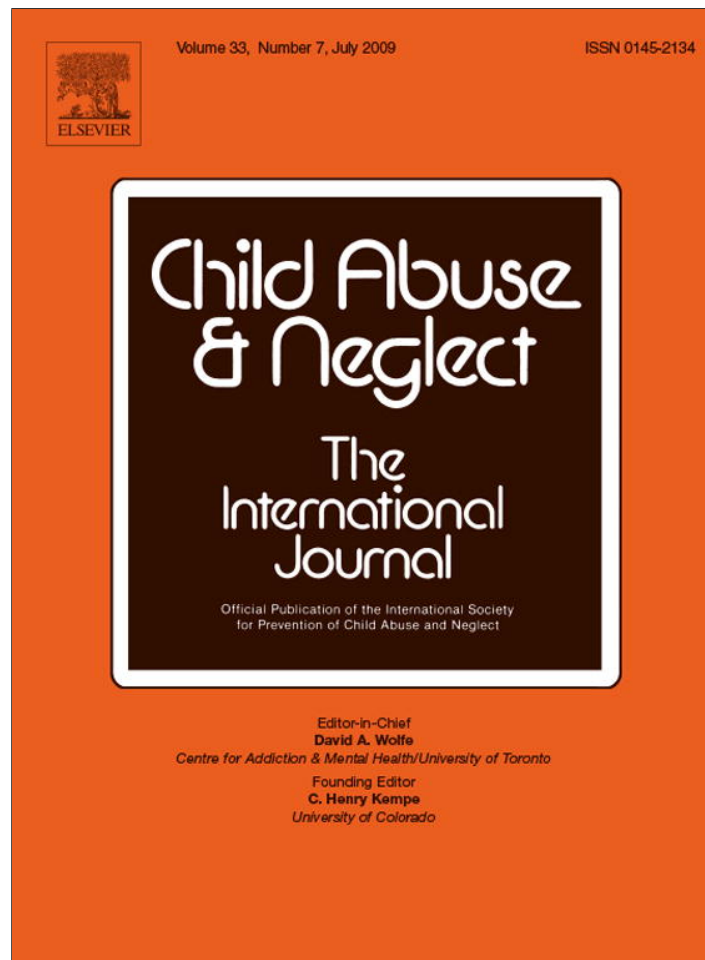


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Child Abuse & Neglect



School functioning of children in residential care: The contributions of multilevel correlates

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ARTICLE INFO

Article history:

Received 21 June 2007

Received in revised form 11 December 2008

Accepted 17 December 2008

Available online 8 July 2009

Keywords:

Children in care

Residential care

School performance

Parental visitation

Gender

Quality of care

ABSTRACT

Objective: This study, using an ecological approach, examines the relationships between problems in school functioning (including academic and behavior problems) of children in residential care with a number of variables describing the child and the care setting.

Methods: The study reports on 4,061 children and youth (ages 6–20) in 54 Israeli residential care facilities supervised by the Ministry of Welfare. It is based on data derived from an ongoing system of monitoring care based on annual reports by social workers on children in care settings. Additionally, data on the characteristics of the settings were collected through a structured questionnaire completed by the supervisors at the Ministry of Welfare. Hierarchical Linear Modeling (HLM) was utilized to examine how characteristics of the individual children and the care settings were related to problems in school functioning among the children.

Results: Most of the children (about 62%) had at least one problem in school functioning. The most vulnerable children were boys, children who were taken from parental homes by court decree, children with problems in quality of contact with their biological parents, and children who stayed in the care setting for shorter periods. The settings' characteristics most associated with poor performance at school are group structure (vs. mixed and family home structures), higher levels of peer violence, fewer after-school activities, and settings in which children tend to stay for shorter periods of times.

Conclusions: The findings demonstrate the need for an ecological perspective in addressing children's problems in school functioning within the care system. The results help to identify the types of placements that should benefit from additional resources in order to promote adaptive performance in school among the children.

Practice implications: Social workers in residential care should give high priority to children's positive academic involvement. The study demonstrates the need for identifying the intersection of the individual, familial and institutional contexts in which problems in school functioning are more prevalent. Therefore, it is important to allocate sufficient resources to care settings which serve these children. The study suggests some priorities and directions for policy and practice with children in residential care.

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Introduction

Children who have been removed from home due to lack of adequate parental care rarely have access to consistent educational support, which is taken for granted by most children living with their parents (Shin, 2003). For these children, low school performance might be only one disadvantage among many (Ajdukovic & Franz, 2005), but it has some of the most serious consequences for their life chances in adulthood (e.g., Schiff & Benbenishty, 2006).

The aim of this study was to examine problems in school functioning among 4,061 children (in this paper, the term “children” includes adolescents) living in 54 residential care settings (RCSs) for children at risk under the responsibility of the Welfare Ministry in Israel.

Studies consistently report higher rates of academic and behavior problems at school among children in substitute care. In addition, these children are at higher risk for entering adulthood with fewer educational qualifications than those who are not in care (Emerson & Lovitt, 2003; Jackson, 1994; Jackson & Martin, 1998; Mitic & Rimer, 2002; Newburn, Shiner, & Young, 2005; Schiff & Benbenishty, 2006; Stein, 2006; Vinnerljung, Oman, & Gunnarson, 2005; Vorria, Wolkind, Rutter, Pickles, & Hobsbaum, 1998a; Zetlin, Weinberg, & Kimm, 2005). Moreover, research shows that the academic outcomes of children in care are poor even in comparison to other children with similar socio-economic backgrounds (e.g., Vinnerljung et al., 2005). Children in care also have higher rates of truancy, disciplinary referrals, performance below grade level, repetition of at least one class, leaving school early, and dropping out (Brodie, 2000; Flynn & Biro, 1998; Sawyer & Dubowitz, 1994). Additionally, large percentages of children in care are classified as having special education needs (Shin, 2003; Zetlin et al., 2005). In Israel, about 40% of children in RCSs are classified as having special education needs, compared with less than 5% of the general population (National Council for the Child, 2006).

Contributing to the many risk factors for problems at school are, first, pre-care experiences, including: (a) high rates of parental abuse, which may have a lasting influence on the child’s intellectual abilities (Vinnerljung et al., 2005); (b) overrepresentation of poor children in the care system; socio-economic difficulties have been associated in many studies with school failure (Pagani, Boulerice, Vitaro, & Tremblay, 1999); (c) special emotional challenges experienced by children in care, which can negatively influence their ability to persevere with their studies (Aldgate, Colton, Ghate, & Heath, 1992; Mitic & Rimer, 2002); (d) the older age at which many children enter the care system, which it is argued, increases the intensity of the educational deficiencies and problems they bring with them.

It is also important to address children’s *in-care experiences* as contributing to their difficulties at school. First, the system is characterized by high levels of residential instability, which result in multiple school transfers experienced by children in care, which disrupt the educational process (Emerson & Lovitt, 2003; Pecora et al., 2006; Zetlin et al., 2005). In addition, social workers tend to focus on emotional-behavioral difficulties of children in care, assigning low priority to educational achievement (Jackson, 1994; Zetlin et al., 2005). Moreover, because institutional caregivers often lack higher education themselves, they have in many cases low expectations and little understanding of what is involved in academic work (Jackson & Martin, 1998). The RCSs often do not offer intellectual or academic support, such as assistance with homework and the provision of books. Additional problems arise from interactions between the care and education systems and from the stigmatization of children in care at school (Brodie, 2000).

Fulcher (2001) and others (Vorria et al., 1998a; Whittaker, 1978) suggest using ecological approaches to examine the different effects of child, family, and RCS characteristics on children’s status in RCSs. As obvious as this may seem, most studies of children in RCSs overlook the multilevel nature of the phenomenon, and focus either on the children or on the care settings as units of analysis. This study examines child, family, and RCS factors to explain variance in children’s problems in school functioning. The following sections present a review of the literature on the study correlates.

Level-1 correlates: Child and biological family characteristics

Some research focuses on individual characteristics associated with problems in school functioning among children in care. For example, previous studies consistently show that boys have more problems in school performance and adjustment than girls, both in care and after leaving care (Hukkanen, Sourander, Bergroth, & Piha, 1999; Pecora et al., 2006; Schiff & Benbenishty, 2006; Schiff, Nebe, & Gilman, 2006; Vorria et al., 1998a; Wahba, 2003; Yule & Raynest, 1972). Studies also show that older children (Glisson, Hemmelgarn, & Post, 2002; Heflinger, Simpkins, & Combs-Orme, 2000; Hukkanen et al., 1999) and immigrant children (Bates et al., 2005) in care have more psychosocial and school functioning problems.

Studies on the relationship between children’s length of stay in care and their emotional-behavioral and academic functioning yield inconsistent results. Some researchers find a positive relationship between the two factors (Attar-Schwartz, 2008; Davidson-Arad, 2005; Gilman & Hendwerk, 2001; Zemach-Marom, Fleishman, & Hauslich, 2002). Other studies, however, find no association (Heflinger et al., 2000; Hukkanen et al., 1999) or a negative association (Hussey & Guo, 2002; Landsman, Groza, Tyler, & Malone, 2001; Mosek, 1993) between length of stay and children’s outcomes.

Few studies in Israel have investigated the court’s involvement in the removal of children from their homes. Often no association was found to link court involvement with the children’s outcomes in care (e.g., Schiff & Benbenishty, 2006). About 75% of all out-of-home placements in Israel are made with parental approval and do not involve the courts (National Council for the Child, 2006). The professional imperative is to make such decisions with as much parental consent as possible. The court is involved only in cases in which the child is assessed as being at imminent risk. It can then order the removal of the child from home without parental consent.

The child’s biological family characteristics were examined by several studies. A large percentage of children in care come from single-parent families. In Israel, only about 38% of the biological parents of children in RCSs are married to each other or living in the same household (National Council for the Child, 2006). Numerous studies show that children from single-parent families in the community as well as in out-of-home care have more psychosocial and educational difficulties than do children from two-parent households (e.g., Attar-Schwartz, 2008; Berger, 2004; Hegar & Yungman, 1989; Vorria, Wolkind, Rutter, Pickles, & Hobsbaum, 1998b; Wolock & Horowitz, 1984).

Research has also looked at parent-child visitations in relation to children's functioning. Findings on the *frequency of parent-child contact* are inconsistent. On the one hand, some studies show a positive association between the frequency of parent-child encounters and the child's well-being and functioning while in care and after leaving care (Cantos, Gries, & Slis, 1997; Fanshel & Shinn, 1978; Landsman et al., 2001; McWey, 2000; Oyserman & Benbenishty, 1992). Others find no relationship between these variables (Hukkanen et al., 1999; Vorria et al., 1998a). However, findings on the *quality of contact* between children in care and their parents are more consistent. Several studies report positive relationships between the quality of parent-child contact and the child's educational and psychosocial status in care and after leaving care (Attar-Schwartz, 2008; Hukkanen et al., 1999; McWey, 2000; Weiner & Kupermintz, 2001).

Level-2 correlates: Setting factors

Some research focuses on institutional factors that are associated with the emotional-behavioral and school functioning problems of children in care. The following section presents a review of the literature on the institutional correlates included in this research.

Organizational characteristics

RCS structure. There are several possible institutional structures to accommodate children at risk in Israel. *Traditional group institutions* take care of large numbers of children who reside in small groups. Each group of children has a social worker, as well as institutional caregivers in changing shifts. *Clusters of family homes in a shared facility* ("familial settings"), in which a married couple with biological children cares for a small number of children at risk (up to 10) who share the same family unit. All family units in the facility use the same administrative, cleaning, and general support services. *Other settings* include small family-like settings in the community, combinations of residential group and family-like units (hybrid) in the same structure, and other arrangements (Children & Youth Service, 2005). There is some evidence that the emotional-behavioral status of children varies across different institutional structures (e.g., Ajdukovic & Franz, 2005; Heflinger et al., 2000). For example, Mosek, Taus, and Shomodi (1997) describe an improvement in the well-being of Israeli children who were transferred from a traditional group setting to a cluster of family group homes.

RCS size. Research shows that smaller RCSs are warmer, more individualized, and promote more consistent relationships with the primary caregiver than large RCSs. Large numbers of children in RCSs may generate higher levels of noise, have less personal space and privacy, and more interpersonal friction (Barter, Renold, Berridge, & Cawson, 2004; Gibbs & Sinclair, 1999). These aspects may undermine children's sense of security, and inhibit their school performance (Bailey, 2002). It should be noted, however, that there are contradictory findings with regard to the effects of institution size. For example, in interviews with children's home staff conducted by Barter et al. (2004), several of the staff members interviewed felt that larger setting was an advantage because it allowed children more privacy and allowed a range of activities to take place without children competing for space.

Physical conditions in the RCS

Suitability of the physical environment to children's needs. Research shows that the physical characteristics of a facility influence the behavior and mental health of its residents (Bailey, 2002). For example, Tear et al. (1995) found that social density in youth crisis shelters was associated with increased levels of behavior problems among the residents. Barter et al. (2004) found links between children's life satisfaction in RCSs and their ranking of the general décor and amenities in the facility (see also Shalom & Apple, 1994).

Food. Studies in the community have found associations between food insufficiency and psychosocial and academic problems among children (Alaimo, Olson, & Frongillo, 2001; Slack & Yoo, 2005). For children in RCSs, food has symbolic and emotional meanings of acceptance, domesticity, warmth, and care, beyond its nutritional value (Bailey, 2002; Rose, 1992). This study examines associations between the quantity and variety of food and children's problems in school functioning in residential care facilities.

Institutional functioning and climate characteristics

After-school activities. Studies show that children in RCSs that offer more leisure-time activities and academic tutoring show greater satisfaction with their life at the RCS and achieve greater educational success in adulthood (Gilligan, 2007; Jackson & Martin, 1998; Shalom & Apple, 1994). Research also indicates that extracurricular interests and hobbies facilitate contact with a wider range of non-care people (Pecora et al., 2006; Shin, 2003) and help to promote children's feelings of competence (e.g., Romans, Martin, Anderson, O'shea, & Mullen, 1995).

Peer violence. The few studies on peer violence in care settings reveal alarming evidence regarding the high prevalence and destructive consequences of the phenomenon (e.g., Barter et al., 2004; Lees, Morris, & Wheatley, 1994; MacLeod, 1999). For example, a follow-up study of children's homes for young people in the UK found that residents who reported being bullied while in care were less adjusted to various aspects of life both in and after care (Gibbs & Sinclair, 1999).

Table 1
Summary statistics of the study variables.

Variables	Metric	Mean	SD	%
Dependent variable				
Problems in school functioning	(0 to 2 academic and behavioral problems)	0.92	0.82	
Child-level correlates				
Special education needs (no special needs)	(0 = special education needs, 1 = no special needs)			65.7
Gender (female)	(1 = female, 0 = male)			41.1
Age	(# Years)	13.32	3.11	
Immigration status (Israeli-born)	(1 = Israeli-born, 0 = immigrant)			77.6
Length of stay at the current RCS	(# Years)	2.94	2.36	
Court intervention (statutorily)	(1 = statutorily, 0 = voluntarily)			26.8
Family composition (two-parent families)	(1 = two-parent family, 0 = single-parent family)			36.2
Problems in frequency of parent-child visitations (normal)	(1 = normal frequency, 0 = problematic frequency)			67.4
Problems in quality of parent-child visitations (normal)	(1 = normal quality, 0 = problematic quality)			58.6
Contextual (RCS-level) correlates				
Setting type (therapeutic)	(0 = rehabilitative, 1 = therapeutic)			38.9
Setting structure (familial settings) ^a	(1 = familial setting, 0 = group and "other" settings)			16.7
Setting structure ("other" settings) ^a	(1 = "other", 0 = group and familial settings)			22.2
RCS size	(# Children)	96.30	66.79	
Suitability of the physical environment	(1 = low suitability to 5 = high)	4.03	0.68	
Food	(1 = low quality to 5 = high)	4.20	0.85	
After-school activities	(1 = low level of activities to 5 = high level)	4.01	0.76	
Peer violence	(1 = strongly agree to 5 = strongly disagree)	3.60	0.56	

Note. $N = 4,061$ children, 54 residential care settings.

^a Dummy variable, reference group = groups settings.

In summary, this study focuses on problems in school functioning (i.e., academic and behavioral problems at school) among children in RCSs. It improves on previous studies by addressing this issue from a multilevel perspective: it examines simultaneously the effects of child and family characteristics and RCS factors on children's problems in school functioning, and the unique contribution made by both child and RCS variables in explaining the variance in school problems between children and between RCSs.

Methods

Sample

The current study examines the problems in school functioning of children in rehabilitative and therapeutic RCSs. In Israel, about 9,000 children live in out-of-home care, with about 80% of them placed in RCSs and the rest in family foster care (National Council for the Child, 2006). Most of the children in Israel's care system are placed in RCSs that belong to the welfare system and are specifically designed for children at risk. They are placed in RCSs through interdisciplinary decision committees which operate within the framework of the Welfare Ministry. Depending on their needs and family background, the committees may decide to refer children at risk to rehabilitative, therapeutic, or post-hospitalization settings (Dolev, Benbenishty, & Timar, 2001).

About 40% of children in welfare RCSs are placed in *rehabilitative RCSs*. These settings serve children with satisfactory developmental potential who are removed from their homes because of their parents' inability to cope with their emotional and educational needs. About 30% of children in welfare RCSs live in *therapeutic RCSs*, which are designed to treat children with extreme family problems. Other settings, not included in the current study are post-hospitalization settings, which serve nearly 5% of children in welfare settings who suffer from severe psychiatric problems and educational settings that serve children from underprivileged backgrounds whose parents choose this option because they believe it will provide them with a better education. Rehabilitative and therapeutic facilities are expected to differ from each other in the needs of the children under their responsibility. However, research shows that in some cases, the functioning of children in rehabilitative and therapeutic settings is in a similar level (Dolev & Barnea, 1996). For cultural and historical reasons (Jaffe, 1982), 90% of the children in welfare RCSs are Jewish and 10% are Arab. This study focuses on Jewish children.

The original database of Jewish children in rehabilitative and therapeutic settings contained information on 4,631 children. However, 316 children (6.82%) were excluded because they were in RCSs with fewer than 25 residents, and an additional 209 (4.51%) were from four RCSs on which information about the RCS characteristics was unavailable for administrative reasons (e.g., turnover of supervisors). There were no significant differences between the socio-demographic characteristics of the excluded children and the study's sample. An additional 45 children in the database were excluded from the study, because they were under school age. As shown in Table 1, the study is based on social workers' reports on 4,061 children in 21 therapeutic RCSs (39% of the settings) and 33 rehabilitative RCSs (61% of the settings). Most of the children were between 6 and 18 years old ($M = 13.32$, $SD = 3.11$). However, some participants were older, having repeated at least one grade level: 16 participants (0.4% of the total sample) were 20 years old and 90 (2.2%) were 19 years old.

Procedures

Two sources of data were used in this study:

- (a) *Existing database on children in RCSs.* This Israel Welfare Ministry database consists of background information on children in RCSs and an annual status assessment made by each child's social worker. The social workers complete a structured questionnaire that provides an assessment of problems across an array of dimensions (e.g., depression, problems in school functioning, aggressive behavior, etc.) based on several sub-scales. Test-retest reliability examinations show medium to high overall reliability for the instrument (Walk, Zemach-Marom, Amihai-Ben Yaakov, Hauslich, & Branz, 2004). The rationale, content, and process of data collection are derived from the RAF method (Regulation, Assessment, and Follow-up; Zemach-Marom et al., 2002) of surveillance and continuous improvement of quality of care, which is based mainly on the "tracer" approach (Kessner & Kalk, 1973). This study uses data collected in 2003–04 among children from the Jewish sector.
- (b) *Questionnaires completed by RCSs quality control supervisors.* Supervisors were asked to complete a questionnaire on each of the RCSs under their supervision because an excessive amount of missing information concerning RCSs characteristics was found in the RAF database. The questionnaire was patterned after the reports required by the RAF system to describe the characteristics of each RCS. The instrument included questions about the organizational background characteristics of the RCS (structure and size) and assessments of several domains such as physical conditions, environment and policy characteristics at the RCS. Information was requested only on RCSs with more than 25 children (including several family group homes managed and supported by the same personnel). Overall, information on 54 RCSs (90% of the total number of eligible therapeutic and rehabilitative facilities) was received. All 11 regional supervisors participated, each completing between 2 and 8 questionnaires (*median* = 5 questionnaires).

The research was approved by the Ethics Committee of the Hebrew University of Jerusalem. The data obtained from the Welfare Ministry does not include identification details of the children. Hence, the confidentiality of participants was ensured.

Measures

Dependent variable: Problems in school functioning. In the child questionnaire, social workers were asked about whether the child was classified as having special education needs, and then asked to complete questions regarding the following: (a) *Achievement at school:* For children in regular education they were asked whether the child's average academic grades are low, and whether the child shows an educational gap of at least 2 years compared with other students in his/her class. For children classified as having special education needs, they were asked to indicate the extent to which the child fulfils his/her potential. According to the RAF method, children are considered to have an achievement problem if they have low scores on average or if they have an educational gap of at least 2 years (no special education needs); and if they do not fulfill, or only partially fulfill, their academic potential (special education needs). (b) *Behavior problems at school:* Social workers were asked whether the child has a problem of non-attendance or truancy, is late for classes, does not do homework or other tasks, and whether the child has discipline problems. The RAF method considers children to have a behavior problem if they are late or do not attend school more than 5 consecutive days or 10 non-consecutive days a month, if they frequently fail to do their homework and other tasks, or if they frequently have discipline problems at school.

The dependent variable in this study is based on the sum of the scores of children's behavior and achievement problems at school ($\alpha = 0.56$). The summative index for children's problems in school functioning is therefore based on the following scale: 2 = the child has both academic and behavioral problems; 1 = the child has problems in one of those areas; 0 = the child has no problems in either of the areas.

Control variable: Special education needs. Some of the children in RCSs are classified as having special education needs by professionals in the welfare system. They may attend special classes within the RCS or special classes in the community, either in special or in regular schools. Others, with no special education needs, attend regular schools in the community. The classification of children as having special education needs was controlled for in this study, as it was expected it would be related to the children's problems in school functioning and not randomly distributed across other correlates related to problems in school functioning examined in the current study.

Child-level correlates. Background information: Social workers reported on the child's gender, age, immigration status (Israeli-born children vs. immigrant children) and length of stay (in years) at the RCS. Other background information included family composition (two-parent families—married or living together; or single-parent families—widowed, divorced, or never married); and court involvement in RCS placement (children placed by court decree vs. those placed with no court involvement).

Problems with frequency of parent-child visitation: This variable is based on two questions: (a) whether the child's parents attend events held by the RCS or arrive of their own volition and (b) to what extent the child visits his or her parents' home. According to the RAF method, children are considered to have a problem if their parents do not attend the RCS events, or if the children seldom or never visit their parents.

Problems with quality of parent-child visitation. This variable is based on three questions: (a) whether the child has emotional/behavioral problems after visiting the parents' home; (b) whether the child is abused or suspected of being abused while visiting home; and (c) whether the child is subject to considerable neglect when visiting the parents. Children are considered to have a problem if they experience emotional-behavioral difficulties following every home visit or every second visit, or if they are victims or suspected victims of abuse or neglect during home visits.

Setting-level characteristics. Organizational factors: These factors include RCS type (rehabilitative or therapeutic), RCS structure (two dummy variables comparing between "familial" settings, "other", and "group" settings—see definitions in the Introduction), and RCS size (number of children).

Physical conditions: Supervisors were asked to rate their level of agreement with a series of statements describing the physical conditions at the RCS. Responses were based on a 5-point scale ranging from 1 = "highly applicable" to 5 = "does not apply": (a) *Suitability of the physical environment to the children's needs*: this index ($\alpha = 0.80$) is based on the mean score of three statements regarding the extent to which the RCS suits the children's needs. It includes two general statements about the physical conditions at the RCS (e.g., "the physical setting is suitable for the children's residential needs") and one question about the existence of recreational facilities at the RCS; (b) *Food*: this variable is based on one statement regarding the adequacy of the amount and variety of food served in the RCS.

Functioning and environment characteristics: Supervisors were asked to rate their level of agreement with a series of statements describing the functioning and climate features of the RCS on a 5-point scale ranging from 1 = "highly applicable" to 5 = "does not apply to this facility": (a) *After-school activities*: this index ($\alpha = 0.78$) is based on the mean of responses to three statements regarding the extent to which the RCS is carrying out leisure-time and academic activities, such as personal academic tutoring; (b) *Peer violence*: this index ($\alpha = 0.84$) is based on the mean of responses to three statements regarding the extent of verbal, physical, and sexual violence among children at an RCS.

Analytic plan. First the study presents the summary descriptive information about the academic and behavior problems of children in the RCSs examined in the current study and about the correlates of these problems. The main analytical tool used in the present study was Hierarchical Linear Modeling (HLM) which is a technique that allows the investigation of data organized hierarchically on more than one level (Bryk & Raudenbush, 2002; Khoury-Kassabri, 2006). In this study, children were nested within RCSs: the level-1 model represents the relationships between the child-level characteristics and problems in school functioning; the level-2 model captures the relationships of RCS-level variables and children's problems in school functioning. The HLM method provides separate estimates of the variance in children's problems in school functioning explained by the children's characteristics and by the features of the RCSs.

In this analysis, child-level characteristics were first entered into the HLM equation in a sequential manner from the personal characteristics of the child to the characteristics of his/her contact with the biological parents. Then the contribution of RCS-level variables was examined after controlling for child-level variables. RCS-level factors were added to the equation following a hierarchy from the most general context of the RCS (organizational factors) to the contexts in which RCSs may have the most direct control (functioning and environment).

Child-level variables were centered around the group mean because one of the research concerns was whether children with certain characteristics are associated with higher or lower levels of problems in school functioning *within their own RCS*. For instance, do children who stay for longer periods have different levels of problems in school functioning than others in their RCS? This type of question is best answered by centering around the group mean. However, this approach overlooks the variation of these centered variables (e.g., length of stay and gender) between the RCSs participating in the study. To overcome this problem, as required by the HLM method, the group means of the centered variables (e.g., the RCS' average length of stay and the percentage of females in the RCS) were reintroduced as second-level (RCS-level) variables (for further explanation see Bryk & Raudenbush, 2002).

In this study, slopes that were not much different across RCSs (i.e., having insignificant variance components) were fixed. For this research, the slopes of special education needs and length of stay were allowed to vary at the RCS level.

Results

Preliminary analyses

Based on the reports of the social workers, 61.7% of the children in the examined RCSs evidenced at least one problem in their functioning at school ($M = 0.92$ problems, $SD = .82$), including low achievement (51.6%) and behavior problems (40.3%).

As shown in Table 1 the average of length of stay in the RCS was 2.94 years ($SD = 2.36$). About 34% of the children were classified as having special education needs, 26.8% of them were removed from home by court decree, only 36.2% of them come from two-parent families, and about 78% of them are Israeli-born children. According to the social workers' reports, about 33% of the children suffer from problems in the frequency of contact with their parents and about 41% suffer from problems in the quality of visitations. Most of the RCSs examined were traditional group settings (about 60%), with an average population of about 96 children ($SD = 66.79$). On average, these RCSs were described rather favorably as having suitable physical environment, food, and a range of after-school activities (means of 4.03, 4.20, and 4.01, respectively, on a scale from 1 = "low quality" to 5 = "high quality").

This study examines RCSs context variables that may be associated with children's problems in school functioning. This question assumes that RCSs differ with regard to the problems in school functioning of their residents. To address this

question, a fully unconditional two-level model (i.e., a model with no independent variables) was utilized. This provides useful preliminary information on how much variance in children's problems in school functioning lies *within* RCSs and *between* RCSs. The results indicate that a considerable amount of the variance in children's problems in school functioning was accounted for by variance between RCSs in reports of problems in school functioning (*Intraclass Correlation Coefficient; ICC*): 11.56% (*Chi square* = 452.219, *df* = 53, *p* < 0.001). Hence, a two-level analysis was conducted.

It should be noted that an additional preliminary test was conducted in order to examine whether there is variability between the 11 supervisors in their reports of problems in school functioning. The *ICC* of this examination was insignificant (*ICC* = 0.0009%; *Chi square* = 547.695, *df* = 10, *p* = 0.267). This finding means that it did not make a difference who the supervisor was; therefore there was no need to control for the identity of the reporting supervisors.

Multi-level model

Child-level factors. The study estimated the relationships between child-level correlates and the child's problems in school functioning, after controlling for the child's education needs (special education needs vs. no special needs). The results in Table 2 show that, according to the social workers' reports, boys had more problems in school functioning than did girls. Children whose period of residence at the current RCS was longer and those who had been removed from their parental home with no court decree had lower levels of problems in school functioning. Additionally, it was found that the child's immigration status, age, family composition, and problems in frequency of contact with parents were not associated with problems in school functioning. However, children suspected of being mistreated by their parents during visits had more problems in school functioning.

To examine the contribution of child-level variables to the explained variance in social workers' reports on problems in school functioning within the RCSs, the child-level correlates that were found to have significant associations with problems in school functioning (see Table 2) were entered into the equation. The results show, overall, that child-level variables explained 4.60% of the variance within RCSs in children's problems in school functioning.

Setting-level factors. To estimate how the characteristics of the RCSs relate to children's problem in school functioning, the relationships between RCSs' means of problems in school functioning and RCS-level variables were examined (Table 3). After controlling for the RCS type (rehabilitative or therapeutic settings), the results revealed that children from RCSs with high proportions of children with no special education needs, Israeli-born children, children with no problems in quality of parent-child visitations and with higher average of length of stay of the residing children, showed fewer problems. Furthermore, children in small family-like settings and hybrid structures ("other") showed fewer problems in school functioning than did children in group settings. No significant association was found between the number of children in the RCS and problems in school functioning. Regarding the physical conditions in the RCS, the findings indicate that the more the physical conditions of the RCS suited the children's needs, the fewer problems the children had at school. However, diversity and quantity of food in RCSs was not associated with the children's problems in school functioning. In addition, problems in school functioning were less frequent in RCSs that emphasized after-school recreational activities and educational advancement of children, and that had lower levels of peer violence.

The variance explained by each setting-level correlate was examined. The variables consisted of those that showed significant relationships with problems in school functioning (see Table 3). Setting-level variables were found to explain 38.76% of the variance between the RCSs in problems in school functioning. The average length of stay of children residing in the RCSs and the percentage of children with no special education needs each explained more than 10% (11.23% and 10.45%, respectively). The setting structure ("other" vs. group settings) explained 6.30% of the variance, and peer violence at the RCS explained 4.30% of the variance between RCSs in children's problems in school functioning. The percentage of children with problems in quality of parent-child visitations contributed 4.03% to the variance and after-school activities contributed 2.45% to the variance. The suitability of the physical conditions to children's needs did not contribute to the explained variance.

Table 2

The relationships between children's problems in school functioning and child-level factors.

Independent variables-SF slopes, G10	Coefficient	Se	t-ratio
Special education needs (no special needs)	-0.113	0.052	-2.414*
Gender (female)	-0.221	0.036	-6.142**
Age (years)	-0.007	0.008	-0.852
Immigration status (Israeli-born)	0.022	0.034	0.653
Length of stay at the current RCS (years)	-0.025	0.009	-2.799**
Court intervention (statutorily)	0.096	0.038	2.547*
Family composition (two-parent family)	0.031	0.032	0.967
Problems in frequency of parent-child visitations (normal)	-0.014	0.026	-0.556
Problems in quality of parent-child visitations (normal)	-0.149	0.029	-4.986**

* *p* < 0.05.

** *p* < 0.01.

*** *p* < 0.001.

Table 3

The relationships between setting-level characteristics and settings' means of problems in school functioning.

Fixed effect	Coefficient	Se	t-ratio
RCS type (therapeutic)	0.153	0.134	1.139
Children aggregative variables			
Percentage of children with no special education needs	−0.004	0.013	−2.647**
Percentage of females	−0.002	0.001	−1.272
Average age of children	0.040	0.021	1.890
Percentage of Israeli-born children	−0.006	0.003	−2.281*
Average length of stay of children	−0.103	0.028	−3.687***
Percentage of children with statutory removals from parental home	0.001	0.002	0.533
Percentage of children from two-parent families	0.002	0.002	0.788
Percentage of children with normal frequency of visits with parents	−0.005	0.003	−1.960
Percentage of children with normal quality of visits with parents	−0.005	0.002	−2.370*
Organizational factors			
Setting structure (familial settings) ^a	−0.112	0.092	−1.213
Setting structure ("other" settings) ^a	−0.180	0.050	−3.915***
RCS size	0.000	0.000	−0.064
Physical conditions			
Suitability of the physical environment	−0.132	0.041	−3.170**
Food	−0.047	0.041	−1.143
Functioning and environment			
After-school activities	−0.100	0.042	−2.413*
Peer violence	−0.197	0.049	−3.984***

^a Dummy variable, reference group = groups settings.* $p < 0.05$.** $p < 0.01$.*** $p < 0.001$.

Discussion

Problems in school adjustment have been identified by researchers and policy makers as a major difficulty for children in care. This disadvantage has most serious implications for their future life prospects for stable employment, higher education, and a range of other areas (Jackson & Martin, 1998; Rosenblatt & Rosenblatt, 1999; Schiff & Benbenishty, 2006). In recent years there has been a consensus regarding the need to place high priority on the school involvement and progress of these children.

Consistent with previous research, the current study shows that a high proportion of children in RCSs are classified as having special education needs, and that most of them (about 62%) have at least one problem related to school functioning.

The study aimed to understand what factors are associated with problems in school functioning of children in rehabilitative and therapeutic RCSs in Israel. The multilevel analysis used in the current study enabled to detect the groups of children that are more vulnerable to problems in school functioning and the types of setting contexts associated with more problems. Overall, the findings indicate that problems in school functioning are associated with several child (i.e., gender, length of stay at the RCS, court involvement, and problems in the quality of parent-child visitation) and setting (i.e., RCS structure, suitability of the physical environment to children's needs, after-school activities, and peer violence) factors. The main findings regarding child-level and the setting-level correlates are addressed below.

Child-level correlates

This study found that boys exhibited more problems in school functioning than did girls (see also Hukkanen et al., 1999; Pecora et al., 2006; Schiff & Benbenishty, 2006; Vorria et al., 1998a). Girls appear to adjust more positively to changing events and environments (Schiff et al., 2006; Wahba, 2003), and are more willing than boys to seek and accept both formal and informal help (e.g., Schober & Annis, 1996). The study also found that the longer children stayed in one RCS, the fewer problems in school functioning they had. This finding is consistent with other studies (Davidson-Arad, 2005; Gilman & Hendwerk, 2001), and could signify that the children's problems are successfully addressed by the RCS after a period of adaptation. However, causal conclusions cannot be drawn from this study: the findings should be tested and replicated with longitudinal designs and, when possible, with experimental studies. It is also important to examine the length of stay within a wider array of care history variables (e.g., stability of placement), which might combine to explain the effects of children's care experiences on school performance. In addition, it is interesting to see that the overall average length of stay of children in the RCS was found to be associated negatively with problems in school functioning, and had a considerable contribution to the variance explained between RCSs in children's problems in school functioning. This contribution on both levels is consistent with the dual approach suggested by Bryk and Raudenbush (2002), who caution against the aggregation bias that may occur when a variable takes on different meanings at different organizational levels. In this context, it might indicate

that high turnover of children in a RCS might make it difficult for children to have consistent relationships with friends and to develop significant bonds.

The findings show that children who were taken from home by court decree have more problems in school functioning. Therefore, this aspect might be informative of the circumstances that led to the child's placement. Studies show that these circumstances are linked to the child's status in care (Vorría et al., 1998b). The findings also indicate that children with poor quality of visitation with their parents had more problems in school functioning. This finding is in line with other studies (e.g., Hukkanen et al., 1999; McWey, 2000), as well as with social work policies that maintain that parent-child contact in care is important for the child's well-being and functioning and should be encouraged (e.g., Haight, Kagle, & Black, 2003).

Setting-level correlates

This study is one of the few to examine the school functioning problems of children in care from a multilevel ecological perspective. It shows that children's problems in school functioning vary across different RCSs and that in RCSs with certain institutional characteristics children might have fewer problems in school functioning. Specifically, it was found that children in small family-like settings and hybrid structures had fewer problems in school functioning than did those in group RCSs (see also Mosek et al., 1997). This finding may indicate that intimate environments are necessary to promote children's development and academic productivity and adjustment. However, no significant association was found between the number of children at the RCS and their problems in school functioning. In other words, these findings may indicate that it is not the number of children itself that affect the children's status but the organization of the sub-groups within the RCS. To compare the outcomes in various types of residential settings it is necessary in future research to gain a more comprehensive understanding of the organizational and contextual aspects of each type of RCS. It may be necessary, for example, to reach a balance between keeping settings small and intimate yet large enough to ensure continued academic support and resources. Furthermore, the superior school functioning of children in such RCSs might also be explained by selective allocation of children with fewer problems to these facilities.

This study is one of the few to investigate associations between the physical conditions in RCSs and children's problems in school functioning. In RCSs with adequate physical conditions (e.g., those having recreational facilities), children had fewer problems in school functioning. This finding is in line with research indicating that the physical characteristics of a facility play an important role in the behavior and mental health of its residents (Bailey, 2002). Stimulating and organized environments that are adapted to children's needs can promote positive child behavior, including school performance. Future studies should continue investigating this issue with stronger designs including other physical aspects, such as social density.

It was also found that in RCSs with more after-school activities, children had fewer problems in school functioning. Research shows that these activities may be associated with an institutional climate that focuses less on control and more on encouraging friendly, safe, and positive relationships between institutional caregivers and children as well as among the children themselves. Such a climate places high priority on the children's educational success, and promotes their special academic needs and difficulties (Gilligan, 2000; Shin, 2003).

In settings with lower levels of peer violence, children exhibited fewer problems in school functioning (see also Gibbs & Sinclair, 1999; Tarantino, 2002). This aspect relates to the general atmosphere in the RCS rather than to specific children involved in violence. Peer violence has not received the attention it deserves in the current literature although it is an important aspect in children's lives in RCSs (Gibbs & Sinclair, 1999). It seems that an environment where peer violence is prevalent can create a general feeling of insecurity (Benbenishty & Astor, 2005) and undermine internal resources that should be used to promote school functioning (Attar, 2006). This phenomenon should be addressed by practitioners and policy makers in RCSs.

Limitations and recommendations for future research

As a cross-sectional design was used in this study, the causal direction of relationships among the variables cannot be determined. In order to establish a direct causal effect of RCSs and child factors on problems in school functioning, researchers should adopt longitudinal studies, following children in care settings for a prolonged period of time, and when possible employ experimental designs. The study also does not include information about factors that may have influenced the allocation of children to their RCSs. It is possible that such factors confound with the study variables and that children with better functioning end up in higher quality RCSs. Future studies should also include factors related to the allocation of children to the different RCSs.

Although the study examines a wide range of potential risk factors, a substantial amount of variance between children's problems in school functioning remains unexplained. Future studies should examine the contributions of additional important characteristics, such as number of placement changes, school transfers, pre-care status, the cause of referral, the allocation process leading to the placement, etc. Further contextual factors, such as the characteristics of the caregiver and caregiver turnover rate, should also be explored.

This study relied on social workers as the sole informants on children's problems in school functioning. This poses questions regarding the validity of the reports, as social workers are not educational figures in the children's lives. Future studies should include data from other sources, such as the children themselves and their teachers, academic records, and on-site observations. Furthermore, future studies should utilize well validated measures to examine RCS functioning and the child's

school adjustment. In addition, while the current study combines the behavioral and academic aspects of school functioning as one measure, future studies should examine these aspects separately by measures with sound psychometric properties. Finally, social workers reported on the problems in school functioning of several children in their care and their characteristics, and supervisors reported on several RCSs for which they were responsible, which may cause a problem of dependence between observations at the child and RCS levels. In addition, the fact that in this cross-sectional design social workers reported simultaneously both on problems in children's school functioning and their characteristics may have 'inflated' the correlations between these two sets of variables. Future studies should employ longitudinal designs and multiple informants to enhance the understanding of children's school adjustment in residential care.

The results of the current study are based on data of children and youth in rehabilitative and treatment facilities for children at risk in Israel. These findings might be useful also for other settings not included in the current study, such as post-hospitalization and educational settings in Israel. It is imperative to replicate this study in other contexts and countries and to identify to what extent the findings of this study generalize to other contexts.

Implications for practice and policy

Children in care are a high risk group for poor school functioning. Child welfare agencies, when functioning *in loco parentis*, should spare no efforts to help children overcome educational deficiencies and enhance school involvement and behavior. This is especially relevant in the case of children who remain in care for long periods, for whom professionals have plenty of opportunity to invest in enhancing their adjustment (Vinnerljung et al., 2005). Pecora et al. (2006) suggest that targeted educational support, integrated social work and education case management, as well as continuous monitoring of education outcomes and school behavior should be important practice components in residential care facilities.

The research findings demonstrate the need for an ecological perspective in addressing children's problems in school functioning within the care system. It is important not to focus solely on the characteristics of children at risk for poor school functioning. Instead, it is essential to identify the intersection of the familial and institutional contexts in which school functioning problems are more prevalent. The study demonstrates the importance of allocating sufficient resources to RCSs which serve more vulnerable children. Although the study design does not allow for causal inferences, it may suggest some clear priorities and directions for policy and practice. The study highlights the need to support parent-child contact as a way of improving the children's functioning in school. It emphasizes the importance of the implementation of peer prevention and intervention programs and the need to provide enrichment through after-school activities and tutoring. Finally, resources should be allocated to adjust the setting's physical environment to children's needs so that it can serve as a stimulating and warm milieu.

Acknowledgements

This research utilized the databases of the Israeli Welfare Ministry, which are based on the RAF method developed by the Brookdale Research Institute. I am grateful for the permission granted to use these databases. The cooperation of the Welfare Ministry supervisors is gratefully acknowledged. I would like to thank Prof. Rami Benbenishty for his kind support and illuminating comments. Thanks are also due to Yasmin Alkalay and Elizabeth Miles for their assistance.

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