Organizational Social Context and Academic Achievement of Youth in Residential Care: The Mediating Role of Youth-Caregiver Relationship Quality

Abstract

Existing research examining the academic performance of youth in residential care has often overlooked the contextual factors contributing to youth achievements. Guided by an ecological perspective, this study aimed to investigate the associations between various dimensions of residential care settings' (RCS) organizational social context (i.e., organizational climate, structure, and work attitudes) and youth's academic achievement, considering the mediating role of youth-caregiver relationship quality in those associations. The study was based on a sample of 699 young people aged 12 to 25 (M = 16.18; SD = 2.07), and their respective main residential caregivers (N = 242) and case managers (N = 173), from 55 RCS in Portugal. Given the hierarchical structure of the data, analyses were performed using multilevel modelling. Results showed that the association between caregivers' reports of the residential care setting organizational social context, specifically regarding caregiver engagement and centralization (i.e., authority hierarchy), and youth's academic achievement (i.e., higher scores in Math and Portuguese language) was mediated by lower levels of negative interactions with caregivers, reported by the youth. The findings demonstrate the need for an ecological, multilevel perspective, in addressing youth's academic achievement in residential care. Awareness and appropriate resources should be directed at improving child-caregiver relationship quality and social climate of RCS, among other efforts, to improve poor academic performance of youth in residential care.

Keywords: residential care; youth; academic achievement; social context; youth-caregiver relationship

Introduction

Youth in residential care are typically more likely to experience low academic achievement than youth living with their biological families, including those from socioeconomic disadvantaged backgrounds (Ferguson & Wolkow, 2012; Garcia-Molsosa de 2019; Gonzalez-García et al., 2017; Marion & Mann-Feder, 2020). Consequently, they are also more likely to enter adulthood with lower educational qualifications compared with young people of the general population (Berridge, 2012; del Valle et al., 2011; Jackson & Cameron, 2014). In fact, poorer academic performance among youth in care has been found to be one of the main predictors of poorer adaptation to independent life among care leavers, with long term detrimental consequences, such as unemployment and involvement with the justice system (Ferguson & Wolkow, 2012). Poor academic performance thus widens the social inequalities between these youth and those from normative developmental contexts (Jackson, 2010). Thus, academic success has been pinpointed as one of the most important contributing factors for the social inclusion of youth in residential care (Montserrat & Casas, 2018).

Existing research examining the academic performance of youth in residential care has often overlooked the role of contextual factors in youth achievements. To overcome this gap in the literature, the current study aims to investigate whether academic achievement – i.e., scores in Math and Portuguese language of youth in residential care – can be explained by different domains of RCS' organizational social context, (i.e., organizational structure, organizational climate, and staff's work attitudes), considering the mediating role of youth-caregiver relationship quality in those associations.

Research has indicated several explanatory factors for the overall poor academic achievement among youth in residential care (Harder et al., 2014; Marion & Mann-Feder, 2020).

At the individual level, in addition to a frequent history of poor educational support (Kirk et al., 2011; Melkman et al., 2016), risk factors also include: high rate of prior parental maltreatment, which has been shown to negatively impact youth's cognitive development (Sainero et al., 2013); the high prevalence of mental health problems in youth in residential care, which hinders their ability to succeed in school (Gonzalez-García et al., 2017; Harder et al., 2014); and factors related to youth's educational trajectory, including the frequently long history of academic difficulties or failure among youth who are placed in residential care at an older age (Attar-Schwartz, 2009). Other factors contributing to these youth's frequent academic difficulties are related to the experience of living in residential care. For instance, the instability of care placements resulting in multiple school transfers which disrupts youth's educational process (Trout et al., 2008). Moreover, residential care staff tend to focus on youth's emotional and behavioral problems, giving a lower priority to their educational achievement (Gharabaghi, 2012; Harder et al., 2014).

Notwithstanding these vulnerability factors, recent research has also identified several facilitators for these youth's academic achievement. Namely, a strong personal motivation, the experience of stability in care and school placements, satisfactory accommodation, financial support, and having residential caregivers who provide more home-based academic support have been associated with higher academic success (Cheung et al. 2012, Harder et al., 2014; Melkman et al., 2016). Regarding organizational characteristics of the RCS, research has shown that, in RCS with a more family-like environment, with better physical conditions (e.g., with recreational facilities), and which offer more after-school activities, children and youth have better academic achievements (Attar-Schwartz, 2009).

However, while the literature regarding individual youth characteristics linked with poorer academic performance among youth in residential care is quite developed, the knowledge on the role of contextual, social, organizational factors, is limited (Cheung et al., 2012), and little is known about their contribution to the academic achievement of youth in care. Specifically, there is scarce research on how staff's behavioral expectations, the way they interact with each other, and their attitudes toward work (i.e., job satisfaction and commitment with the organization) are associated with youth's academic achievement. In addition, despite the recognition of the importance of high-quality relationships between youth and their residential caregivers for their successful overall adaptation (Assouline & Attar-Schwartz, 2020; Calheiros et al., 2013; Calheiros et al., 2020; Izzo et al., 2020; Magalhães & Calheiros, 2017; Magalhães et al., 2018; Marshall et al., 2020), little is known about how the quality of youth-caregiver relationships is associated with youth's academic achievement and about its mediating role in the relationship between social organizational factors and youth's academic performance.

Residential Setting's Organizational Social Context and Youth's Academic Achievement

Research focused on investigating risk and protective factors of youth's outcomes while in residential care is increasingly paying attention to the setting's organizational social context as an important cluster of contextual factors associated with youth's outcomes (Goering, 2018; Leipoldt et al., 2019). The concept of organizational social context has been proposed by Glisson (2002, 2007) as an overarching construct comprising three main different domains: culture, climate, and attitudes towards work. Organizational culture and climate are system-level constructs referring to features of the work environment, while work attitudes are an individual-level element of the social context, referring to professionals' individual attitudes and behaviors (Glisson et al., 2012).

Specifically, *organizational culture* refers to "the norms, expectations, and way things are done in the organization" (Glisson, 2007, p. 739). Norms and expectations guide the way work is performed and instruct new employees about the priorities of the organization (e.g., professionals should be strict rather than flexible in following bureaucratic rules and regulations) (Glisson et al., 2012). In this study we focus specifically on those aspects of the organizational culture that capture the organization's structure, namely the centralization of power, referring to the hierarchy of authority and the extent to which professionals participate in decision-making, and formalization of work roles, referring to the procedural specifications that guide work-related interactions among the professionals (Glisson et al., 2008). *Organizational climate* refers to professionals' perceptions regarding the quality of the social environment of their workplace and its influence on their own wellbeing and functioning, in terms of engagement, functionality, and stress. Engagement refers to professionals' ability to complete relevant tasks (i.e., personal accomplishment) and to be personally involved with their professional role and their clients (i.e., personalization). Functionality is defined as having the necessary cooperation from other staff to fulfil their work demands, and a clear understanding of how they can work effectively within the organization (i.e., role clarity). Stress refers to emotional exhaustion, work overload and difficulty in fulfilling their work task (Frazier et al., 2021; Glisson et al., 2008). Finally, *work attitudes* refer to professionals' satisfaction with the job (i.e., positive evaluation of their own job tasks) and commitment with the organization (i.e., motivation to personally endeavor towards the organization's mission and desire to continue to belong to the organization staff), which together reflect the staff morale (Glisson et al., 2012).

The current study is guided by the conceptual framework suggested by Glisson to study organizational social context and therefore it includes, as explanatory variables of youth

academic performance, aspects from each domain, described above, of the RCS' organizational social context: organizational structure (including: formalization and centralization), organizational climate (including: engagement, functionality and stress) and caregivers' work attitudes. Over the last two decades, a relatively small body of research literature in the broader field of child and youth welfare services has been developed, documenting associations between some of these organizational factors and youth's outcomes (e.g., Glisson & Green, 2011; Williams & Glisson, 2014). In general, such research has suggested that services with less rigid cultures (i.e., with lower centralization and formalization) and more engaged and functional climates are linked with better service outcomes (Glisson et al., 2013; Glisson & Green, 2011; Williams & Glisson, 2014). For example, a randomized control trial of an organizational intervention designed to enhance the organizational social context of community mental health services (Glisson et al., 2013) showed that youth who attended programs higher on engagement and functionality, and lower on rigidity (i.e., with lower centralization and formalization) had better outcomes than those who received services from programs lower on engagement and functionality and higher on rigidity. In another study conducted in the United States among a nationwide sample of approximately 2,400 youth in 73 child welfare systems it was found that higher levels of organizational functionality and staff's engagement were related to better youth psychosocial functioning (Williams & Glisson, 2014).

In the specific context of residential youth care, there is some evidence concerning the role of these organizational features in youth's outcomes. However, such research has mostly focused on youth's emotional and behavioral functioning (e.g., Glisson & Hemmelgarn, 1998; Jordan et al., 2009; Silva et al., 2021, Wolf et al., 2014). For example, Jordan et al. (2009) found among 17 residential youth care settings in US that in settings with higher levels of functionality,

there was a greater improvement in children's externalizing problems, after over a 15-months period. Regarding centralization and formalization, previous research on the link between these features of organizational structure and youth's mental health outcomes has provided mixed results: one study (Jordan et al., 2009) found no significant effects of organizational structure, while another (Wolf et al., 2014) revealed that higher centralization and formalization were associated with better mental health outcomes in youth. In line with this evidence, it has been argued (Schmid, 2006) that an authoritative and centralized management, marked by a close supervision of staff, is the most appropriate leadership style in RCS. In these settings, managers have to ensure that the quality of services remains adequate and that any changes introduced in processes programs are moderate, slow, and gradual. According to Schmid (2006), staff's adherence to the rules and regulations is essential for an effective service in RCS, since it ensures the order and stability that these young people need.

Academic achievement, specifically, has remained significantly neglected in this line of research. However, within the broader field of child welfare services, research studies have highlighted some features of services' organizational social context as predictors of youth's academic achievement. Namely, staff's clear roles and responsibilities, and collaboration and communication among staff have been found to be qualitatively associated with higher academic achievement of young people (Ferguson & Wolkow, 2012; Garstka et al., 2014; Stone, 2007).

Quality of Youth-Caregiver Relationship as a potential mediator

Residential caregivers are often the closest and most available adult figures to young people living in residential care, given that they are in continuous, contact with them, attending to their emotional, educational, and social needs on a daily basis (Sulimani-Aidan, 2016). They are, thus, one of the main support providers in their lives (Assouline & Attar-Schwartz, 2020;

Lanctôt et al., 2016; Sulimani-Aidan, 2016). Studies examining the direct effect of different aspects of youth-caregiver relationship have shown that close and supportive relationship with residential care staff has been linked with reduced adjustment difficulties and with enhanced well-being and positive adjustment (Assouline & Attar-Schwartz, 2020; Cahill et al., 2016; Izzo et al., 2020; Magalhães et al., 2021; Moore et al., 2018). For example, Assouline and Attar-Schwartz (2020) found among approximately 1400 youth living in Israeli educational RCS for youth from underprivileged backgrounds that staff support was correlated with reduced adjustment difficulties, above and beyond the contribution of parents' support.

Despite the lack of research specifically examining associations between factors of the organizational social context and youth's academic achievement in residential care, there is research pointing to youth-caregiver relationship quality as a potential mediating factor in the relationship between organizational characteristics and the school performance of youth in care. Studies show that the social context of an organization predicts its effectiveness regarding both the quality and the outcomes of services delivery (Glisson & Green, 2011; Glisson & Hemmelgarn, 1998). In the context of residential care, effective services require professional caregivers to be responsive to the unique needs of each youth and capable of establishing personal relationships with them characterized by support, trust, and confidence (e.g., Glisson & Green, 2011). Such relationships, constructed through the daily interactions between residential caregivers and youth, are the 'soft technology' (Glisson, 2007) through which the core service of residential youth care, namely the care provided by residential caregivers, occurs (Cahill et al., 2016; Harder et al., 2013). Therefore, the effectiveness of that service highly depends on the quality of those relationships.

That "soft technology" (i.e., youth-caregiver relationships) is, in turn, particularly vulnerable to the organizational social context of RCS (Glisson et al., 2012). Research has shown that a poor organizational climate in residential youth care settings (e.g., high on role conflict and low in role clarity and sense of fairness) undermines caregivers' ability to effectively respond to youth's needs and establish supportive relationships with them, by increasing stress levels, turnover rates, and depersonalization of caregiver-youth relationships (Brown et al., 2018; Levrouw et al., 2020). The context of residential youth care is known to be a highly challenging and stressful work context (Barford & Whelton, 2010), where caregivers typically face complex dilemmas and experience strong emotional demands in performing their job (Whittington & Burns, 2005). Nevertheless, the job demands and resources theory (Demerouti et al., 2001) emphasizes that professionals can be effective even in highly stressful and demanding jobs, especially if their work environment also provides them with the conditions that allow them to remain engaged in their job, including, for example, social support, opportunities for growth and high-quality relationship among the staff (Bakker & Demerouti, 2017).

Regarding the role of features of the organizational culture on the service quality, existing literature has provided mixed findings. On the one hand, organizational cultures characterized by professionals' autonomy and involvement in decision making have been shown to associate with higher service effectiveness (Glisson & Hemmelgarn, 1998; Schmid & Bar-Nir, 2001). On the other hand, apparently opposite dimensions, namely higher levels of formalization and coordination (i.e., centralization or authority hierarchy), have also been associated with higher organizational effectiveness and satisfaction among staff and resident youth (Schmid & Bar-Nir, 2001). These rather inconsistent findings may reflect the diversity of professional roles within RCS (Mota & Matos, 2015). Specifically, case managers, such as social workers, psychologists,

are responsible for evaluating youth's condition and defining and implementing their respective intervention plan, while direct caregivers, usually under the supervision of case managers, are front-line staff responsible for establishing and maintaining the residential daily routine, supervising the youth, and providing daily socio-educational care (Jordan et al., 2009; Mota & Matos, 2015). Thus, residential caregivers' work may benefit more from a more task-oriented organizational structure (Schmid, 2006), marked by centralization and formalization, which frees them from extra decision makings and allows them to focus their efforts on ensuring a smooth day-to-day functioning of the residential care setting (Goering, 2018; Jordan et al., 2009). As for negative work attitudes, prior research has indicated that low commitment to the organization and low job satisfaction reduce caregivers' disposition to be warm, empathic, and supportive towards youth in care, thus hindering effective residential youth care services (Glisson & Hemmelgarn, 1998; Jordan et al., 2009).

In turn, the quality of the relationships that youth establish with their residential caregivers have been found to be a relevant predictor of youth's academic achievement in residential care (Garcia-Molsosa et al., 2019). It is widely acknowledged that it is through the relationships established with adult caregivers that young people experience positive growth and thriving (Holden & Sellers, 2019; Izzo et al., 2020; Marshall et al., 2020). Prior studies have strongly suggested that the security and support provided by high-quality youth-caregiver relationships, characterized by stability and permanence, are crucial to facilitate youth's academic achievement (Cheung et al., 2012; Stone, 2007). More specifically, youth-caregiver relationships characterized by support through, for example, high academic expectations, encouragement, and instrumental help (e.g., assistance with homework, tutoring) facilitate youth's academic achievement (Marion & Mann-Feder, 2020; Melkman et al., 2016).

The Present Study

Existing research has documented associations among the organizational social context of services and different youth outcomes. However, research focused on such associations in the unique context of residential care is very limited. Particularly, to the best of our knowledge, no studies have yet focused on analyzing if and how different dimensions of the residential settings' organizational social context are associated with youth's academic achievement. Regarding the "how", existing evidence showing that different characteristics of the organizational social context of RCS associate with the quality of youth-caregiver relationships (Glisson & Hemmelgarn, 1998; Jordan et al., 2009) and that such quality is a pivotal predictor of youth's outcomes in residential care (e.g., Izzo et al., 2020), including their academic achievement (e.g., Cheung et al., 2012), points to the hypothesis of youth-caregiver relationship quality as a potential mediator of those associations.

Therefore, based on a bio-ecological approach (Bronfenbrenner & Morris, 2006) with multiple informants (i.e., youth and residential caregivers), the present study aims to expand knowledge on the correlates of academic achievement of youth in residential care, by analyzing the mediating role of youth-caregiver relationship quality in the associations between the dimensions of the three domains of organizational social context (i.e., organizational climate, organizational structure, and work attitudes) and youth's scores in Portuguese language and Math, two disciplines that serve as proxies for two major domains of academic competence: reading and mathematical literacy (OECD, 2019). These two disciplines are central for students to move on to secondary education, in the Portuguese education system. A student underperforming in both Portuguese and Math is automatically retained.

We hypothesized that residential caregivers' reports of the dimensions of the organizational climate (i.e., engagement, functionality, and stress) and structure (i.e., formalization and centralization), and of their work attitudes would be associated with youth's academic achievement via the quality of youth-caregiver relationship. Specifically, based on the theoretical and research literature reviewed above (e.g., Glisson & Hemmelgarn, 1998; Jordan et al., 2009; Schmid & Bar-Nir, 2001; Wolf et al., 2014) and considering the specificities of the residential youth care context (Barford & Whelton, 2010), we hypothesized that caregivers' perceptions of higher levels of engagement, functionality, stress, formalization, centralization, and positive work attitudes would be associated with higher youth academic achievement via youth's perceptions of a higher quality of youth-caregiver relationships (i.e., higher support and lower negative interactions perceived by the youth in care). Moreover, given that prior studies have shown differences in youth's academic achievement according to age, sex, and number of grade retentions (Attar-Schwartz, 2009; Cruz-Jesus et al., 2020; Harder et al., 2014), and that youth-to-caregiver ratio can have a significant contribution to both the quality of youth-caregiver relationship and youth's outcomes in residential care (Calheiros & Patrício, 2014; Costa et al., 2020), these variables were included in our multilevel model as covariates.

Method

Research Context

This study is part of a broader research project conducted in Portuguese residential youth care settings on the quality of relationships in residential care. Residential care is a temporary or long-term out-of-home setting designed to ensure the safety, well-being, and development of children and youth who have been abused and/or neglected by their parents. In Portugal, the out-of-home care system is supervised by the Ministry of Welfare and includes foster family care,

generalist RCS, and specialized RCS. Specialized care includes three types of settings: 1) emergency shelters, 2) RCS aimed at addressing therapeutic or educational needs (e.g., for children and youth with severe mental health problems), and 3) autonomization apartments (which aim to support youth's transition to adult, independent life) (ISS.IP, 2020). The latest available data from the Portuguese context show that 86% (i.e., 6129) of children and youth in out-of-home care are living in generalist RCS, 2.7% in family foster care, and the remaining are living in specialized residential care centers (ISS.IP, 2020). The current study focused on generalist RCS, where most young people (72%) are 12 or more years old (ISS.IP, 2020). In Portugal, residential care placement can last until youth are 21 years old. However, where the best interest of the child requires, the protection can last until youth reach to 25 years old. Young people in these RCS are accompanied by multidisciplinary teams, composed by case managers (usually including social workers, psychologists), and residential caregivers. Case managers are responsible for identifying their needs and services suitable for meeting those needs, advocating for them, and defining the individual intervention plan, in strict collaboration with child protection agencies. In turn, residential caregivers, usually under the supervision of case managers, are the front-line staff who accompany the young people in care around the clock, in rotating shifts. They are responsible for establishing and maintaining the residential life and providing the young people with daily socio-educational care.

Participants

This study includes the reports of youth, caregivers, and case managers in RCS. It includes the reports of 699 youth (51.0% males), aged between 12 and 25 years old (M = 16.18, SD = 2.07), from 55 generalist RCS (i.e., non-therapeutic, non-correctional). The majority were Portuguese (91.3%), and the remaining were Guineans (3.3%), Cape Verdeans (2.0%), Angolan

(0.9%), Brazilians (0.6%), German (0.5%), Ukrainian (0.3%), Guatemalan (0.3%), Romanian (0.2%), Spanish (0.2%), San Tomeans (0.2%), and Moroccan (0.2%). Despite the different nationalities of a small proportion of youth, all of them spoke Portuguese. Most youth (98.4%) were up to 21 years old; only 7 youth (1.6%) were between 22 and 25. Youth's length of stay in the current RCS ranged between 0.8 to 20.84 years (*Mdn* = 2.18 years). At least 37.3% had been placed in out of home care previously. Regarding their academic achievement, 50.8% had a positive score in Math while 71.1% had a positive score in Language (Portuguese).

This study also includes the reports of 242 caregivers (98.8% of those contacted), mostly female (72.5%), aged between 23 and 71 years old (*M* = 49.95, *SD* = 9.58). Most caregivers (44.2%) had a high school education level, about a third (37.2%) had a higher-education degree (of which 9 had a specialization course), and 18.6% had a lower than high school education level. Their professional experience in the current residential unit ranged between two months and 28 years (*Mdn* = 6.75 years).

Finally, each youth's case manager also participated in this study (*N* = 168; 99.3% of those contacted) by filling out a questionnaire asking for youth's sociodemographic data, such gender, age, and placement date, along with other information and providing data regarding youth's academic achievement. Most case managers filled the questionnaire for more than one youth (*M* = 4.00; *SD* = 2.50). The majority was female (81.0%), their age ranged between 24 and 53 years old (*M* = 34.3, *SD* = 6.03), and they were working in the respective RCS for 0.33 (i.e., four months) to 20 years (*M* = 6.69; *SD* = 4.16). Regarding their professional background, there was a similar percentage of psychologists (33.3%), educators (33.3%), and social workers (32.7%), and one case manager was a sociologist.

The RCS hosted between 6 and 53 youths (M = 20.64, SD = 10.45), and had between 2 and 15 caregivers (M = 7.67, SD = 3.26), and youth/caregiver ratio ranged between 1 and 41 (Mdn = 7.00). This information was provided by the director of each unit.

Measures

Dependent Variable: Youth's Academic Achievement.

Youth's case managers filled out a table with the last school scores obtained by the youth. In this study, only the scores in Mathematics and Portuguese language (for the non-Portuguese youth we asked the case managers to refer to Portuguese as a Second or Foreign Language) were used given their centrality in the Portuguese school curriculum, both in elementary and secondary education. Since participating youth were in both middle and high schools, their scores were in two different assessment scales (1 to 5 and 0 to 20, respectively). Therefore, for all youth, the scores in Mathematics and in Portuguese language were standardized, by being converted into a 0 to 100 percentual scale, according to official government instructions for scores conversion (Decree Law No. 66/2018; Decree Order No. 223-A/2018). Values equal or higher than 50% correspond to positive scores.

Predictor Variable: Organizational Social Context.

The organizational social context of the RCS was measured with the Portuguese version of the Organizational Social Context Measurement System (OSC; Garrido et al., 2011; Glisson et al., 2008), filled out by the residential caregivers. This instrument comprises 83 items organized in three thematic scales: Organizational Climate (43 items), Organizational Structure (13 items), and Work Attitudes (24 items). All items are evaluated in a 5-point scale, ranging from 1 (never) to 5 (always). Glisson, Green, and Williams (2012) specified a second-order factor model for the OSC. According to this model, the *Organizational Climate* scale comprises three second-order

factors: 1) *Engagement* (11 items), which includes the following items relating to the dimensions Depersonalization (5 items reversed scored; e.g., "I feel I treat some of the clients I serve as impersonal objects") and Personal Accomplishment (6 items; e.g., "I have accomplished many worthwhile things in this job"); 2) *Functionality* (14 items), which comprises the dimensions Growth and Achievement (4 items; e.g., "This agency provides numerous opportunities to advance if you work for it"), Role Clarity (6 items; e.g., "My job responsibilities are clearly defined"), and Cooperation (4 items; e.g., "There is a feeling of cooperation among my co-workers"); and 3) *Stress* (21 items), composed by the dimensions Role Conflict (9 items; e.g., "Interests of the clients are often replaced by bureaucratic concerns (e.g., paperwork)"), Role Overload (6 items; e.g., "The amount of work I have to do keeps me from doing a good job"), and Emotional Exhaustion (6 items; e.g., "I feel like I am at the end of my rope"). *Organizational Structure* consists of a second-order factor, defined by the dimensions: Formalization relating to the procedural specifications that guide work-related interactions among the professionals (7 items; e.g., "The same steps must be followed in processing every piece of work") and Centralization, relating to authority hierarchy, division of work tasks, and participation in decision making) (six items; e.g., "I have to ask a supervisor or coordinator before I do almost anything"). Finally, *Attitudes Towards Work* also consists of second-order factor composed by the dimensions: Job Satisfaction (11 items; e.g., "How satisfied are you with the chance to do something that makes use of your abilities") and Commitment to the organization (13 items; e.g., "I really care about the fate of this organization").

This second-order factorial structure (Glisson et al., 2012) was adapted for Portuguese version through a confirmatory factorial analysis (CFA) performed for each scale described above (Silva et al., 2021). For the Organizational Climate scale, the CFA provided an acceptable

model fit: χ^2 (973) = 1664.86, $p < .001$; $\chi^2/df = 1.71$; CFI = 0.85; RMSEA = 0.06; SRMR = 0.08. Although CFI was relatively low, this was likely due to high number of items (i.e., 43) that compose the scale, as emphasized by Kenny and McCoach (2003). The internal consistency of the three organizational climate dimensions was good to excellent (Kline, 2011): Engagement (α = .80), Functionality (α = .89), and Stress (α = .91). The CFA for the Attitudes Towards Work scale yielded a good model fit: χ^2 (244) = 509.62, $p < .001$; $\chi^2/df = 2.09$; CFI = 0.92; RMSEA = 0.07; and SRMR = 0.05 (Hu & Bentler, 1999; Kline, 2011). Internal consistency of the Work Attitudes dimension was excellent (α = .92). The CFA for the Organizational Structure scale did not provide an acceptable model fit: $\chi^2(64) = 190.39$, $p < .001$; $\chi^2/df = 2.98$; CFI = 0.79; RMSEA = 0.09; SRMR = 0.10. However, a CFA for each subscale (i.e., Formalization and Centralization) revealed very good fit statistics, respectively: $\chi^2(14) = 29.34$, $p = .009$; $\chi^2/df = 2.10$; CFI = 0.94; RMSEA = 0.06; SRMR = 0.05., and $\chi^2(8) = 11.64$, $p = .17$; $\chi^2/df = 1.45$; CFI = 0.98; RMSEA = 0.04; SRMR = 0.04. Therefore, in this study, the two first order dimensions of this scale were used separately, both of which presented acceptable internal consistency: Formalization (α = .73) and Centralization (α = .67).

Mediating Variable: Youth-Caregiver Relationship.

The Social Provisions Version (SPV) of the Network of Relationship Inventory (NRI; Furman & Buhrmester, 1985) was used to measure youth-caregiver relationship quality. The NRI-SPV comprises 27 items designed to evaluate children's and youth's perceptions of their relationships with significant others (e.g., parents/caregivers; friends), in a 5-point scale, ranging from 1 (i.e., *none/not at all*) to 5 (i.e., *very much, almost always*). In this study, participating youth were asked to rate to what extent each item was descriptive of their relationship with their main residential caregiver. These 27 items are organized in nine conceptually different 3-item

388 factors, which further form two second-order factors: (1) *Support* (21 items; e.g., 'How much
389 does this person help you figure out or fix things?'), comprising the first-order factors describing
390 positive relationship qualities (i.e., Affection, Reliable Alliance, Enhancement of Worth,
391 Intimacy, Instrumental Help, Companionship, and Nurturance first-order factors), and (b)
392 *Negative Interactions* (6 items; e.g., 'How often do you and this person disagree and quarrel with
393 each other?'), composed by the first-order factors tapping that express negative relationship
394 qualities (i.e., Conflict and Antagonism first-order factors). A CFA supported the original
395 structure of this scale, providing a good model fit (Hu & Bentler, 1999; Kline, 2011): $\chi^2(314) =$
396 843.307, $p < .001$; $\chi^2/df = 2.69$; CFI = 0.94; RMSEA = 0.06; and SRMR = 0.06. Internal
397 consistency for the support and negative interaction factors in the present sample was excellent,
398 respectively, $\alpha = .96$ and $\alpha = .90$ (Kline, 2011).

399 **Control variables**

400 Youth's background information, namely their age, gender, and number of grade
401 retentions were measured through a sociodemographic questionnaire, filled out by a case
402 manager for each youth. Information about the characteristics of the RCS, including the number
403 of young people in care, number of caregivers, and youth-to-caregiver ratio was provided by the
404 residential setting director.

405 **Data Collection**

406 Following approval of the Ethics Committee of the researchers' University, formal
407 contacts with the RCS were made to obtain the necessary authorizations to collect the data. All
408 youth placed in these units for more than 1 month, aged 12 or more years old, were invited to
409 participate, except those presenting major cognitive difficulties (information about such
410 difficulties were provided by the residential unit director). First, consent for youth's participation

was obtained from the respective residential unit director, who is responsible for accompanying and adjudicating youth's formal decisions in the context of residential care. In each unit, every youth who met the inclusion criteria, who were authorized to participate by the residential unit director and accepted to participate were included in the study.

Data collection with youths was conducted by the researchers in the RCS, in groups of 5 to 20 participants, with a research assistant helping the youth if any clarification questions arise. To ensure youth that their participations in the study was independent from their case management within the residential unit, no residential care staff was present in youth's data collection sessions. The goals of the study and instructions for filling out the questionnaires were explained at the beginning of the data collection session, and the researcher was always present to answer any questions and provide with any help or assistance whenever necessary. Information regarding the voluntary nature of the participation in the study, anonymity, and confidentiality was also given at the beginning and the youth signed an informed consent form prior to their participation. Youth with any reading and comprehension difficulties were previously identified by their case managers and were individually interviewed by one of the researchers, following the assessment protocol, and 88 (12.6%) individual interviews were conducted. At the end of each data collection session, youth put their completed questionnaires in a box, which was then sealed and taken by the research team. Finally, the questionnaires filled out by the caregivers and the case managers were collected on the same day of the data collection with the youth. They were also information informed about the aims of the research, anonymity, and confidentiality of the data, and signed an informed consent prior to their participation. To ensure anonymity of the data, a code-system was created for allowing the research team to merge the data from youth's questionnaires with that of their corresponding

case manager. All youths were assigned a Youth-ID, all caregivers were assigned a Caregiver-ID, all case managers were assigned a Case-manager-ID, and residential units were assigned a Setting-ID. Then, for each residential unit, a masterfile was created, with personal identifiers (i.e., name of the youth, case managers, and residential unit) and with the correspondence between the IDs at the three levels (i.e., youth, caregiver, case manager, and residential unit). These masterfiles were password-protected, could only be accessed by the research team, and were only used prior to data collection to prepare the study materials. Such preparation involved writing participants' unique IDs in the questionnaire to be handed to each participant. The form filled out by the case managers contained Youth- Caregiver-, and Case-manager- IDs to allow the research team to merge youth's and the respective caregiver's and case manager's questionnaire without having to consult the masterfiles. Once the materials were prepared, the masterfiles could only be accessed by the project lead researcher and were destroyed once data collection was completed.

Data Analysis

First, descriptive statistics and bivariate correlations among the study variables were computed. Then, because of the hierarchical structure of the data (residential caregivers and youths were nested in RCS), the study hypotheses were tested through multilevel modelling (Hox, 2010; Snijders & Bosker, 2003). The multilevel mediation models were lower-level mediation, as the mediators (support and negative interactions) were level-1 variables. As the number of youths per residential caregivers did not allow configuring residential caregivers as a level-2, a 1–1–1 model was assumed. In 1–1–1 models it is recommended to analyse between-group mediation effect and within-group mediation effect separately (Zhang, Zyphur, & Preacher, 2009). However, according to the current research hypotheses, only the within-group

relationships were tested. First, a Linear Mixed Models procedure was conducted to obtain path coefficient estimations a and b for within-effects. To test the indirect effects, parametric bootstrapping was used to create confidence intervals (Cis) in R (Preacher & Selig, 2012). Based on the results of the correlation analysis and on existing evidence regarding the predictors of the quality of youth-caregiver relationships and youth's academic achievement (Attar-Schwartz, 2009; Cruz-Jesus et al., 2020; Harder et al., 2014; Calheiros & Patrício, 2014; Costa et al., 2020), youth's age, sex, number of grade retentions, and youth-to-caregiver ratio were included in the model as covariates.

Results

Descriptive Statistics and Bi-Variate Analyses

Descriptive statistics (i.e., means and standard deviations), and bivariate correlations between the study variables are presented in Table 1. The findings showed that engagement, functionality, and work attitudes were positively correlated. In addition, functionality was positively correlated with centralization, stress was negatively correlated with engagement, functionality and work attitudes, and formalization was positively associated with centralization. Moreover, support and negative interactions were negatively correlated, and youth's scores in Portuguese and Math were positively correlated. Regarding correlations between the dimensions of organizational social context, relationship quality, and academic achievement, results showed that: engagement was negatively correlated with youth's reports of negative interactions, while caregivers' perceived stress was positively correlated with youth's perceptions of support; centralization was positively correlated with youth's grade in Math; work attitudes were positively correlated with youth's grade in Portuguese; and youth's perceptions of negative interactions were negatively correlated with their grade in Math. With regard to the covariates,

youth's age was positively correlated with the number of grade retentions and with youth's grade in both Math and Portuguese; number of grade retentions was negatively correlated with youths grade in both disciplines and with functionality in the residential care setting; and youth-to-caregiver ratio was negatively correlated with youth's perception of support in their relationship with their main caregiver. As to sex differences, males presented a higher number of grade retentions than females, while females presented higher scores in both disciplines and reported higher perceptions of negative interactions with their main caregiver than males. In addition, youth-to-caregiver ratio and caregivers' reports of centralization were higher for females, while caregivers' reports of engagement and functionality were higher for males.

[INSERT TABLE 1 ABOUT HERE]

The Mediating Role of Youth-Caregiver Relationship Quality in Associations Between Organizational Social Context and Youth's Academic Achievement

The current study examines RCS context variables that might be associated with youth's academic achievements (i.e., scores in Math and Portuguese). Before testing our hypotheses, we calculated the intraclass correlation coefficient (ICC) values to determine to which extent our dependent variables, that is, youth's scores in Math and Portuguese language, vary among different RCS. We found that the ICC was .09, F (54, 644) = 2.258, $p < .001$ and .12, F (54, 644) = 2.755, $p < .001$, respectively, indicating that 9.3% of the total variance of youth's scores in Math and 12.0% of the total variance of youth's scores grade in Portuguese reside between RCS. Because of this variance, a two-level analysis was conducted (Aguinis et al., 2013). Since the model included multiple predictors, multicollinearity was verified, with acceptable tolerance values ranging between 0.44 and 0.94 (Hair et al., 2019).

As shown in Table 2, older youth had higher scores in Math and in Portuguese. In addition, females and youth with fewer retentions had higher scores in Portuguese. After controlling for the effects of youth's age, sex, number of grade retentions and youth-to-caregiver ratio, results showed that higher levels of caregivers' perceptions of stress, centralization, and positive work attitudes were associated with higher youth's scores in Math and Portuguese. Moreover, youth's reports of negative interactions with their main caregivers were negatively associated with their scores in both Math and Portuguese. In other words, the lower the levels of negative interactions in the youth-caregiver relationship, the higher lower the youth's scores in both subjects (Table 2).

Regarding the mediating role of youth-caregiver relationship quality, results revealed a significant indirect effect of caregivers' perceptions of engagement on youth's scores in Math and in Portuguese, via youth's perceptions of negative interactions with their main caregiver, with a 91% confidence interval (bootstrap estimates = 0.37, 91% CI = 0.01, 0.82; and bootstrap estimate = 0.24, 91% CI = 0.01, 0.56, respectively). In other words, the higher the levels of engagement, reported by the caregivers, the lower the level of negative interactions reported by the youth, and the higher their scores in Math and Portuguese. Since the direct effect of caregivers' reports of engagement on youth's scores in both disciplines was non-significant, the relationship between caregivers' reports of engagement and youth's scores in Math and Portuguese were fully mediated by youth's perceptions of negative interactions with their main caregiver. The results also revealed a significant indirect effect of caregivers' perceptions of centralization on youth's scores in Math and in Portuguese, via youth's perceptions of negative interactions with their main caregiver, with a 95% confidence interval (bootstrap estimate = 0.32, 95% CI = 0.04, 0.70; and bootstrap estimate = 0.21, 95% CI = 0.01, 0.48, respectively). That is,

the higher the levels centralization, as reported by the caregivers, the lower levels of youth's perceptions of negative interactions with their main caregiver, and the higher youth's scores in both Math and Portuguese. Since the direct effect of caregivers' reports of centralization on youth's scores in both disciplines was significant, youth's perceptions of negative interactions partially mediate the relationship between caregivers' perceptions of engagement and centralization and youth's scores in Math and in Portuguese.

[INSERT TABLE 2 ABOUT HERE]

Discussion

Poor adjustment to school and poor academic achievement have been identified by researchers and policy makers as a significant difficulty for children in care (Attar-Schwartz, 2019). It is especially worrying because such disadvantage was found to have serious implications for the future life prospects of children in care in adulthood (e.g., Ferguson & Wolkow, 2012; Jackson, 2010; Montserrat & Casas, 2018; Schiff & Benbenishty, 2006). Existing research examining the academic performance of youth in residential care has often overlooked the contextual factors contributing to youth achievements (see a review in Attar-Schwartz, 2009; Cheung et al., 2012). The present study aimed to expand the understanding of the contextual explanatory aspects related to the academic achievement of children in residential care. Specifically, it aimed to investigate the associations between multiple dimensions of the RCS' organizational social context and youth's academic achievement in Math and Portuguese language, considering the mediating role of youth-caregiver relationship quality in those associations. This study is one of the few to examine academic performance of youth in residential care from a multilevel ecological perspective. The findings show that youth's academic achievement vary significantly across different RCS; in settings with certain

organizational social contextual characteristics youth have higher academic achievements. Specifically, it was found that in RCS that were characterized by an organizational social context marked by higher levels of stress, centralization, and positive work attitudes, as reported by the caregivers, there were higher scores in Math and in Portuguese, regardless of youth's perception of their relationship with their main caregiver. It seems, then, that in environments with those characteristics, youth are more able to perform better academically.

Regarding the positive effect of stress perceived by the caregivers on youth's academic achievement (math and Portuguese language), although this finding may seem counterintuitive, it is consistent with prior studies showing a positive association between staff's perceptions of stress and improved outcomes for youth, after controlling for the effects of perceived engagement and functionality (e.g., Jordan et al., 2009; Silva et al., 2021; Wolf et al., 2014). Residential youth care settings are inherently stressful workplaces, where caregivers experience strong emotional demands in working towards promoting the wellbeing of youth with highly adverse family backgrounds (Barford & Whelton, 2010). Thus, higher stress levels might mirror caregivers' involvement, commitment, and concern with their work as well as an increased awareness of the importance of providing the youth with high quality care (e.g., Hamama, 2012; Jordan et al., 2009; Wolf et al., 2014). In face of such a demanding role, it seems inevitable that they perceive their work environments as stressful. However, if caregivers receive the support and resources they need, from their work environment, to deliver a good and effective service, the quality of their work may actually improve, thereby enhancing youth's outcomes (Williams & Glisson, 2014). Such interpretations should be further explored in future research.

The association of increased levels of centralization (i.e., authority hierarchy) with higher youth academic achievement is consistent with previous studies suggesting that youth in

residential care benefit from a clearly structured environment (Leipoldt, et al. 2019). RCS with an organizational social context characterized by a clearer structure, in terms of authority hierarchy and formalization of work roles, might be more effective in creating the conditions that facilitate a constructive focus on promoting youth's academic achievement (Hicks, 2008). The association of higher levels of caregivers' positive work attitudes with better youth academic achievement is also in line with prior research indicating that increased job satisfaction and commitment with the organization of staff in residential care is associated with better youth outcomes (Colton, 2005; Colton & Roberts, 2007).

In addition, the findings of this study highlight the importance of positive youth-caregiver relationship quality to the academic performance of youth in residential care. Specifically, the findings showed that lower levels of negative interactions in the youth-caregiver relationship, as reported by the youth, were associated with better youth's achievement. That is, the lower the youth's perceptions of negative interactions in their relationship with their main residential caregiver, the higher their scores in Math and Portuguese language. These findings are in line with previous studies showing that, in residential care, the quality of the relationship between youth and their residential caregivers is an important predictor of their academic achievement (Garcia-Molsosa et al., 2019). They highlight the role of staff in establishing satisfying relationships with the youth in care, that can provide them the security and stability that facilitate their academic success (Cheung et al., 2012; Stone, 2007).

Going beyond documenting associations between organizational social context, youth-caregiver relationship quality, and youth's academic achievement, one of the main findings of this study is showing that the relationships that youth have with their caregivers mediated the association between some of the organizational social context factors included in this study and

the youth's academic achievements. Specifically, the findings showed that higher levels of engagement and centralization, reported by the caregivers, were associated with higher youth's achievement, via lower levels of negative interactions in the youth-caregiver relationship, reported by the youth. That is, the higher the levels of engagement and centralization reported by the caregivers, the less youth reported negative interactions with their main caregiver, and, in turn, the higher the youth's academic achievement.

The positive effect of caregivers' engagement on youth academic achievement, via lower levels of youth's reports of negative interactions with the caregivers is empirically and conceptually plausible. Child and youth care services with an organizational climate marked by high professional engagement climates have consistently been shown to yield better outcomes for the young people they serve (Glisson & Green, 2011; Williams & Glisson, 2014). Professionals who are more engaged in their work have a higher ability to remain personally involved in their work and concerned about their clients and to provide and effective service (Glisson et al., 2012). Indeed, prior research in the context of residential care have shown that more engaged residential caregivers are more likely to establish better relationships with the youth in care (Silva et al., 2021). High-quality youth-caregiver relationships, in turn, provide the stability and feeling of security that are essential for youth's thriving (e.g., Cheung et al., 2012; Holden & Sellers, 2019; Izzo et al., 2020; Marshall et al., 2020). Results of this study thus suggest that better relationship quality, indicated by lower levels of negative interactions between the youth and their main caregiver in the RCS, seems to explain the positive role of residential caregivers' engagement on youth's academic achievement.

As for the finding that higher levels of centralization (i.e., authority hierarchy) are associated with higher youth academic achievement through lower levels of negative interactions

between the youth and their main caregivers, this result possibly suggests that adequate levels of authority hierarchy in child and youth RCS are desirable and benefit the quality of residential care service (Hicks, 2008; Schmid & Bar-Nir, 2001). In these settings, directors, case managers, caregivers have to continuously collaborate with each other to provide a good service to the young people in care (Schmid, 2006). However, an efficient collaboration between the different professionals in residential youth care can only be effectively established within a hierarchical system of responsibilities, where all professionals clearly know and play their own part, interdependently with each other (Hicks, 2008). Since caregivers are the frontline staff in residential care, who spend the most time with youth and are responsible for providing daily first-hand support to youth's needs (Sulimani-Aidan, 2016), higher levels of centralization might enhance their availability to respond to youth's daily needs, by preventing excessive overlap among the different professional roles within the broader team (e.g., Jordan et al., 2009). In addition, a close supervision of staff's work, typical of a centralized leadership, is essential to improve the quality of residential care services (e.g., Schmid, 2006). Indeed, findings of this study suggest that centralization is a condition for organizational effectiveness of RCS. It seems that staff working in RCS with higher levels of centralization are more able to establish better relationships with the youth in care, thereby creating a milieu of security and stability that facilitates youth's academic achievement.

Limitations and Implications for Future Research

This study is one of only a few studies to examine social contextual characteristics linked with academic achievements of a relatively large-scale sample of youth in residential care, based on the reports of the youth and their caregivers. However, its limitations should be addressed. First, the cross-sectional nature of the study does not allow causal conclusions to be drawn about

the relationships of organizational social context factors, youth-caregiver relationship facets, and youth academic achievement. Longitudinal studies should help us better understand the role of social organizational context and youth-caregiver relationship and youth academic achievement. In addition, this study focused on academic achievements of youth in care, represented by their scores in Math and in Portuguese language. In addition, this study did not consider the potential role of learning disabilities or other conditions that potentially interfere both with academic achievement and youth-caregiver relationship, such as attention deficit disorder with or without hyperactivity. Given that the literature in this field reveals high rates of such phenomena among young people in residential care (González-Garcia et al., 2017; Trout et al., 2009; Sainero et al., 2013), future research focused on analyzing the processes outlined in this study should take such phenomena into account. Future studies should also broaden the scope of school functioning of children in residential care and include also other, "softer" indices of education, such as youth's academic motivation, commitment to school and learning, attachment to school, and school satisfaction. They should also include youth's reports on various aspects of the climate of the residential setting, not included in the current study, such as the setting's friendliness to children (i.e., the degree to which the youth see each other as friendly), and youth's favorable attitudes towards the residential setting. It would also be beneficial to consider different perspectives of the organizational social context (e.g., managers', case managers', and residential caregivers' perceptions) and consider both youth's and caregivers' perceptions of their relationship quality.

Implications for Practice and Policy

The research findings presented here demonstrate the need for an ecological perspective in addressing youth's educational achievements within the residential care system. It is important not to focus solely on the characteristics of youth at risk for poor academic achievements.

Instead, it is essential to identify the residential contexts in which low academic achievements are more prevalent (see Attar-Schwartz, 2009; Cheung et al., 2012). The study demonstrates the importance of allocating sufficient resources to RCS to help them to improve their social environments and support the relationship between youth and their caregivers. The child-care policy agenda should give further attention to the role of RCS staff in the lives of youth in residential care and their chances for mobility later in life. Recruiting and maintain a high-quality staff and providing training, and ongoing clinical supervision are essential to supporting staff in their significant role (Ellenbogen-Frankovitz, 2018; Assouline and Attar-Schwartz, 2020).

Additionally, one of the targets of policy makers and professionals should be creating an atmosphere that may foster professionals' engagement with their role (e.g., through better employment conditions and organizational support) and that provide an organizational context with clear rules and expectations regarding each professional's work tasks. To achieve this, all agents in the residential care system (i.e., directors and staff) should be involved, since leaderships are as important as the professionals' practices in care (Hicks et al., 2009). Residential settings directors have a key role in fostering a positive working environment (Pinchover et al., 2015). Furthermore, resources should be directed to the staff training in terms of their abilities to adopt positive behaviors in the relationship with young people in care, being supportive and preventing negative interactions that may increase problematic behaviors and academic difficulties. Such conditions may create a milieu for children in care that is characterized by therapeutic relationships which promote youth's prospects for better adjustment and for rehabilitation. Ultimately, this would also enhance their chances for a better life as adults.

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