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Posted Date: 30 December 2025

doi: 10.20944/preprints202512.2626.v1

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Article

# The Secure Base in the Storm: How Parent-Child Bonds Shape Coping in Pediatric Cancer Caregiving

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## Abstract

**Background:** A paediatric cancer diagnosis is a profound stressor for the entire family system. While coping strategies are well-studied, their link to the quality of the parent-child attachment relationship remains less explored. This study investigates whether dyadic attachment dynamics — specifically closeness and conflict between parent and child — are associated with the use of adaptive or maladaptive coping strategies in caregivers of children undergoing active treatment for oncohaematological diseases. **Methods:** A multicentre, cross-sectional study was conducted across three Italian paediatric oncohaematology centres. A total of 165 caregivers of 91 paediatric patients completed self-report measures assessing parent-child relationship quality (Child-Parent Relationship Scale - CPRS), coping strategies (COPE-NVI), perceived social support (MSPSS), and resilience (RS-14). The study aimed to test whether the quality of the parent-child attachment relationship is associated with caregivers' coping strategies. We hypothesised that Attachment Closeness would be associated with adaptive coping (Positive Attitude, Social Support, Problem Orientation), whereas Attachment Conflict would be associated with maladaptive coping (Avoidance). Hierarchical multiple linear regressions, adjusted for key covariates and clustered by centre, were conducted to test these hypotheses. **Results:** Higher levels of emotional closeness (CPRS) were significantly associated with greater use of adaptive coping strategies, specifically Positive Attitude ( $\beta = 0.20$ ,  $p = 0.049$ ) and Problem Orientation ( $\beta = 0.26$ ,  $p = 0.002$ ), even after controlling for sociodemographic factors, social support, and resilience. Conversely, higher levels of relational conflict were significantly associated with greater use of the maladaptive Avoidance strategy ( $\beta = 0.14$ ,  $p = 0.015$ ). The hypothesis linking closeness to Social Support seeking was not supported. **Conclusions:** The quality of the parent-child attachment is significantly and independently associated with coping styles in caregivers of children with cancer. Interventions aimed at supporting the caregiver-child dyad by fostering emotional closeness and reducing conflict may promote more adaptive parental coping mechanisms, thereby enhancing family resilience and psychological adjustment throughout the treatment journey.

**Keywords:** paediatric oncology; coping; attachment; caregivers; psychological adjustment; parent-child relationship; resilience

# 1. Introduction

A diagnosis of paediatric cancer represents one of the most challenging and stressful experiences a family can face, triggering a crisis that impacts every aspect of functioning [1]. The intense and prolonged treatment process demands significant psychological adaptation from caregivers, who must navigate immense emotional distress, including symptoms of post-traumatic stress, anxiety, and depression, while simultaneously providing constant physical and emotional support to their ill child [2,3]. How these caregivers cope with this chronic stressor is a critical determinant of their own mental health, the child’s psychological adjustment, and the overall family functioning [4,5]. Indeed, caregiver well-being is increasingly recognized as a vital component of quality care in paediatric oncology [6].

Coping is broadly defined as cognitive and behavioural efforts to manage specific external and/or internal demands appraised as taxing or exceeding one’s resources [7]. Research in paediatric psycho-oncology has consistently identified coping strategies as key mediators of caregiver distress [8]. Adaptive strategies, such as problem-solving, positive reframing, and seeking social support, are generally associated with lower levels of anxiety and depression and better quality of life [9,10]. In contrast, maladaptive strategies, such as avoidance, denial, and behavioural disengagement, are linked to poorer psychological outcomes, including higher rates of prolonged grief and post-traumatic stress symptoms [11,12].

While numerous studies have examined demographic (e.g., socioeconomic status, gender) and social correlates (e.g., social support networks) of coping, the intrapersonal and relational factors associated with these processes are less understood [13]. Attachment theory, as formulated by Bowlby [14], provides a robust framework for understanding how internal working models of relationships influence stress regulation and affect management. The parent-child relationship is the primary attachment bond for the child, but a cancer diagnosis and its demanding treatment regimen can profoundly alter its dynamics from the parent’s perspective, potentially straining the relationship [15]. A secure attachment relationship between the caregiver and the child — characterised by warmth, affection, and a sense of safety — may serve as a critical protective resource, facilitating adaptive parental coping by fostering meaning-making and a sense of efficacy. [16]. In contrast, a relationship perceived as conflictual, negative, and insecure may itself be a source of stress, eroding coping resources and predisposing caregivers to dysfunctional avoidance strategies [17].

Recent work has begun to underscore the importance of these family and relational factors in paediatric cancer adjustment. For instance, research has shown that family cohesion and expressiveness are associated with lower parental distress [18]. Specifically, some authors highlighted the impact of the parent-child relationship on post-traumatic outcomes [19], and the role of family context in child and caregiver coping [20]. Furthermore, a recent review by Santacroce et al. [21] explicitly calls for more research on the mechanisms by which family relationships influence health outcomes in this population. While previous studies have highlighted the role of caregivers’ personal resources—such as perceived social support and individual resilience—in moderating psychological adjustment, little is known about how these factors interact with the quality of the parent-child attachment relationship in shaping coping processes. However, a direct, multivariate investigation addressing these interrelated variables remains notably lacking in the literature. This study aims to fill this critical gap in the literature by conducting a rigorous, multivariate investigation to test the central hypothesis that the perceived quality of the parent-child attachment relationship is significantly and independently associated with the type of coping strategies adopted by caregivers of children with cancer. While prior research has established links between general family functioning and distress, we focus specifically on the dyadic parent-child bond—operationalized as Closeness and Conflict—as a relational resource or stressor that directly shapes cognitive and behavioural responses to illness-related stress. To achieve this aim, we conducted a multivariate analysis that controls for key covariates, including general social support and individual resilience, in order to isolate the unique contribution of the attachment relationship to coping processes. Specifically, we hypothesised that: (HP1) higher levels of Attachment Closeness—characterised by

warmth, affection, and open communication (Pianta, 2011)—would be associated with the use of adaptive coping strategies (Positive Attitude, Social Support, and Problem Orientation); and (HP2) higher levels of Attachment Conflict—characterised by negativity, discordant interactions, and a lack of perceived security in the parent–child relationship (Pianta, 2011)—would be associated with a greater tendency to rely on maladaptive coping strategies, such as Avoidance. Our hypotheses are grounded in attachment theory, which posits that close relationships function as key regulators of affect and stress. In the context of paediatric illness, the quality of the caregiver–child attachment relationship—reflecting current patterns of emotional availability, trust, and reciprocity—may play a pivotal role in shaping how parents manage the psychological demands of their child’s treatment. We propose that under the extreme stress of a child’s cancer diagnosis, this relational bond becomes a central regulatory system that influences parental coping responses.

We propose that these models are activated and potentially reconfigured by the extreme stress of a child’s cancer diagnosis, thereby influencing how parents cope [14,22].

The specific hypotheses are derived as follows:

**H1. Higher levels of attachment closeness will be associated with greater use of Positive Attitude coping.** *Rationale:* When caregivers perceive their relationship with the child as emotionally close, trusting, and secure, they experience greater confidence in their caregiving role and a stronger sense of emotional connection. This perception supports affect regulation and promotes meaning-oriented coping, such as positive reframing and acceptance. Evidence indicates that parents who appraise their relationship with the child as harmonious and supportive show higher optimism and more constructive emotion regulation when facing paediatric illness [23,24].

**H2. Higher levels of attachment conflict will be associated with greater use of Avoidance coping.** *Rationale:* Conversely, when caregivers perceive the relationship with the child as conflictual, tense, or emotionally distant, the caregiving context itself becomes an additional source of stress. Such relational strain may undermine emotional regulation and deplete the psychological resources needed for active coping, increasing the likelihood of avoidant strategies (e.g., denial, mental disengagement). This is consistent with research showing that negative parent–child relationship appraisals are linked to higher experiential avoidance and that parental relational stress is associated with avoidant coping in paediatric illness contexts [25,26].

**H3. Higher levels of attachment closeness will be associated with greater use of Social Support coping.** *Rationale:* Bowlby proposed that secure attachment fosters confidence in the responsiveness of others. We hypothesize that the positive relational model experienced within the parent-child dyad generalizes outward, making caregivers who feel connected to their child more likely to believe that others (partners, family, friends, healthcare providers) will be supportive and responsive to their needs. Thus, they may be more inclined to actively seek social support. This is underpinned by evidence that attachment security in close relationships is a foundation for effective support-seeking [27], though this specific pathway has been less explored in the paediatric cancer caregiving context.

**H4. Higher levels of attachment closeness will be associated with greater use of Problem Orientation coping.** *Rationale:* Attachment theory also describes the “secure base” function, from which an individual feels confident to explore challenges and solve problems. We posit that a secure, close bond with the child provides the emotional foundation that frees up cognitive capacity for active, problem-focused efforts. Caregivers who are not consumed by relational anxieties can better mobilize resources, plan, and take concrete steps to manage treatment demands. This is consistent with studies finding that secure attachment is associated with more adaptive and persistent problem-solving under stress [28], and that family cohesion (a related construct) facilitates active coping in parents of children with chronic conditions [29].

By testing these hypotheses, this study moves beyond correlational links to identify a potential relational mechanism—the parent-child attachment dynamic—that can be targeted in psychosocial interventions to promote adaptive family adjustment to paediatric cancer.

2. Materials and Methods

2.1. Study Design and Participants

A multicentre, cross-sectional exploratory study was conducted between July 2023 and February 2025. Participants were recruited from the Paediatric Oncohaematology departments of three Italian hospitals: Fondazione IRCCS Policlinico San Matteo in Pavia, SS. Annunziata Hospital in Taranto, and San Gerardo Hospital in Monza.

The final sample consisted of 165 caregivers (88 females, 53%; 77 males, 47%) of 91 paediatric patients. Most participants were recruited from Pavia (n=111, 67.3%), followed by Taranto (n=38, 23.0%) and Monza (n=13, 7.9%). The mean age of caregivers was 43.1 years (SD = 7.5), and the mean age of children was 9.2 years (SD = 4.8).

Information on the sample of parents and children is summarised in Tables 1 and 2.

Table 1. Caregivers’ characteristics.

| Caregivers’ Characteristics                                   | Value (%)   |
|---------------------------------------------------------------|-------------|
| Mean age                                                      | 43.1±7.5    |
| Marital Status                                                |             |
| Single                                                        | 3 (1.8%)    |
| Married/civil union                                           | 149 (90.3%) |
| Separated/divorced                                            | 8 (4.8%)    |
| Widowed                                                       | 5 (3%)      |
| Education                                                     |             |
| High school diploma                                           | 71 (43%)    |
| PhD/Specialization                                            | 5 (3%)      |
| University degree                                             | 35 (21.2%)  |
| Middle school certificate                                     | 54 (32.7%)  |
| Current Occupation                                            |             |
| Unemployed/Inactive                                           | 31 (18.8%)  |
| Plant & Machine Operators / Agricultural & Industrial Workers | 26 (15.8%)  |
| Clerical support Workers                                      | 23 (13.9%)  |
| Service and Sales Workers                                     | 16 (9.7%)   |
| Technicians and Associate Professionals                       | 16 (9.7%)   |
| Skilled Trades Workers                                        | 13 (7.9%)   |
| Professionals                                                 | 11 (6.7%)   |
| Armed Forces                                                  | 7 (4.2%)    |
| Managers                                                      | 4 (2.4%)    |
| Elementary Occupations                                        | 1 (0.6%)    |
| Other                                                         | 17 (10.3%)  |

Table 2. Children’s characteristics.

| Children’s Characteristics | Value (%)  |
|----------------------------|------------|
| Mean age                   | 9.2±4.8    |
| Diagnosis                  |            |
| Leukemias                  | 18 (60%)   |
| Lymphomas                  | 2 (6.7%)   |
| Solid Tumors               | 6 (20%)    |
| Other blood diseases       | 4 (13.3%)  |
| Treatment Status           |            |
| Onset                      | 9 (34.6%)  |
| Active phase               | 14 (53.8%) |
| Remission                  | 3 (11.5%)  |

|                        |            |
|------------------------|------------|
| <b>Relapse</b>         |            |
| No                     | 42 (87.5%) |
| Yes                    | 6 (12.5%)  |
| <b>Treatment Phase</b> |            |
| Chemotherapy           | 23 (76.7%) |
| Maintenance            | 3 (10%)    |
| Immunotherapy          | 4 (13.3%)  |

Caregivers were eligible if they were a parent or primary guardian of a child (aged 3–18 years) currently undergoing active treatment for a haematologic-oncologic disease (as inpatients or day hospital patients) and were fluent in Italian. Exclusion criteria were children no longer in active therapy.

The study was conducted in accordance with the Declaration of Helsinki and approved by the S. Matteo Hospital Ethics Committees (Fascicolo 2022-3.11/780; Prot. 0003028/23; Prot. Avvio 0006211/23; Monza: ID Prot. 4125\_20.03.24\_Mi del 20/03/2024; Taranto: Prot. 429 del 25.07.2023). All participants provided written informed consent.

2.2. Measures

To assess the primary independent variable, the perceived quality of the parent–child relationship, the **Child-Parent Relationship Scale (CPRS)** was used [15]. This 30-item self-report instrument measures two key dimensions on a 5-point Likert scale: Closeness (e.g., warmth, affection, open communication; 12 items) and Conflict (e.g., negativity, discordant interactions; 12 items), with higher scores indicating higher levels of each dimension. The CPRS has demonstrated good reliability and validity [15]. In this sample, Cronbach’s  $\alpha$  was 0.78 for Closeness and 0.85 for Conflict.

To assess the primary Outcome, such as the Coping Strategies, the Coping Orientation to Problem Experienced - **New Italian Version (COPE-NVI)** was used [16]. This 60-item questionnaire assesses five coping dimensions on a 4-point Likert scale. For this study, we focused on four dimensions: Positive Attitude (PA, 12 items; Cronbach’s  $\alpha$  = .58), Problem Orientation (PO, 12 items; Cronbach’s  $\alpha$  = .66), Social Support (SS, 12 items; Cronbach’s  $\alpha$  = .64), and Avoidance (AS, 12 items; Cronbach’s  $\alpha$  = .67). Higher scores indicate a greater tendency to use that specific strategy. The COPE-NVI is a well-validated instrument in the Italian population [16].

To assess the covariates (Perceived Social Support, Resilience, Sociodemographic and clinical data) we used the following measures:

- **Multidimensional Scale of Perceived Social Support (MSPSS)** [17,18], a 12-item scale (7-point Likert) assessing support from family (Cronbach’s  $\alpha$  = .90), friends (Cronbach’s  $\alpha$  = .95), and significant others (Cronbach’s  $\alpha$  = .89).
- **Resilience Scale-14 (RS-14)** [19], a 14-item measure (7-point Likert) of the ability to adapt to adversity (Cronbach’s  $\alpha$  = .84).
- **Sociodemographic and clinical data** including caregiver age and gender, child age, and treatment phase were collected via a study-specific form.

2.3. Statistical Analysis

Data were analysed using Stata 19.5 (StataCorp, College Station, TX, USA). Descriptive statistics characterized the sample. Bivariable correlations (Pearson’s  $r$  derived from a generalized linear model residuals) explored initial associations between attachment dimensions (Closeness, Conflict) and coping strategies.

To test the primary hypotheses, a hierarchical testing procedure was pre-specified to control for Type I error inflation [20]. Hypotheses were tested in the sequence  $H1 \rightarrow H2 \rightarrow H3 \rightarrow H4$ ; If the previous hypothesis gives a non-significant result at  $\alpha=0.05$ , all subsequent analyses were descriptive in nature.

Generalized linear models were fitted for the association of each type of coping strategy attachment dimensions. Models were adjusted for caregiver age and gender, child age, treatment phase, social support (MSPSS total score), and resilience (RS-14 total score). All standard errors were adjusted for intra-center clustering using Huber-White robust estimators. Listwise deletion was used for missing data, which was minimal (<2%).

3. Results

3.2. Bivariable Correlations

Bivariable correlations confirmed significant associations between attachment dimensions and coping strategies (Table 3). Closeness was positively correlated with Positive Attitude ( $r = 0.31, p < 0.001$ ), Social Support ( $r = 0.18, p = 0.02$ ), and Problem Orientation ( $r = 0.29, p < 0.001$ ). Conflict was positively correlated with Avoidance ( $r = 0.27, p = 0.001$ ).

Table 3. Bivariable correlations (Pearson’s r) between attachment and coping dimensions.

| Variable                    | 1        | 2      | 3       | 4      | 5       | 6 |
|-----------------------------|----------|--------|---------|--------|---------|---|
| 1. CPRS Closeness           | —        |        |         |        |         |   |
| 2. CPRS Conflict            | -0.42*** | —      |         |        |         |   |
| 3. COPE Positive Attitude   | 0.31***  | -0.16* | —       |        |         |   |
| 4. COPE Avoidance           | -0.11    | 0.27** | 0.05    | —      |         |   |
| 5. COPE Social Support      | 0.18*    | -0.02  | 0.44*** | 0.23** | —       |   |
| 6. COPE Problem Orientation | 0.29***  | -0.17* | 0.71*** | 0.09   | 0.52*** | — |

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

3.3. Regression Analyses

The hierarchical testing procedure was employed to control for Type I error. The results for each hypothesis are presented in detail below and summarized in Table 4, with beta coefficients ( $\beta$ ) reported.

H1: Closeness and Positive Attitude. The initial univariable regression analysis revealed a statistically significant positive relationship between attachment closeness and the use of a Positive Attitude coping style ( $\beta = 0.28, 95\% \text{ CI } [0.11, 0.46], R=0.31, p = .002$ ). This indicates that for every one-unit increase on the CPRS Closeness scale, there was an associated 0.28-unit increase on the COPE-NVI Positive Attitude scale.

To ascertain that this relationship was not confounded by other influential factors, a multiple regression model was estimated, adjusting for caregiver age and gender, child age, treatment phase, perceived social support (MSPSS), and resilience (RS-14). After accounting for these covariates, the association between closeness and positive attitude, while slightly attenuated, remained statistically significant ( $\beta = 0.20, 95\% \text{ CI } [0.00, 0.39], p = .049$ ).

H2: Conflict and Avoidance. Supporting our second hypothesis, univariable regression confirmed a significant positive association between parent-child relationship conflict and the use of Avoidance coping strategies ( $\beta = 0.15, 95\% \text{ CI } [0.05, 0.24], R=0.27, p = .003$ ).

Crucially, this relationship held in the multiple regression model after incorporating the same set of covariates ( $\beta = 0.14, 95\% \text{ CI } [0.03, 0.25], R=0.32, p = .015$ ).

As per the pre-registered hierarchical testing plan, the confirmation of H2 allowed for the subsequent testing of H3.

H3: Closeness and Social Support. The univariable analysis for the third hypothesis indicated a positive association between closeness and seeking social support that approached, but did not meet, the threshold for statistical significance ( $\beta = 0.22, 95\% \text{ CI } [-0.01, 0.46], R=0.18, p = .063$ ).

However, when the model was adjusted for covariates – most notably the robust effect of general perceived social support (MSPSS)—the association was substantially attenuated and became non-significant ( $\beta = 0.11$ , 95% CI [-0.14, 0.37],  $p = .377$ ). Consequently, H3 was not supported.

Following the hierarchical testing protocol, H4 is to be considered exploratory to provide a more complete picture of the data, with the results interpreted cautiously as hypothesis-generating.

Exploratory Analysis for H4: Closeness and Problem Orientation. Univariable analysis revealed a strong and highly significant positive relationship between closeness and Problem Orientation coping ( $\beta = 0.27$ , 95% CI [0.12, 0.41],  $R=.29$ ).

In the multiple regression model controlling for all covariates, the effect size remained virtually unchanged ( $\beta = 0.26$ , 95% CI [0.10, 0.42]).

**Table 4.** Summary of Multiple Linear Regression Models for Significant Hypotheses.

| Dependent Variable  | Variable       | $\beta$ | 95% CI       | p-value | Adjusted R <sup>2</sup> |
|---------------------|----------------|---------|--------------|---------|-------------------------|
| Positive Attitude   | CPRS Closeness | 0.20    | [0.00, 0.39] | 0.049   | 0.32                    |
| Avoidance           | CPRS Conflict  | 0.14    | [0.03, 0.25] | 0.015   | 0.18                    |
| Problem Orientation | CPRS Closeness | 0.26    | [0.10, 0.42] | 0.002   | 0.45                    |

\*Note: Models adjusted for caregiver age & gender, child age, treatment phase, MSPSS, and RS-14.

4. Discussion

This study provides consistent evidence that the quality of the parent-child attachment relationship is significantly and independently associated with coping strategies among caregivers of children with cancer, even after controlling for key psychological resources like general social support and resilience. Our findings confirm the dual nature of this bond: emotional closeness facilitates adaptive, engagement-focused coping, while relational conflict predisposes caregivers to maladaptive avoidance, thereby painting a more nuanced picture of family resilience in paediatric psycho-oncology [30].

The support for H1 (Closeness → Positive Attitude) and the robust exploratory finding for H4 (Closeness → Problem Orientation) indicate that a secure, perceiving a close bond provides caregivers with the emotional foundation necessary for constructive engagement with their child’s illness. This manifests not as a passive optimism, but as an active orientation characterized by acceptance, positive reframing, and pragmatic problem-solving. This result suggests that the emotional quality of the parent-child bond is a unique and independent contributor to a caregiver’s ability to maintain a constructive and accepting outlook in the face of their child’s illness, above and beyond their general resilience or external social support. Thus, H1 was supported. This aligns powerfully with Bowlby’s concept of the “secure base” [11], which allows an individual to explore challenges and manage stress from a position of safety. Our results empirically extend this concept to the *parent* in the caregiving dyad, suggesting that feeling connected to and effective with their child becomes a core source of strength and agency [31]. This emotional security may buffer against helplessness, enabling caregivers to confront the immense challenges of treatment with more adaptive cognitive and behavioural strategies, a finding that resonates with recent work on the role of parental self-efficacy in paediatric illness adjustment [32,33].

The confirmation of H2 (Conflict → Avoidance) underscores the potent detrimental impact of a conflictual relationship. Caregivers who perceive their interactions with their ill child as negative and discordant are significantly more likely to engage in avoidant coping, such as denial and behavioural disengagement. The stability of the beta coefficient and its confidence interval across models indicates that the tendency to adopt avoidant coping strategies is reliably associated with the level of conflict in the parent-child relationship. This finding underscores that relational discord functions as a specific stressor that promotes cognitive and behavioural disengagement, independent of the caregiver’s demographic background or other psychological resources. Therefore, H2 was supported.

This finding is consistent with models of relational stress and allostatic load, where chronic interpersonal conflict acts as a toxic stressor that overwhelms emotional and cognitive regulatory capacities [34,35]. Avoidance, in this context, can be understood as a protective—though ultimately dysfunctional—short-term strategy to escape the compounded distress of the illness and a strained relationship [36]. This is critically important, as avoidant coping is a well-established transdiagnostic risk factor for longer-term psychological morbidity, including anxiety, depression, and post-traumatic stress symptoms in caregivers [12,37].

The rejection of H3 (Closeness → Social Support) is an important and clarifying finding. It suggests that the tendency to actively seek instrumental and emotional support from the broader social network (e.g., partners, family, friends, professionals) is not directly fuelled by the quality of the dyadic bond with the child. This suggests that while a close bond with one's child may share some variance with support-seeking tendencies, the propensity to actively seek help from the broader social environment is more strongly determined by one's general perception of the availability of that support, rather than by the quality of the specific parent-child attachment relationship. Instead, support-seeking appears to be more strongly governed by the caregiver's general perception of the availability of that support (as measured by the MSPSS) and potentially by stable personality traits like extraversion or attachment style in other relationships [38,39]. The parent-child bond, while profoundly impactful on internal coping processes, may be too specific a relational factor to directly govern the activation of external support systems, which are contingent on a separate set of environmental and interpersonal resources [40].

Finally, the robust association between Closeness and Problem Orientation indicates that a secure, close parent-child bond is strongly and independently associated with a caregiver's capacity to engage in active, problem-solving efforts to manage the challenges of their child's treatment. This exploratory result, while requiring confirmation in a future confirmatory study, strongly suggests that emotional closeness may facilitate the cognitive resources necessary for pragmatic and goal-oriented coping.

#### *4.1. Clinical Implications*

These findings have direct and actionable implications for psychological support services in paediatric oncology. Moving beyond universal supportive care, screening for parent-child relationship difficulties (e.g., using brief measures of closeness and conflict) could serve as a vital triage tool to identify caregivers at high risk for maladaptive coping and subsequent psychological distress [41].

Furthermore, the results argue for a paradigm shift in intervention design. Psychological support must move beyond solely treating the individual caregiver's symptoms and incorporate dyadic elements that directly target the parent-child relationship. Evidence-based modalities such as Attachment and Biobehavioral Catch-up (ABC) [42], Attachment-Based Family Therapy (ABFT) [43], or principles from Parent-Child Interaction Therapy (PCIT) [44], adapted for the unique constraints and stressors of the oncology context, could be highly beneficial. The goal of such interventions would be twofold: to strengthen bonds of warmth, affection, and security (closeness) and to coach parents in reducing negative interaction patterns and escalating conflict. By strengthening this primary dyad, we can indirectly promote healthier coping mechanisms and improve mental health outcomes for both the caregiver and the child [45,46].

#### *4.2. Strengths and Limitations*

The strengths of this study include its multicentre design, which enhances the diversity of the sample, a relatively large sample size for a clinical population, the use of well-validated instruments, and a robust statistical approach that controlled for key confounding variables and accounted for intra-center clustering. The pre-registered hierarchical testing procedure strengthens the validity of the confirmed hypotheses by rigorously controlling the Type I error rate.

Several limitations must be acknowledged. The cross-sectional design precludes any causal inference about the direction of effects; it is possible that coping strategies influence the perception of the relationship, or that a third variable influences both. Longitudinal studies are needed to examine the temporal and potentially transactional relationships between attachment dynamics and coping across the treatment trajectory and into survivorship [47]. The sample was recruited from only three Italian centres, which, despite being multicentre, may limit the generalizability of findings to other cultural contexts with different family structures and support systems [48]. Furthermore, the study relied solely on caregiver self-report, which may be subject to social desirability bias and shared method variance. Future research would benefit from multi-informant approaches (e.g., including child reports when age-appropriate) and, most importantly, observational measures of parent-child interaction to complement the subjective reports [49].

#### 4.3. Future Directions

Building on this work, future research should adopt longitudinal designs to track how attachment dynamics and coping strategies co-evolve and influence each other over time, particularly at critical junctures like diagnosis, treatment completion, and relapse. A key next step would be to investigate whether coping strategies mediate the relationship between parent-child attachment quality and critical caregiver mental health outcomes (e.g., clinical levels of anxiety, depression, or PTSD) [50]. Finally, the most crucial avenue for applied clinical research is the development and testing of the efficacy of brief, targeted, and manualized interventions specifically designed to enhance attachment closeness and reduce conflict in families facing paediatric cancer, and to evaluate their impact on coping and long-term psychological adjustment [51].

## 5. Conclusions

In conclusion, this study identifies the parent-child attachment relationship as a central mechanism governing caregiver coping in pediatric oncology, wherein closeness buffers stress and conflict precipitates maladjustment. These findings compel a paradigm shift from individual to dyadic care, positioning the relationship itself as a critical therapeutic target. Consequently, integrating attachment-focused screening and interventions represents a direct, preventative strategy to fortify family resilience and safeguard mental health throughout the cancer journey.

**Author Contributions:** Conceptualization, D.R., L.B., CK, G.G., and C.I.; methodology, D.R., L.B., and C.I.; formal analysis, CK, G.G.; investigation, A.B., M.M., F.N.; resources, X.X.; data curation, G.G., A.B.; writing—original draft preparation, C.I., A.B.; writing—review and editing, D.R., L.B., CK, GC and C.I.; visualization, X.X.; supervision, X.X.; project administration, A.B., M.M.; funding acquisition, Y.Y. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Helsinki, and approved by the Ethics Committee of San Matteo Hospital: Fascicolo 2022-3.11/780; Prot. 0003028/23; Prot. Avvio 0006211/23; Monza: ID Prot. 4125\_20.03.24\_Mi del 20/03/2024; Taranto: Prot. 429 del 25.07.2023.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** data is unavailable due to privacy restrictions.

**Conflicts of Interest:** The authors declare no conflicts of interest.

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