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Organizational social context and psychopathology of youth in residential care: the

intervening role of youth-caregiver relationship quality

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Abstract

Drawing on an ecological approach with multiple informants, this study investigated the mediating role of youth-caregiver relationship quality in associations between different features of residential care settings' organizational social context and youth's psychopathology. Participants were 378 youth aged between 12 and 25 years old, and 54 caregivers aged between 24 and 57 years old, from 29 generalist residential youth care settings in Portugal. Given the hierarchical structure of data, analyses were performed using multilevel modelling. Results revealed that organizational social contexts characterized by higher levels of engagement, stress, and centralization, as perceived by the caregivers, were associated with lower levels of youth's externalizing problems (e.g., aggressive behavior, delinquency), reported by the caregivers, via better youth-caregiver relationship quality, perceived by the youth in care. These findings highlight the relevance of creating an organizational social context in residential care settings that supports caregivers in establishing high-quality relationships with the youth in care, thereby promoting their mental health. This study contributes to the clarification of conflicting findings in previous studies of this field, by offering further empirical investigation of these issues.

Keywords: Residential youth care, Organizational social context, Youth-caregiver relationship quality, Youth psychopathology, Multilevel modelling

Introduction

Historical and cultural developments in Europe over the last decades have progressively shifted the child protection systems towards a paradigm focused on the ideal of a family upbringing, especially in northern European countries (Backe-Hansen et al., 2013; del Valle, 2013; del Valle et al., 2013). In Portugal, despite the current efforts in that direction, the implementation of a protection system mainly focused on the family's potential has not yet been fully established (Rodrigues et al., 2013). Residential care is still the primary form of out-of-home care placement for children and youth in Portugal. According to the Portuguese law, child and youth residential care is defined as a temporary or long-term out-of-home response prescribed by the childcare protection system, aiming to ensure the safety, well-being, and development of abused and/or neglected children and youth (Law No. 26/2018).

Youth in residential care are a particularly vulnerable group for the development of mental health difficulties (e.g., Attar-Schwartz, 2008; Jozefiak et al., 2016; Magalhães & Calheiros, 2017). Not only these youth were removed from their home environment to alternative placements in non-family settings, but they are also exposed to specific social-educational contexts where caregivers and caregiving environment have important implications for their mental health (Bastiaanssen et al., 2012). However, research has also shown considerable variability in mental health outcomes among this population (e.g., Attar-Schwartz, 2008; Attar-Schwartz et al., 2017; Calheiros et al., 2011; Calheiros & Patrício, 2014; Lou et al., 2018). Although only a relatively small proportion of these youth presents clinically diagnosed mental health problems, studies consistently identify that youth in care have more mental health problems and psychopathology than the general population, presenting a relatively high prevalence of conduct disorder, attention-deficit hyperactivity

disorder, depression, post-traumatic stress disorder, and generalized anxiety disorder

(Jozefiak et al., 2016; Rodríguez et al., 2015; Tarren-Sweeney & Vetere, 2013).

The processes that explain mental health problems in youth are especially relevant for

youth in residential care. Their heightened vulnerability for such problems has been partially

explained both by previous experiences in their home environment (e.g., child maltreatment)

and by experiences in the residential youth care settings (e.g., caregiver turnover; repeated

placements) (Attar-Schwartz, 2013; Lehmann et al., 2013). Research examining the

predictors of mental health difficulties in this population have mostly focused on individual

factors, such as youths' age, gender, family history, and/or cause for placement in residential

youth care (e.g., Magalhães et al., 2016; Patrício et al., 2016). However, studies investigating

risk factors within the residential youth care context have started to cast attention to the

organizational social context as an important cluster of contextual factors associated with

youth's outcomes (Goering, 2017; Izzo et al., 2016; Leipoldt et al., 2019).

Key research literature in the field of child and youth welfare services over the last 20

years has shown that the social context of an organization uniquely predicts its effectiveness

regarding both the quality of services delivery (Hemmelgarn et al., 2006; Glisson et al., 2012;

Green et al., 2014) and children's and youth's mental health outcomes (Glisson & Green,

2011; Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Shim, 2010; Williams &

Glisson, 2014; Yoo & Brooks, 2005; see Goering, 2018, for a review). Although studies

analyzing the role of these organizational factors in residential youth care settings are still

scarce, a few studies have started to shed light on how organizational social context impacts

the quality of the relationship between youth and residential caregivers as well as youth's

mental health outcomes (Glisson & Hemmelgarn, 1998; Wolf et al., 2014). Moreover, there is

evidence that higher levels of youth-caregiver relationship quality (i.e., characterized by

intimacy, companionship, and trust experience), as perceived by the youth, associate with

lower levels of psychological and behavioral problems among the youth (Ferreira et al., 2020; Lancôt et al., 2016; Harder et al., 2012; Magalhães & Calheiros, 2017). This calls for examining more complex relationships between these variables at different levels of the system. The current study fills this gap by examining the mediating role of youth-caregiver relationship quality in associations between features of the organizational social context of the residential youth care settings and youth's mental health difficulties.

Organizational social context and youth's mental health outcomes

Organizational social context has been conceptualized as comprising three main domains of social context: Organizational climate, organizational culture, and work attitudes (Glisson et al., 2008). Organizational climate and culture are system-level constructs referring to features of the work environment, respectively, its expectations and its psychological impact on the professionals (Glisson et al., 2012). *Organizational climate* refers to the employees' perceptions regarding the quality of their work social environment and its influence on their own wellbeing and functioning, in terms of perceived stress, engagement, and functionality (Frasier et al., 2020; Glisson, 2009; Glisson et al., 2008). Stressful climates include professionals' perceptions of emotional exhaustion, work overload, role conflict (i.e., the experience of conflicting job demands, such as the clients' needs being replaced by bureaucratic tasks) and difficulty in fulfilling their work tasks. Engagement refers to professionals' perceptions that they are able to complete relevant tasks (i.e., personal accomplishment) and to continue being personally involved with their professional role and their clients (i.e., personalization). Functionality refers to professionals' perceptions that they have the necessary cooperation from other staff to fulfil their work demands, and high role clarity (i.e., a clear understanding of how they can work effectively within the organization). *Organizational culture* consists of the expectations and behavioral norms that guide the way work is completed and that socialize new employees in the priorities of the organization

(Glisson et al., 2012). In this work we will focus specifically on those aspects of the organizational culture that capture the organization's structure, namely the centralization of power (i.e., hierarchy of authority and the extent to which professionals participate in decision-making) and formalization of work roles (i.e., the procedural specifications that guide work-related interactions among the professionals) (Glisson, 2002; Glisson et al., 2008).

Work attitudes are an individual-level construct that includes professionals' satisfaction with the job (i.e., positive evaluation of their job tasks and job experiences) and commitment with the organization (i.e., motivation to endeavor towards the organization's mission and desire to continue to belong to the organization staff) (Glisson et al., 2012). Job satisfaction and organizational commitment together reflect the staff morale: professionals with the highest morale are both attached to their organization and experience a positive reaction to their specific jobs within the organization (Glisson et al., 2012, Mainey, 2003).

Previous evidence in different types of residential youth care – such as state custody (Glisson & Hemmelgarn, 1998; Izzo et al., 2016; Wolf et al., 2014), and residential mental health treatment (Jordan et al., 2009; Wolf et al., 2014), and therapeutic youth prisons (Van der Helm et al., 2011) – has indicated that the several key constructs of services' organizational social context (i.e., organizational climate, organizational structure, and work attitudes) significantly impact youth's mental health outcomes. More positive organizational climate, assessed in a global way (i.e., higher functionality, higher engagement, and lower stress), has been shown to predict better mental health outcomes in youth (Glisson & Hemmelgarn, 1998; Izzo et al., 2016). Nonetheless, two studies that investigated the role of the different dimensions of organizational climate separately (i.e., engagement, functionality, and stress) have revealed mixed findings. Specifically, one study found that higher functionality, perceived by the caregivers, was associated with higher improvements on

youth's internalizing problems (e.g., depression, anxiety) but not externalizing problems (e.g., aggression, delinquency) and that lower stress, perceived by the caregivers, were associated with less improvement on youth's internalizing problems but not externalizing problems (Jordan et al., 2009). The other study found that greater engagement and functionality were associated with worse mental health outcomes, and that more stressful climates predicted better youth mental health outcomes, operationalized as the successful discharge to less intensive treatment settings (Wolf et al., 2014). In interpreting these counterintuitive findings, the authors of these studies posited that, since residential youth care is a particularly complicated and stressful work setting, the experience of stress may be a "default" feeling of many frontline professionals, who endeavor to respond to youth's needs despite working in poor organizational climate conditions (Jordan et al., 2009; Wolf et al., 2014). In such a setting, those who are more invested in helping these youth thrive may also be more vulnerable to experiencing the inherent burdens of their job (Jordan et al., 2009).

Regarding organizational structure, the same two studies also yielded mixed findings: Jordan et al.'s (2009) found no significant effects of organizational structure on youth's mental health outcomes, while Wolf et al. (2014) revealed that higher centralization and formalization were associated with better youth outcomes (i.e., discharge to less intensive treatment settings) (Wolf et al., 2014). As for professionals' attitudes towards work, research has indicated that low job morale, indicated by low job satisfaction, motivation, and commitment with the organization, contribute to high turnover rates in residential caregivers (Colton, 2005; Colton & Roberts, 2007). This, in turn, results in youth experiencing unstable and inconsistent care, with negative consequences for their mental health outcomes (Audin et al., 2018; Seti, 2008).

The intervening role of youth-caregiver relationship quality

In the context of residential youth care, effective services require professionals, especially those with closer contact with youth in care (i.e., caregivers) to establish high quality relationships with them, that is, to be responsive to the unique needs of each youth, and capable of establishing personal relationships with them, characterized by emotional and development support, trust, and warmth (e.g., Cahill et al., 2016; Harder et al., 2012; Izzo et al., 2020; Magalhães et al., 2021; Moore et al., 2018; Schofield et al., 2017). Residential caregivers are often the closest and most influential adult figures to youth in residential care, since they are the staff members who interact with these youth more frequently and who most attend to their needs on a daily basis (Bastiannssen et al., 2014; Sulimani-Aidan, 2016). Thus, the care youth receive through the daily interactions with their caregivers is the core service in residential youth care (Bastiaanssen et al., 2012; Cahill et al., 2016; Harder et al., 2013; Smith et al., 2013).

Research has demonstrated that the quality of that core service depends on how well the setting's organizational social context supports its implementation (e.g., Colton, 2005; Colton & Roberts, 2007; Glisson & Hemmelgarn, 1998; Hicks et al., 2009). Specifically, 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 turnover rates, and depersonalization of caregiver-youth relationships (Colton & Roberts, 2007). However, existing evidence (e.g., Jordan et al., 2009; Wolf et al., 2014) also suggests that higher levels of stress, perceived by the caregivers, might also mirror their higher involvement, commitment, and concern with providing such vulnerable youth with the care they need and promoting their wellbeing. The context of residential youth care is known to be a highly challenging and stressful work context (Barford & Whelton, 2010;

Steinlin et al., 2017). Residential caregivers typically face complex dilemmas about how to interpret and respond to youth's challenging behavior (e.g., whether to interpret challenging behavior as communication of needs *vs*. behavior problem; how to balance limit-setting with emotional responsiveness) and experience strong emotional demands in performing their job (Anglin, 2002; Mainey, 2003; 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 (e.g., social support, opportunities for growth, high quality relationships among the staff) that allow them to remain engaged in their job (Bakker et al., 2014; Bakker & Demerouti, 2017).

Regarding the role of organizational structure, existing literature has also provided mixed findings. On one hand, professionals' autonomy and involvement in decision making have been found to be associated with higher service quality (i.e., caregivers' establishment of high-quality relationships with the children and youth in their care) (Glisson & Hemmelgarn, 1998; Schmid & Bar-Nir, 2001). On the other hand, seemingly opposite features such as formalization and centralization (i.e., authority hierarchy) have been found to be beneficial to the quality of residential care service (e.g., Hicks, 2008; Schmid & Bar-Nir, 2001). These somewhat inconsistent findings may reflect the differences between professional roles in residential care settings, namely between case managers and residential caregivers (Mota & Matos, 2015). Case managers (e.g., social workers, psychologists) are responsible for evaluating youth's situations and defining the individual intervention plan, in strict collaboration with child protection agencies. In turn, residential caregivers, as front-line staff, usually under the supervision of case managers, are responsible for establishing and maintaining the residential life, supervising the youth, and providing daily socio-educational care (Jordan et al., 2009; Mota & Matos, 2015). Consequently, caregivers may benefit more

from a stronger coordination 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, 2017; Jordan et al., 2009). As for work attitudes, research indicates that low commitment to the organization and low job satisfaction reduce residential caregivers' disposition to be warm, empathic, and supportive towards youth in care, thus hindering the quality of their relationships with the youth in care (Glisson & Hemmelgarn, 1998; Jordan et al., 2009).

However, youth-caregiver relationship quality in residential is one of the most important predictors of youth's successful adaptation to the residential care setting and developmental progress (Assouline & Attar-Schwartz, 2020; Cahill et al., 2016; Costa et al., 2020; Harder et al., 2013; Harder et al., 2018; Magalhães et al., 2021; Sellers et al., 2020). Importantly, for their work to be effective, caregivers must be viewed by the youth in care as both available and responsive (Ferreira et al., 2020). To that end, caregivers must respond in a timely and supportive way to youth's specific needs (Moore et al., 2018; Sellers et al., 2020). In addition, interactions between caregivers and youth should be predictable, appropriate, and continuous, so that youth can anticipate and depend on that relationship pattern (Glissson & Hammelgarn, 1998; Izzo et al., 2020). Accordingly, research on the predictors of mental health outcomes of youth in residential care has revealed that higher quality youth-caregiver relationships (e.g., more supportive, sensitive), perceived by the youth, are associated with lower levels of psychological and behavioral problems among the youth (Assouline & Attar-Schwartz, 2020; Harder et al., 2013; Izzo et al., 2020; Pinchover & Attar-Schwartz, 2014; Sekol, 2016; Sellers et al., 2020).

Despite the body of research pinpointing the quality of youth-caregiver relationships as a pivotal predictor of youth's outcomes in residential care (e.g., Izzo et al., 2020), no studies have yet analyzed it as an explaining mechanism of associations between

characteristics of the organizational social context and youth's psychopathology. However, the evidence showing that different characteristics of the organizational social context of residential care settings associate with the quality of youth-caregiver relationships (Glisson & Hemmelgarn, 1998; Jordan et al., 2009) suggests that the later might play a mediating role in those associations.

The present study

Drawing on an ecological approach (Brofenbrenner & Moris, 2006; Izzo et al., 2016), that is, considering different subsystems of the social environment of the residential settings (i.e., organizational social context and youth-caregiver relationship); with multiple informants (i.e., youth and staff), the present study aims to analyze the mediating role of youth-caregiver relationship quality in associations between the dimensions of organizational social context and youth's psychopathology. We expect that features of the organizational climate and structure, and caregivers' work attitudes is associated with the quality of youth-caregiver relationship, which in turn is associated with youth's psychopathology levels in terms of internalizing and externalizing problems. Specifically, based on prior studies showing that more positive organizational climate and work attitudes associate with higher service quality and better mental health outcomes in youth in residential care (Glisson & Hemmelgarn, 1998; Izzo et al., 2016), we hypothesize that higher levels of engagement (H1), functionality (H2), and work attitudes (H3) is associated with lower levels of youth's psychopathology via higher quality of youth-caregiver relationship. Additionally, based on existing evidence indicating that higher formalization, centralization, and perceived stress are associated with higher service quality and better youth's outcomes in residential care (e.g., Schmid & Bar-Nir, 2001; Wolf et al., 2014), we also expect that higher levels of stress (H4), formalization (H5), and centralization (H6) is associated with lower levels of youth psychopathology, via

higher quality of youth-caregiver relationships. The hypothesized model is depicted in Figure 1.

Method

Research Context

The current study was conducted in Portuguese residential youth care organizations. In Portugal, the out-of-home care system is supervised by the Ministry of Welfare and includes Foster Care, Generalist Residential Care Settings, and Specialized Residential Care Settings. Specialized care includes a) Emergency Shelters, b) Residential care to address therapeutic or educational needs (e.g., for children and youth with severe mental health problems), and c) Autonomy apartments. The most recent data from the Portuguese context show that 86% (i.e., 6129) of children and youth in out-of-home care are living in generalist residential care settings, 2.7% in family foster care, and the remaining are living in specialized residential care centers (ISS.IP, 2020). In generalist residential settings, the aim is to create an environment that resembles as much as possible a family context based on therapeutic milieu assumptions (i.e., a relational space where interactions are intended to meet the needs of the children and youth in care). In turn, specialized residential care centers aimed at addressing the therapeutic or educational needs of children and youth with severe mental health problems, guide their intervention by specific therapeutic models. According to the Portuguese Law, each residential unit (i.e., group) can host up to 15 young people, although this number may be exceeded, on an exceptional and duly justified basis (Decree-law n.° 164/2019).

This study was conducted in generalist residential care settings. According to the latest Portuguese data, behavioral problems have been identified in approximately 27% of the children and youth in living in these settings. Regarding clinically diagnosed mental health problems, these have been identified in only 4.2% of this population (ISS.IP, 2020). A recent

study with 59 youth in residential care in Portugal (Rodrigues et al., 2019) showed that 28.8% presented externalizing problems (i.e., rule-breaking, and aggressive behavior) and 25.4% presented internalizing problems (i.e., depression/anxiety, depression/withdrawal, and somatic complaints). Of the 6129 children and youth living in these units, 72% are 12 or more years old (ISS.IP, 2020). In Portugal, when the best interests of the child requires, the protection can last up until youth complete 25 years old. Youth in generalist residential care are accompanied by multidisciplinary teams composed of case managers (i.e., generally including social workers, psychologists, social educators) and residential caregivers who work with the youth with the aim of ensuring that their needs are addressed in the best way possible.

Participants

Participants were 378 youth (59.9% males), mostly Portuguese (85.19%), from an ongoing broader project [Blind for Review], aged between 12 and 25 years old ($M = 16.20$, $SD = 2.30$), recruited in 29 generalist residential care settings. Most participating youth were up to 21 years old; only 6 youth (1.59%) were in the 22 to 25 age range (four were 22, one was 23, and another was 25). Participating youth were placed in a residential care setting for 0.10 to 18.73 years ($Mdn = 2.63$). At least 38.1% had been placed in out of home care previously, with a total length of time in care ranging between 0.19 to 19.65 years ($M = 7.87$, $SD = 4.47$). These youth were placed in residential care due to exposure to harmful behaviors (53.0%), neglect (50.7%), deviant behaviors (e.g., substant use, truancy) without appropriate responses from their parents, legal representative or guardian to remove the situation (29.2%), physical and/or psychological abuse (27.2%), abandonment (8.8%) and/or sexual abuse (5.1%), and for being obliged to excessive activities that were detrimental to their development (3.1%).

Participants also included 54 caregivers (75.9% female) aged between 24 and 57 years old ($M = 39.85$, $SD = 8.99$), with professional experience in residential care settings ranging between 0.5 and 27.5 years ($Mdn = 72.00$). Most caregivers ($n = 26$; 48.1%) had a high school education level, 19 (34.2%) had a higher-education degree (of which 2 had a specialization course), and 6 (11.2%) had a lower than high school education level. Information regarding education level was missing for three educators. At the moment of the data collection, the residential care settings hosted between 5 and 53 youths ($M = 31.03$, $SD = 15.48$), with an average of 14.82 per group/home ($SD = 11.95$). Most groups (63.2%) had less than 15 youth, 10.5% between 15 and 20, and 26.3% had more than 20 youth. The number of caregivers per setting was between 1 and 12 ($M = 6.46$, $SD = 3.20$), and youth/caregiver ratio ranged between 1 and 41 ($Mdn = 3.33$).

Measures

Organizational Social Context

Caregivers' perceptions of the Organizational Social Context were measured with the Portuguese version of the Organizational Social Context (OSC) measurement system (Garrido et al., 2011; Garrido et al., 2012; Glisson et al., 2008), which is composed of 83 items organized in three thematic scales: Organizational Climate (43 items), Organizational Structure (13 items), and Work Attitudes (24 items). Glisson, Green, and Williams (2012) specified a second-order factor model for the OSC. According to this model, Climate comprises three second-order factors: 1) *Engagement*, which includes 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*, 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*, 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"). *Structure* consists of a second-order factor, defined by the dimensions: Formalization (7 items; e.g., "The same steps must be followed in processing every piece of work") and Centralization (i.e., authority hierarchy) (six items; e.g., "I have to ask a supervisor or coordinator before I do almost anything"). Finally, *Work Attitudes* 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 (Authors, 2020). For the Climate scale the CFA provided an acceptable model fit: χ^2 (973) = 1664.86, $p < .001$; χ^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 construct reliability (CR) and the average variance extracted (AVE) for *Functionality* and *Stress* exceeded the values recommended by Hair et al. (2019) (.70 and .50, respectively, Table 1). For *Engagement* CR and AVE were near the required minimum level. As can be seen in Table 1, the square root of AVE (on-diagonal elements) for the three factors was larger than their inter-correlations (the lower off-diagonal elements) and, consequently, the discriminant validity was guaranteed (Hair et al., 2019).

The CFA for the Attitudes scale yielded a good model fit: χ^2 (244) = 509.62, $p < .001$; χ^2/df = 2.09; CFI = 0.92; RMSEA = 0.07; and SRMR = 0.05 (Hu & Bentler, 1999; Kline,

2011). The internal consistency of the Work Attitudes dimension was achieved ($\alpha = .92$ and

CR = .96).

The CFA for the 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. Therefore, in the

present study, the organizational structure dimensions Formalization ($\alpha = .73$ and CR = .74)

and Centralization ($\alpha = .67$ and CR = .67) were used).

Youth-caregiver relationship quality

Quality of youth-caregiver relationships was measured through the Support scale of the

Network of Relationship Inventory – Social Provisions Version (NRI–SPV) (Furman &

Buhrmester, 1985), which measures children's and youth's perceptions of the positive

qualities of their close relationships (e.g., parents/caregivers; friends). In the present study,

participating youth rated their relationship with their main caregiver based on 21 items, using

a 5-point Likert scale, from 1 (none/not at all) to 5 (very much, almost always). The 21 items

indicate seven conceptually distinct first-order factors (Affection, Reliable Alliance,

Enhancement of Worth, Intimacy, Instrumental Help, Companionship, and Nurturance), each

one comprising three items, that further load onto one second-order factor: Support. A CFA

supported the original structure of this scale, providing a good model fit (Hu & Bentler, 1999;

Kline, 2011): χ^2 (314) = 601.444, $p < .001$; $\chi^2/df = 2.18$; CFI = 0.94; RMSEA = 0.07; and

SRMR = 0.05. Internal consistency for the whole scale was excellent ($\alpha = .95$) (Kline, 2011).

The high construct reliability also confirms that internal consistency (CR = .98)

Youth's psychopathology

To measure youth's psychopathology, the Child Behavior Checklist (CBCL,

Achenbach & Rescorla, 2001; Achenbach et al., 2014) was used. The CBCL was designed to

assess children's and youth's psychopathology expression as perceived by parents/caregivers.

For each youth, the respective main caregiver completed the internalizing and externalizing

scales of the CBCL. The internalizing scale comprises the depression/anxiety,

depression/withdrawal, and somatic complaints subscales, and the externalizing scale

includes the opposition and aggressive behavior subscales. Items were scored by the

caregivers on a scale ranging between 0 (*not true for child*) and 2 (*very often true for the

child*). Evidence for the validity of the CBCL has been provided by a large number of studies

developed in several countries (Achenbach et al. 2008). In the present study, internal

reliability was good for the internalizing scale ($\alpha = .84$) and excellent for the externalizing

scale ($\alpha = .93$).

Procedure

Following approval from the Ethics Commission of [Blind for Review], formal

contacts with the residential care units allowed the necessary authorizations to collect the

data, and all youth placed in these units for more than 1 month, aged 12 or more years old,

were invited to participate, except if they presented major cognitive difficulties (information

given by the residential unit director). Data collection with youth was conducted in groups of

3 to 20 participants (a mean of 10 youth per group and a ratio of at least 1 researcher to 10

youth). The goals of the study and instructions for filling out the data protocol 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 anonymity and confidentiality was also given at the beginning and the

youth signed an informed consent form prior to their participation. Consent for the youth's

participation was also obtained from the directors of the residential care units, since in

Portugal they are considered the legal guardians of these youth regarding all routine decisions

in which they are involved. 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 (195 individual interviews conducted, 21.1%).

The questionnaires filled out by the caregivers, the case managers and the directors were also collected on the same day of the youth data collection. They also had been previously informed about the aims of the research, anonymity and confidentiality of the data and signed an informed consent form prior to their participation. To guarantee the anonymity of the data, a code-system was created allowing to match up the que questionnaires of the multiple informants. Data collection took place between July and December 2019.

Data analysis

First, descriptive statistics and measures of association (Person's correlation) among study variables were computed. Given the hierarchical structure of the data, the study hypotheses were tested through multilevel modelling (Hox, 2010; Snijders & Bosker, 2003). Prior to the multilevel modelling, the intraclass correlation was calculated which quantifies the proportion of the total variation at child level that was accounted by caregiver differences. We used mixed-effects models to test the lower-level mediation ($2 \rightarrow 1 \rightarrow 1$), since the effect of Level-2 predictors on Level-1 outcomes was mediated by Level-1 mediators (Bauer et al., 2006). To test indirect effects, parametric bootstrapping was conducted. Monte Carlo method was used to compute 95% confidence intervals (CIs) in R (Preacher & Selig, 2012), based on 20,000 simulations from the distributions for the *a* and *b* parameters. In addition, we controlled for the potential effects of youth and caregiver individual-level covariates, namely youth's age, sex, and length of stay in residential care, and caregivers' age, based on the results of the correlation analysis and previous research evidence indicating associations between these variables and both the quality of youth-caregiver relationships and youth's mental health outcomes (Assouline & Attar-Schwartz, 2020; Attar-Schwartz, 2013; Baumann et al., 2006; Williams & Glisson, 2014).

<center>**Results**</center>

Descriptive statistics and correlations

Means, standard deviations, and inter-correlations of the study variables are presented in Table 2. Correlations ranged from small to strong (Cohen, 1992).

Caregivers' perceptions of organizational social context and youth's psychopathology expression: the mediating role of youth-caregiver relationship quality

To assess the suitability of multilevel model analysis, the intraclass correlation coefficient (ICC) was calculated. Results showed that that 20.9% of the variance of internalizing problems and 22.8% of the variance of externalizing problems was explained at the educator level. Snijders & Bosker (2012), mentioned that the intraclass correlation usually ranged between .00 and .40 in social sciences, thus, a multilevel approach was warranted to analyze the hypothesized model. Given that the proposed mediation model included multiple predictors, multicollinearity was verified. Tolerance values ranged between 0.31 and 0.85; thus, there were no problems with multicollinearity (Hair et al., 2019).

As shown in Table 3, controlling for the effects of youth's age, sex and length of stay in care, and caregivers age, results revealed that 95% confidence intervals for the indirect effects of caregivers' perceptions of engagement, stress, and centralization on youth's externalizing problems via youth's perceived support in the youth-caregiver relationship did not include zero (bootstrap estimate = -0.75, 95% CI = -1.83, -0.05; bootstrap estimate = -0.49, 95% CI = -1.22, -0.02; and bootstrap estimate = -0.73, 95% CI = -1.07, -0.01, respectively), indicating significant indirect effects (Figure 2). In other words, higher levels of engagement, stress, and centralization, as perceived by the caregivers, were associated with higher levels of support perceived by the youth in their relationship with their main caregiver, which, in turn, was associated with lower levels of youth's externalizing problems.

Discussion

In the present study, we aimed to expand the existing literature on the associations between characteristics of the organizational social context of the residential care settings and psychopathology of youth in care, by examining the quality of youth-caregiver relationships as a mediator of those associations. Results revealed that three different features of the residential care settings organization social context, as perceived by the caregivers, were associated with youth's externalizing problems via youth's perceptions of the quality of their relationship with their main caregiver. Specifically, higher levels of engagement, stress, and centralization (i.e., hierarchy authority), as perceived by the caregivers, were associated with a better relationship quality perceived by the youth in care, which, in turn, was associated with lower levels of youth's externalizing problems, reported by the caregivers. Overall, these findings are in line with the existing literature on the correlates and consequences of features of the organizational social context of child welfare services in general (Goering, 2018), and in residential care services, specifically (Glisson & Hemmelgarn, 1998; Jordan et al., 2009; Wolf et al., 2014).

The result showing that higher levels of caregivers' engagement are associated with a better relationship quality, which, in turn, is associated with lower levels of youth's externalizing problems is quite linearly interpretable. Indeed, more engaged caregivers perceive that they have a higher ability to deliver a worthwhile service and remain personally involved in their work and concerned about their clients (e.g., Glisson & Hemmelgarn, 1998; Glisson et al., 2012). Thus, they are more likely to form high-quality relationships with youth in care, thereby preventing youth's externalizing problems, in line with findings from previous research indicating that better youth-caregiver relationships are associated with less problem behavior, both concurrently (Assouline & Attar-Schwartz, 2020; Bastiaanssen et al., 2012; Sellert et al., 2020) and longitudinally (Bastiaanssen et al., 2014; Izzo et al., 2020).

Regarding the result indicating that higher levels of stress perceived by the caregivers are associated with lower levels of youth's externalizing problems through youth's perceptions of higher relationship quality with their main caregivers, even though this finding might seem somewhat surprising, it is in line with the results of previous research documenting a positive relationship between stressful organizational climate and improved outcomes for youth, after controlling for the effects of engagement and functionality (Jordan et al., 2009; Williams & Glisson, 2014; Wolf et al., 2014). Although higher levels of stress, indicated by increased emotional exhaustion and role overload, are not an indicator of good organizational climate, it can also reflect caregivers' higher involvement, commitment, and concern with the goals of their job and their awareness of the importance of providing high quality service to the youth in care. Indeed, residential youth care settings are inherently stressful workplaces, where professional caregivers face the complex demands of contributing to promote the wellbeing of youth who, in many cases, come from highly adverse family backgrounds, often with severe abuse and/or neglect experiences (Barford & Whelton, 2010). Caregivers who are more invested in promoting positive outcomes in youth in residential care are more likely to face difficult dilemmas (Whittington & Burns, 2005), to feel that their work is never finished, and to experience emotional strain in performing their work (Mainey, 2003). In face of such challenges, 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).

As for the result showing that higher levels of centralization (i.e., authority hierarchy) are associated with lower levels of youth's externalizing problems through higher quality relationships between caregivers and youth, this finding is also in line with previous studies

suggesting that services with higher levels of coordination may be more effective (e.g., Jordan et al., 2009) and that youth with externalizing behavioral problems may benefit more from a more structured environment (Leipoldt, et al. 2019; Timko et al., 2000). Given that 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 (Bastiaanssen et al., 2014), higher levels of centralization may free then from complex decision-making processes, allowing them to be more available and responsive to their needs (Jordan et al., 2009). Thus, residential care settings characterized by both high centralization and high caregivers' engagement may be better equipped to promote better relationships between youth and residential caregivers and, ultimately, enhance youth's mental health outcomes. Indeed, prior research has suggested that authority hierarchy in child and youth residential care settings is seen as desirable and may be beneficial in some circumstances (Hicks, 2008).

Noteworthy, results revealed no associations between youth-caregiver relationship quality and youth's internalizing problems. Thus, even though higher stress, as perceived by the caregivers, was associated with more internalizing problems in youth, youth-caregiver relationship quality, as perceived by the youth, did not function as an explaining mechanism of that association. This might be because youth's psychopathology was reported by the caregivers and not by the youth themselves. While externalizing symptoms are quite visible and, thus, more likely to be perceived by caregivers, internalizing problems are typically less observable, and caregivers may not realize that youth are feeling anxiety or sadness unless they demonstrate such feelings (Rescorla et al., 2013). Indeed, adults' perceptions of youth's internalizing problems often do not match youth's reports of their own experience (e.g., De Los Reyes & Kazdin, 2005). Thus, the lack of a significant association between youth-caregiver relationship quality and youth's internalizing symptoms in the present study might reflect that common phenomenon. To test this hypothesis, future studies examining these

association pathways should include both caregivers and youth as informants of youth's psychopathology symptoms.

Despite that, the associations found between dimensions of organizational social context and youth-caregiver relationship quality, as well as between youth-caregiver relationship quality and youth's externalizing problems, are particularly significant given that the measures of the two constructs of each of those associations relied on different informants. Organizational social context was measured with self-report scales administered to each youth's main caregiver, youth-caregiver relationship quality was through youth's perceptions, and youth's psychopathology was measured by caregivers' ratings of youth's psychopathology symptoms. Thus, the shared informant variance (i.e., systematic error variance shared between self-reported measures rated by the same informant) that often plagues many correlational studies (Brannick et al., 2010; Neyer, 2006) does not account for any portion of the covariance between the two constructs in each association composing the significant indirect pathways found in this study. The reliance on multiple informants is, thus, an important methodological strength of this study.

Notwithstanding this methodological strength, some limitations of this study are worth mentioning. First, there was high variability in participating youth's length of stay in the current residential care setting, total length of time in residential care, and number of youths in each residential care settings. Although the former was controlled as covariate in the model, for those youth with previous placement, their total length of time length of stay in residential care as well as the number of youths in each setting may influenced the quality of their relationship with their current caregiver. Thus, future studies analyzing the role of youth-caregiver relationship quality in residential care should consider the potential effects of these variables. In addition, the cross-sectional nature of this study's data cautions against a

causal interpretation of these findings and longitudinal studies are warranted to establish the hypothesized ordering of causal effects.

Despite these limitations, the present study is the first empirical contribution to untangling the relationships between different features of the organizational social context of residential youth care settings, youth-caregiver relationships quality, and youth's outcomes. In addition, even though previous studies have examined the cross-level effects of organizational social context dimensions on youth's outcomes (e.g., Glisson & Green, 2011; Williams & Glisson, 2014), those studies have only assessed the data nested at the organization level. The caregiver-level has, thus, been overlooked in this line of research. Therefore, a noteworthy innovation of this study is that it analyses the caregiver-level variance in youth's outcomes through youth-caregiver relationship quality as perceived by the youth. This is especially relevant considering that, for each participating youth, the caregiver informing on the setting's organizational social context dimension was the one reporting on youth's psychopathology, and the one youth considered when reporting on the quality of their relationship with their main caregiver. Thus, examining the data on youth-caregiver relationship and youth's outcomes nested at the caregiver level provides a more fine-grained analysis of the cross-level associations that link the different dimensions of residential care settings organizational social context to youth's outcomes, through youth-caregiver relationship quality. This investigation also adds to the small set of studies in this line of research including youth in residential care, by focusing exclusively on this population and organizational context. This allows for sounder conclusions regarding this specific group. To further expand this body of evidence, future studies should delimitate the organizational context and the population under study, so as to prevent excessive heterogeneity within the samples and, thus, the potential heterogeneity-related confounding variables. Moreover, future studies examining the intervening role of youth-caregiver relationship quality in

associations between features of the residential care settings organizational social context and their mental health outcomes should also include different perspectives of the organizational social context (e.g., managers', case managers', and residential caregivers' perceptions) and consider both youth's and residential caregivers' perceptions of their relationship quality. This would allow an analysis of the moderating role of the type of respondent in the mediation model.

Findings of this study provide important inputs for intervention and practice recommendations for improving residential youth care services, and ultimately, the mental health outcomes of youth in care. Specifically, this study highlights the importance of creating an organizational social context in residential care settings that is clearly structured and characterized by high levels of engagement as a way to provide caregivers with the necessary support and resources for establishing high quality youth-caregiver relationships (e.g., affective, responsive, supportive), thereby promoting youth's mental health outcomes. The quality of youth-caregiver relationships in the context of residential care is especially important given youth's often highly adverse pre care experiences, their need to establish secure bonds with the frontline staff, and their susceptibility to develop mental health difficulties (Assouline & Attar-Schwartz, 2020; Greger et al., 2016). Thus, the development of high-quality residential youth care services must also include continuous training and supervision of residential caregivers (Eenhuistra et al., 2019; Eenhuistra et al., 2020), focused on the quality of their relationships with the youth in care, contemplating its multiple dimensions, such as affection, reliable alliance, enhancement of worth, intimacy, instrumental help, companionship, and nurturance.

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Table 1. *Construct validity of Organizational Climate factors*

Factors	Cronbach Alpha	CR	AVE	*Engagement*	*Functionality*	*Stress*
Engagement	.80	.64	.48	.69		
Functionality	.89	.76	.52	.57	.72	
Stress	.91	.91	.77	.58	.68	.88

Table 2. *Descriptive statistics and correlations among variables*.

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
Child level (*N* = 378)														
1. Sex (youth) [1]	.60		-											
2. Age (youth)	16.20	2.30	-.16**	-										
3. Length of stay in current RCS	3.88	3.57	-.11*	.38***	-									
4. Youth-caregiver relationship quality	3.32	.87	.07	-.02	.11	-								
5. Internalizing problems	8.81	6.34	-.11*	.05	-.04	.02	-							
6. Externalizing problems	13.34	11.53	-.01	-.12*	-.18**	-.11	.30***	-						
Caregiver level (*N* = 54)														
7. Age	38.87	8.98	-.04	.06	-.04	-.17**	.12*	-.01	-					
8. Involvement	3.42	.57	.27***	.02	-.04	.02	.06	-.03	.30*	-				
9. Functionality	3.33	.55	.28***	.06	-.09	-.03	.06	-.03	.15	.69***	-			
10. Stress	2.66	.65	-.18**	.04	.04	.06	.07	.01	-.08	-.60***	-.38**	-		
11. Formalization	2.82	.58	-.02	.02	-.06	-.09	.04	.03	.06	.22	.24	-.21	-	
12. Centralization	3.23	.54	-.10	-.01	.01	.13*	.07	.07	-.07	-.10	-.26	.01	.20	-
13. Attitudes	3.66	.50	.17**	.05	.00	-.07	.00	-.10	.29	.65***	.66***	-.51***	.25	-.27*

Note. *M* = Mean; *SD* = Standard Deviation; RCS = Residential care setting.

[1] Sex: 1 – Male and 0 – Female and the proportion of males is reported.

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

Table 3. *Hierarchical Linear Regression of the Mediation Model*

Variables	Youth-caregiver relationship quality			Internalizing Problems			Externalizing Problems		
	Estimate	SE	95%CI	Estimate	SE	95% CI	Estimate	SE	95% CI
Direct Effects									
Intercept	1.89	.93	.03, 3.74	-12.63	8.68	-30.05, 4.79	28.83	16.66	-4.62, 62.28
Sex (youth; 1 = boys)	.06	.11	-.15, .28	-1.77	.96	-3.68, .14	.13	1.80	-3.43, 3.70
Age (youth)	-.02	.02	-.06, .02	.20	.16	-.12, .52	-.40	.30	-.99, .19
Length of stay in current RCS	.03*	.01	.01, .06	-.15	.10	-.35, .05	-.40*	.18	-.76. -.04
Age (Caregivers)	-.02*	.01	-.03, -.00	.07	.06	-.06, .20	.02	.12	-.23, .27
Engagement	.40*	.17	.06, .74	1.81	1.61	-1.44, 5.05	.41	3.11	-5.85, 6.67
Functionality	-.09	.15	-.39, .22	1.16	1.43	-1.73, 4.05	.95	2.77	-4.64, 6.54
Stress	.26*	.12	.02, .49	2.26*	1.12	.00, 4.51	-.09	2.16	-4.44, 4.26
Formalization	-.15	.10	-.35, .06	.15	.96	-1.78, 2.08	.55	1.85	-3.17, 4.28
Centralization	.23*	.10	.02, .44	1.01	.99	-1.00, 3.01	1.44	1.92	-2.43, 5.30
Attitudes	.05	.16	-.28, .37	-.82	1.53	-3.90, 2.25	-3.24	2.94	-9.17, 2.69
Youth-caregiver relationship quality				0.18	.41	-.64, 1.00	-1.94*	.74	-3.40, -.48
Variance components									
Level-1 variance	.53***	.04	.45, .62	31.78***	2.52	27.20, 37.12	101.59***	8.04	86.98,118.64
Level-2 variance	.06*	.03	.03; .17	8.35**	2.93	4.20, 16.60	33.87**	10.81	18.12, 63.31
Indirect effect on Externalizing Problems									
Engagement							-.75	.46	-1.83, -.05
Stress							-.49	.29	-1.22, -.02
Centralization							-.43	.26	-1.07, -.01

Note. N = 378; SE = Standard Error; RCS = Residential care setting. Parametric bootstrap method was used to construct the CI for indirect effect with 20000 bootstrap samples.
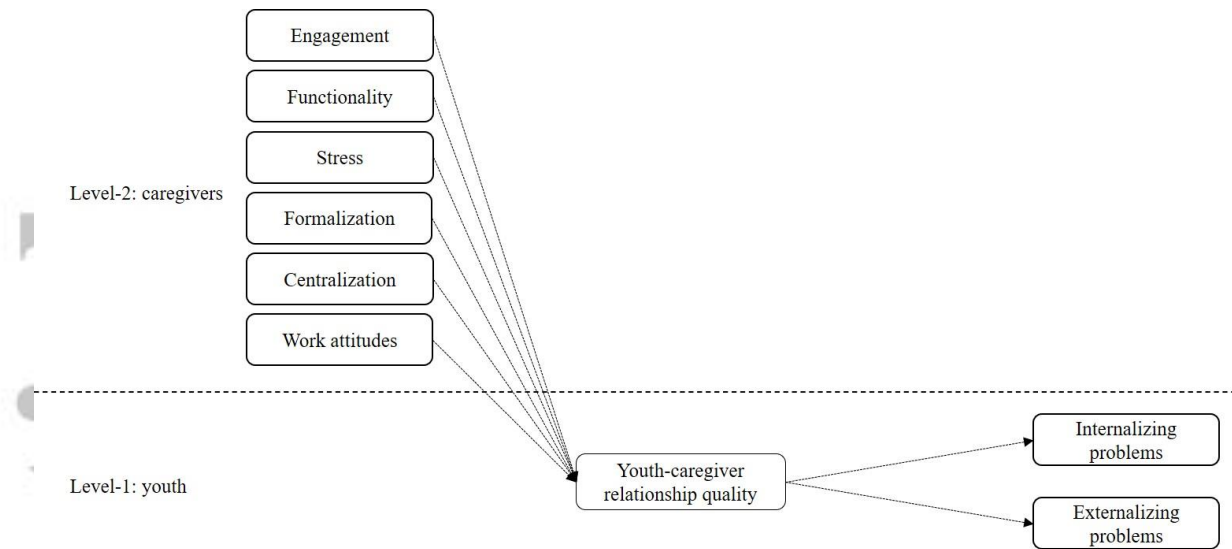
* $p < .05$ ** $p < .01$ *** $p < .001$

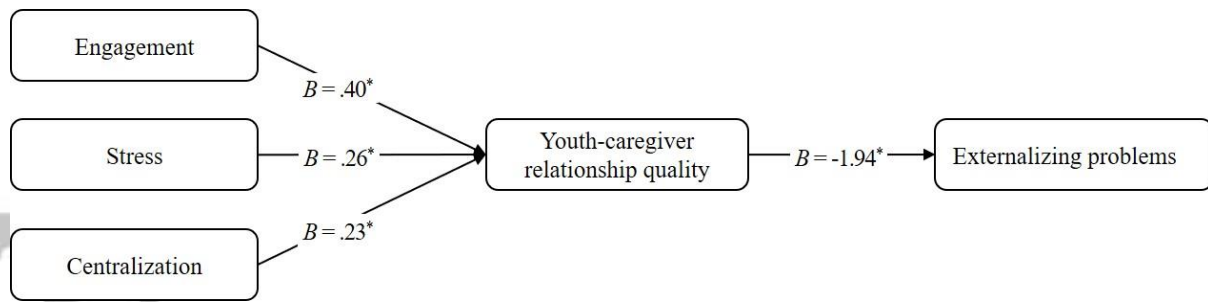Figure 1. Hypothesized model for indirect effects

Figure. 2. Model examining the mediating role of youth-caregiver relationship quality in associations between the different features of organizational social context and youth's psychopathology. For parsimony, only the paths that compose the significant indirect effects are presented. * p < .05.