavior in STR units consisted of playful romps, whereas in EAC units these consisted of bodily contact like a child sitting on a care workers lap. In this example the contents of the interaction happened to be nonverbal information, while usually it contains verbal information. In this study coding the verbal contents could have been a valuable completion.

Note that no drop outs were encountered during the study, thus no loss of research participants in the comparison groups.

Since behavior that characterizes social interactions is both verbal and nonverbal and since the SASB coding procedure is too microscopic to accomplish in real time, videotapes had to be chosen as the medium through which the data were represented. A disadvantage is that research participants to some extent will be affected by the presence of an observer with a camera. Even though all research participants were well-habituated and even though the observer has tried to be as invisible as possible, being videotaped inevitably will have caused some impact on the research participants. However, it is expected that this subtle bias is produced in the same way in both types of living units.

A disadvantage of describing interpersonal behavior of care workers and children by means of systematic observation only, is that no insight is provided in the cognitive behavior of these care workers and children. Observational measurement requires some degree of interpretation in that the meaning and function of behavior are never immediately apparent. However, the degree of inference is reduced by the fact that the observations were more oriented toward describing what is happening between care workers and children than to what is happening within these persons. Ideally, observations are combined with interviews.

**External validity**

A relevant question is to what extent the current findings can be generalized to other populations, places, and points in time. The universality of the SASB dimensions increases the generalizability of the research findings.

The characteristics of the children who participated in the present study are comparable to those of populations in other institutions for upbringing in the Netherlands.
Studies directed at registering such characteristics show that, as in the present study, there are approximately 80 percent boys and 20 percent girls in these institutions. Also comparable is that the mean age of boys is higher than the mean age of girls, and approximately 70 percent of the children are of Dutch descent whereas 30 percent are of different descent. With regard to the difficulties of the children it is demonstrated that almost all institutions admit children with severe emotional and behavioral problems that originate from disturbed families (Van den Bogaart, 1993; Van Haaster, Van den Bogaart, & Mesman Schultz, 1993). In this respect it is argued that the children’s interpersonal behavior that is demonstrated in the present study is generalizable to populations in other institutions for upbringing in the Netherlands.

A necessary condition then is residential treatment in those institutions to be based on comparable methods of care. Although Van der Ploeg and Scholte (1988) described that 70 percent of the institutions in the Netherlands is aimed at creating a climate of basic security, Van Haaster et al. (1993) and Matthijs and Vincken (1997) demonstrated that Dutch institutions differ in their characteristics of the kind of care provided, for example in their daily programs, in the extent to which parents are involved in the treatment, and in the extent to which sanctions are imposed on violations of the rules. This all implicates that the generalizability to other places is unknown.

Residential treatment programs go through consecutive stages of development. Therefore, the generalizability to other points in time is unknown as well.

6.5 Implications of the research results for residential child care

After reviewing what criticisms are to be kept in mind with respect to the SASB model and the research design, some implications of the current findings for the field of residential child care can be considered. Especially the most striking result is discussed: the lack of differences between interpersonal behaviors of care workers and of children that represent two different treatment approaches. What might be the implications of this finding for clinical practice in residential child care?

Following others (e.g., Knorth & Smit, 1995), it is first underlined that a better framework for defining and measuring initial problems of the children is needed. The quality of the diagnostic procedures still needs improvement. Depending on their characteristic problems and needs, children are allocated to a treatment program. However, it is seen that in various contexts the problems of the children are still described from completely different points of view; a dilemma which was already identified years ago (Hommes, 1979). Children are being characterized in terms of shortcomings in their upbringing (neglected children), in terms of shortcomings in their own personality and behavior, or in terms of their request for help. This interferes with a comprehensive system that connects different problems to specific treatment approaches.

In addition, within residential settings children are being transferred from one type of care to another. This points to an overlap between different types of children. Also the lack of differences in interpersonal behaviors, as revealed in the present study, points to an overlap between the different types of children. Apparently, making a clear distinction between the
two types of children seems to be even more complicated as assumed so far. Different types of children according to different requests for help in clinical practice might be not as clear as posed in Kok’s theory (Kok, 1973, 1995).

A second implication of the lack of differences between the two treatment approaches concerns the need for more theoretical clarity underlying the residential care process. The question whether the theoretical distinction between the two types of children really appears in clinical practice also raises the question whether the two types of residential care should be distinguished the way they are now. So both practitioners and researchers should contemplate again on the value of a distinction between providing structure and providing emotional and affective care. The concepts of structure versus affect probably are too strongly interrelated to be embedded in separate treatment approaches.

All this refers to the issue of the strength of the residential treatment approaches. Strength of a treatment approach implies the a priori likelihood that this treatment could have its intended outcome (Yeaton & Sechrest, 1981). Traditional outcome research is aimed at the connection of specific problems and specific treatments. Conversely, Henry (1996) states that more theoretical coherence could be reached by focussing on a guiding theory for common treatment processes that are connected to outcome.

On the whole it is argued that common critical features of the residential care process deserve more empirical and clinical attention. Especially worthwhile would be to investigate how common daily life interaction patterns in residential care are related to outcome of residential care. It is stated that common patterns are valuable ingredients of the residential care process and that theory building about the foundation of the residential care process might be directed at common interaction patterns that shape the daily treatment environment. Ideally in this way it becomes apparent what specific problems of the children remain that need special attention outside the daily life situations.

A third implication of the lack of differences between the two treatment approaches is related to the issue of integrity of the treatment approaches, that the extent to which a specified treatment plan is fully delivered or implemented (Yeaton & Sechrest, 1981). Grubben (1994) already concluded that in the residential living unit care workers are not shaping interventions according to a specified treatment plan. Improving the integrity of specific treatment approaches implies educating and training the care workers. However, training of care workers has received little empirical attention. If in general it is not understood how to reliably train care workers to provide residential care, then how can it be possible to reliable train these care workers to provide specific types of care? This issue refers to the need for further professionalizing the work of residential care workers. Characteristic for this profession is the entanglement of being there for the children, actually performing towards the children, and being conscious and thinking about their own performance (Klomp & Waaldijk, 1993). Reflecting on one’s own performance at the very same moment one is performing, is extremely difficult. It might be too complex to interact with eight to ten children, at the same time reflecting on the process, and simultaneously making a decision about the next intervention. As a result of the entanglement of different tasks and not having sufficient possibilities for training available, it is conceivable that care workers perform more according to their own personal style than according to a specific type of care. Again it is argued that it
would be useful to focus on the understanding of the common daily life interaction patterns and on the basis of this knowledge develop more detailed guidelines for a professional way of acting and for choosing interventions.

In addition to the above, a fourth implication appears. That is increased attention for dyadic interpersonal relationships within a residential setting. It is already acknowledged that children are individual human beings with individual needs. It is maintained that a child's needs should be matched to a specific care worker, rather than to a specific treatment approach. This is in line with the tendency that in clinical practice it is more and more required for treatment plans to be appropriately individualized (Van Deur, Van den Berg, & Hens, 1998).

Clinical use of the SASB model
Finally, the utility of the SASB model in clinical practice of a Dutch residential treatment center is considered.

In a clinical setting the SASB model can be used as a tool to explore the interpersonal (and intrapsychic) domains. A crucial task for care workers is to learn about their interactional patterns and those of the children. The SASB model offers a language that stimulates thinking about interactional patterns: where they came from, and what purposes they have had. This helps to decide whether those patterns have to be changed and, if so, in what direction. Thinking in terms of SASB dimensions can help care workers to clarify their own interpersonal behavior and in this way urge them to interact more consciously and well-considered. This would be a change for the better with respect to opening the black box of the residential care process.

In addition to using the SASB model for directing interventions it could be used to follow the care process and to evaluate outcomes in interpersonal terms. An advantage is that the SASB model is atheoretical with respect to schools of therapy.

One more advantage of applying the SASB model is that it decreases the risk of the so-called halo-effect (Van de Sande, 1986). This refers to the phenomenon that a total impression of how a person is, tends to guide each judgement about a particular interpersonal event. Especially in clinical practice it could be valuable to make unprejudiced judgements.

In clinical practice, SASB coding can be done on an informal basis. It can be more selective, focussing on prototypic statements or on a specific or unexpected clinical event, both positive and negative ones. For the purpose of effectively applying the SASB model it would be valuable to develop guidelines for how to select these critical clinical events at which points in time of the care process. In addition, it would be valuable to develop a program for training care workers on the basis of the SASB model.
6.6 Directives for future research

Characteristic for descriptive and exploratory research, as the present study is, is that it results in hypotheses or questions instead of explanations. These new questions and hypotheses are generated in order to improve the quality of residential child care. The most important issues that resulted from this study and that deserve attention in the future are set out in this last paragraph.

The way in which common daily life interaction patterns in residential care are related to outcome of residential care needs further investigation. Especially the interactional principles of opposition, similarity, and complementarity, which suggest what may have antedated and what may follow a given interpersonal event, need further explanation. It is not clear yet why one principle is invoked rather than another. What variables determine whether a child maintains complementary or reacts by opposite of similar behavior? In what situations is it adequate and pedagogically effective for a care worker to react complementary or antithetic and in what situations it is not?

Also complex communication needs further exploration. Probably complex communication is not always bad and ineffective. Benjamin (1993) uses complex messages clinically to block pathology. In what context is complex communication useful and in what circumstances does it drive a person crazy? One way to explore the meaning of the various complex codes is to study the interface between the sequence of interpersonal behavior and the contents of this behavior. A complex message after a statement about suicide might be effective, whereas a complex message after an expression in which a child unfolds a strong sense of self might be ineffective (Benjamin, 1993).

More sequential analysis is recommended. The present study was restricted to two-event sequences. Chains of more than two events could be analyzed by means of the lag sequential method (Bakeman & Gottman, 1986). This approach provides answers to questions as what happens several steps after a child started with an expression or with sulking behavior. Or what happens several steps after a care worker started with neutral control or with friendly autonomy-giving behavior. This approach detects three-event or four-event or even longer sequences (Janssens & Götshen, 1991).

Another question that remains unanswered so far is in what way interactional patterns are associated with other variables, such as the situation within the living unit, the working experience or personality characteristics of the care workers, or the contents of the conversation or the nonverbal contents of the interpersonal behavior. These issues are worth the effort of systematically exploring. This also counts for the complex problem of distinguishing critical therapeutic elements from everyday situations within the residential living units.
Social interactions of ‘ordinary’ parents with their children should be addressed more often. Also, properties that are specific to groups as a whole instead of their component dyadic relationships deserve more empirical attention, as well as studies of peer interactions.

An important issue that should be dealt with in the (near) future is the validation of the SASB model and the SASB questionnaires for the Dutch situation. As demonstrated by Benjamin (1974, 1986, 1988), this implies repeatedly conducting dimensional ratings and factor analytic validation studies until a reasonable facsimile of the model appears in Dutch.

In the present study no outcome data are available. It remains uncertain what characteristics of the interpersonal processes between care workers and children will produce desirable outcome. Henry et al. (1986, 1990) demonstrated that therapeutic relationship is a very good process predictor of therapeutic outcome. Therefore, extensive research is needed to determine what characteristics of the social interactions between care workers and children will lead to specified treatment goals. This implies that during the care process valid measurements must be made regarding the development of the children and also regarding the interpersonal relationship between care workers and children. For this latter purpose the SASB model is appropriate.

Ideally, researchers and practitioners work together to explicate underlying assumptions of the practitioners and causal statements that link diagnosed problems, interventions, and intended goals, thereby the option of a guiding theory about common interaction patterns deserving special attention. Continuing activities in this area of both researchers and practitioners are needed in order to come to a closer answer to the ultimate question in the field of residential child care: Which kinds of settings, with what methods of care, work best for troubled children with which kinds of problems, and what outcomes are produced?