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HOME / ARCHIVES / Vol. 9 No. 3 (2025): December

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ARTICLES

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sinta
Science and Technology Index

Home

The Effectiveness of Bibliotherapy Using Flipbooks In Enhancing Resilience among Adolescents In Fatherless Situations

DOI: <https://doi.org/10.23887/bisma.v9i3.102883>
Utari Pratiwi, Yarmis Syukur 582-590



Strength and Resilience in Mothers of Children with Cancer: Grit, Hope, and Social Support

DOI: <https://doi.org/10.23887/bisma.v9i3.102848>
Tania Mursalin, Riane Sahrani, Pamela Hendra Heng 591-602



Research Trends of Suicidal Ideation in College Students: Causal Factors and Intervention

DOI: <https://doi.org/10.23887/bisma.v9i3.104894>
Abi Fa'izzarahman Prabawa, Nur Hidayah, Henny Indreswari, Adi Atmoko, M. Ramli, Eni Rindi Antika, Salwa Mahale 603-620



A Pilot Study on the Effects of Mindfulness-Based Journaling on the Psychological Well-Being of Preschoolers' Parents

DOI: <https://doi.org/10.23887/bisma.v9i3.102736>

US 1,576	TV 129
CA 1,394	FR 127
IN 1,060	ES 118
GB 963	SA 104
AU 886	IT 100
NG 775	IL 99
TR 459	SE 99
HK 363	RU 93
IR 354	BR 87
DE 299	PT 71
TH 271	AO 68
VN 261	OM 65
PE 252	AE 61
ZA 251	EG 61
PH 245	FI 60
NL 219	SG 60
PL 206	LK 56
JP 198	NP 56
KE 193	CZ 56
KR 182	GR 56

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TEMPLATE

Strength and Resilience in Mothers of Children with Cancer: Grit, Hope, and Social Support

Tania Mursalim^{1*}, Riana Sahrani², Pamela Hendra Heng³ 

^{1,2,3} Faculty of Psychology, Universitas Tarumanagara, Jakarta, Indonesia

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ABSTRAK

Perawatan anak dengan kanker merupakan pengalaman penuh tekanan psikologis, khususnya bagi ibu yang berperan sebagai caregiver utama. Resiliensi dipahami sebagai kapasitas psikologis untuk bangkit dan beradaptasi secara positif dalam menghadapi stres jangka panjang. Penelitian ini bertujuan menguji pengaruh grit terhadap resiliensi pada ibu dari anak penderita kanker, serta menganalisis peran hope dan social support sebagai moderator. Partisipan berjumlah 216 ibu dari anak penderita kanker berusia 0–18 tahun yang sedang atau telah menjalani kemoterapi di Indonesia. Instrumen yang digunakan adalah Short Grit Scale (Grit-S), Connor-Davidson Resilience Scale (CD-RISC), State Hope Scale (SHS), dan Multidimensional Scale of Perceived Social Support (MSPSS). Penelitian kuantitatif korelasional ini dianalisis menggunakan Moderated Regression Analysis (MRA) pada JASP. Hasil menunjukkan grit berhubungan positif signifikan dengan resiliensi ($r = 0.289, p < 0.001$), demikian pula hope ($r = 0.673, p < 0.001$) dan social support ($r = 0.420, p < 0.001$). Grit juga berhubungan positif dengan hope ($r = 0.242, p < 0.001$) dan social support ($r = 0.207, p = 0.002$). Namun, interaksi grit dengan hope ($\beta = -0.053, t = -0.732, p = 0.465$) dan interaksi grit dengan social support ($\beta = -0.098, t = -1.378, p = 0.170$) tidak signifikan. Temuan ini menegaskan grit sebagai prediktor langsung resiliensi dan mendorong pengembangan intervensi berbasis kekuatan personal dan sosial bagi ibu dalam pengasuhan anak dengan kanker.

ABSTRACT

Caring for a child with cancer is a highly stressful psychological experience, particularly for mothers who serve as the primary caregivers. Resilience is understood as the psychological capacity to recover and adapt positively when facing long-term stress. This study aims to examine the effect of grit on resilience among mothers of children with cancer, as well as to analyze the moderating roles of hope and social support. Participants consisted of 216 mothers of children with cancer aged 0–18 years who were currently undergoing or had completed chemotherapy in Indonesia. The instruments used were the Short Grit Scale (Grit-S), Connor-Davidson Resilience Scale (CD-RISC), State Hope Scale (SHS), and Multidimensional Scale of Perceived Social Support (MSPSS). This correlational quantitative study was analyzed using Moderated Regression Analysis (MRA) in JASP. The results showed that grit had a significant positive relationship with resilience ($r = 0.289, p < 0.001$), as did hope ($r = 0.673, p < 0.001$) and social support ($r = 0.420, p < 0.001$). Grit was also positively associated with hope ($r = 0.242, p < 0.001$) and social support ($r = 0.207, p = 0.002$). However, the interaction between grit and hope ($\beta = -0.053, t = -0.732, p = 0.465$) and between grit and social support ($\beta = -0.098, t = -1.378, p = 0.170$) was not significant. These findings emphasize grit as a direct predictor of resilience and encourage the development of personal and social strength based interventions for mothers in the caregiving of children with cancer.

1. INTRODUCTION

Receiving a diagnosis of childhood cancer constitutes a traumatic experience that brings profound psychological distress. Cancer is one of the leading causes of death among children and adolescents worldwide, with cases increasing consistently, making it a global health problem. WHO reports that approximately 400,000 children aged 0–19 are diagnosed with cancer each year, with the most common types including leukemia, brain cancer, lymphoma, and solid tumors such as neuroblastoma and Wilms

*Corresponding author

E-mail addresses: tania.707241016@fpsi.untar.ac.id, rianas@fpsi.untar.ac.id (Tania Mursalim)

tumor. Although the survival rate in high-income countries exceeds 80%, in Low- and Middle-Income Countries (LMIC), including Indonesia, it is only 15–45%. Survivorship is defined as the ability to survive for five years from the time of diagnosis or at least two years after completing treatment (Carlsson et al., 2019; Sheikh-Wu et al., 2023). In Indonesia, 11,156 cases of childhood cancer were recorded in 2020, with an increase of 6,623 cases reported from 12 hospitals between 2020 and 2024.

Pediatric cancer has been a focus of psychological research due to its broad impact on both patients and their families, in the short and long term (Erker et al., 2018; Ferraz et al., 2024). The journey from diagnosis to remission involves significant emotional, physical, and psychosocial stress, often requiring more than a year for adequate adjustment. Parents frequently experience distress, anxiety, and PTSD, which affect the family's mental health and quality of life. Within the complex family system, parents can act as either barriers or facilitators of family well-being (Poole et al., 2024; Zonta et al., 2024). Qualitative research has shown that caregivers of children with chronic illnesses experience higher levels of parenting stress, which is associated with poorer psychological adjustment. Mothers, as primary caregivers, play an essential role in ensuring their child's well-being throughout treatment and into survivorship, as well as in maintaining the overall functioning of the family. Research in Indonesia has shown that mothers of children with hematologic cancers frequently experience negative emotions, including sadness, anxiety, depression, anger, helplessness, and feelings of guilt about their child's illness (Bun et al., 2020; Koumarianou et al., 2021).

The psychological and social impacts are often more pronounced for mothers, who may leave their jobs to accompany their children to the hospital and undergo profound changes in their daily lives (Dabrowska & Malicka, 202; Van Schoors et al., 2019). Caregiving under such intense pressure has been linked to diminished capacity for coping with stress and to the long-term impacts of the child's treatment. Fathers, by contrast, have been reported to exhibit higher levels of resilience due to factors such as gender, employment status, and financial stability. Individuals with low resilience are at greater risk of maladaptation and tend to demonstrate poorer psychosocial functioning as well as lower levels of post-traumatic growth (Chen et al., 2025; Wong et al., 2023). Parental resilience among caregivers of children with cancer is influenced by the type of cancer and its treatment, and is further supported by socio-emotional factors and religiosity; therefore, interventions should take into account the local social and cultural context (Alyanisah & Imelda, 2024; Sumiati et al., 2022).

Resilience is an essential psychological capacity that helps mothers of children with cancer reduce maladaptive responses by building their personal strengths (Chen et al., 2025; Habibpour et al., 2019). As an adaptive response, resilience reflects the capacity to confront difficulties, avoid distress, and maintain a positive outlook in potentially traumatic situations, as well as the ability to recover from stressful events (Matheson et al., 2020; Sisto et al., 2019). Resilience supports emotional stability, reduces the impact of stress on depression and anxiety, and improves the quality of parent-child relationships and family functioning (Howard Sharp et al., 2023; Luo et al., 2024). Strengthening resilience is therefore a key strategy for enhancing mental health and overall quality of life (Chuang et al., 2023; Luo et al., 2022). One factor that reinforces resilience is grit, defined as the combination of perseverance and long-term passion for achieving goals (Armstrong, 2020; Biggs et al., 2024). Individuals with higher levels of grit tend to show greater endurance when facing psychological pressure. In populations with chronic medical conditions, grit has been found to correlate negatively with depression and anxiety and positively with emotional well-being (Carroll et al., 2024; Sharkey et al., 2018). For mothers caring for children with cancer, grit is reflected in consistent efforts to seek support, maintain hope, and sustain motivation to achieve successful treatment outcomes and long-term remission.

Another protective factor is hope, which serves as a cognitive motivator that enables individuals to formulate strategies for achieving their goals (Colla et al., 2022; Tian et al., 2018). According to Hope Theory by Snyder et al., 1991 in, hope comprises two key components: agency thinking, which refers to the motivation to pursue goals, and pathways thinking, which involves the capacity to develop alternative strategies in the face of obstacles. Higher levels of hope in mothers of children with chronic illness are associated with lower distress and stronger resilience (Liu et al., 2024; Sanayeh et al., 2021). Hope strengthens mothers' resilience, fosters their commitment to their child's treatment, and sustains active engagement in the fight against cancer to achieve recovery. In addition to internal factors, social support provides essential external resources that facilitate psychological adaptation and recovery (Liu et al., 2024; Wu et al., 2022). This support may be manifested through direct assistance or through the perception of its availability and adequacy (Acoba, 2024; Kisomi et al., 2024). Social support from partners, family members, medical teams, and the wider community strengthens family resilience and enhances hope, enabling mothers to accept their circumstances more effectively and develop new adaptive life patterns (Chen et al., 2021; Gise & Cohen, 2022).

Alongside advancements in pediatric cancer treatment that have significantly improved survival rates, research has shifted from primarily focusing on grief and negative emotions toward understanding family adaptation in the context of childhood cancer and strengthening psychological aspects to build resilience among all involved individuals (Ferraz et al., 2024; Van Schoors et al., 2019). Mothers often experience substantial psychological pressures, including parenting stress, anxiety, depression, and the risk of post-traumatic stress disorder (PTSD), yet they are still required to fulfill their roles and responsibilities within complex circumstances. Low resilience makes it more difficult for mothers to manage stress, anxiety, and depression. The maternal role has a substantial impact on the child's care, overall family functioning, and well-being. Resilience, as the capacity to recover and adapt in the face of adversity, is therefore essential in this context (Howard Sharp et al., 2023; Mustaza & Kutty, 2022). However, the mechanisms that strengthen resilience, such as grit, have not been fully understood in the context of mothers of children with cancer. Although grit has been widely examined in academic settings, its role in enhancing resilience in this population remains underexplored. Hope as an internal factor helps mothers maintain a positive outlook, while social support as an external factor can strengthen resilience (Gise & Cohen, 2022; Liu et al., 2024). Previous studies have shown that hope and social support reduce distress and improve family quality of life (Rambod et al., 2024), yet the integration of these factors in the relationship between grit and resilience requires further investigation.

This study is therefore needed to address the gap in the literature by examining how the combination of internal and external protective factors contributes to the relationship between grit and resilience, potentially enhancing maternal psychological well-being, reinforcing their role within the family, and improving overall quality of life. In the Indonesian cultural context, which is characterized by collectivism, social support often plays a significant role in psychological adjustment under stress (Sembiring et al., 2023). With the rising incidence of childhood cancer and the lengthy duration of treatment, there is an urgent need for strength-based literature that is both relevant and contextually grounded in a deep understanding of the lived experiences of these mothers.

Grit has been identified as a key source of resilience, contributing to the reduction of negative pain appraisals, such as pain catastrophizing and pain interference, and to the enhancement of pain control, which serves as an indicator of resilience (Heise, 2025; Bun et al., 2020). These findings highlight that grit can protect individuals from the adverse effects of psychological stress and promote positive outcomes, such as emotional well-being. However, previous studies have not specifically examined the relationship between grit and resilience in mothers of children with cancer, who face distinct psychological pressures. The role of internal factors such as hope and external factors such as social support as moderators in this relationship has also received limited exploration. Hope has been shown to be a significant mediator in the relationship between resilience and psychological symptoms, including depression, anxiety, and stress, with stronger effects observed in mothers compared to fathers (Gise & Cohen, 2022; Rambod et al., 2024). This finding underscores that hope not only supports resilience but also serves as a vital psychological resource in managing extreme stress. Meanwhile, social support has been consistently associated with increased resilience, post-traumatic growth, and meaning in life, as well as with reduced stress, anxiety, and depression, with emotional support from family being the most dominant form.

Previous research has largely focused on the relationship between grit and resilience in educational and career contexts, while little is known about this relationship in the context of parenting a child with cancer (Mustaza & Kutty, 2022; Sharkey et al., 2018). Some studies indicate that grit has a moderate association with resilience, suggesting the possibility of other variables that may strengthen this link. Hope has proven effective as a mediator and social support as a key predictor of resilience, yet no study has examined the moderating effects of these two factors simultaneously in the relationship between grit and resilience in mothers of children with cancer (Gise & Cohen, 2022; Mustaza & Kutty, 2022; Rambod et al., 2024). This study aims to address this gap and provide a more comprehensive understanding of the psychosocial dynamics in high-stress caregiving contexts. The hypothesis proposes a positive association between grit and resilience among mothers of children with cancer, with hope and social support acting as moderators that strengthen this relationship. Mothers with higher levels of hope and social support are expected to demonstrate stronger resilience in the presence of high grit. Based on this premise, the research enriches the strength-based resilience literature by outlining a psychoeducational program designed to enhance mothers' psychological capacity. This program emphasizes the development of grit, resilience, and hope as internal motivational resources, alongside reinforcing community networks as sources of social support. When embedded into hospital or community-based psychosocial services, such initiatives hold the potential for sustainable, long-term benefits to family well-being.

2. METHOD

This study used a non-experimental design with a quantitative correlational approach to examine the relationship between grit as the independent variable and resilience as the dependent variable, moderated by hope and social support. The participants comprised 216 mothers aged 20–55 years who had children diagnosed with cancer and who were undergoing or had completed medical procedures or chemotherapy at pediatric cancer referral hospitals in Indonesia. A purposive sampling technique was applied with the following inclusion criteria: (a) mothers of children aged 0–18 years who had received a confirmed diagnosis and undergone medical procedures and chemotherapy protocols; (b) children in non-remission/relapse, remission, or palliative conditions; (c) mothers serving as the primary caregivers with experience in supporting their child's treatment process; and (d) the ability to read and comprehend questionnaires in Bahasa Indonesia. Recruitment was conducted both online and offline through pediatric cancer support communities and foundations in Jakarta. Of the 220 respondents who accessed the questionnaire, 216 datasets were deemed valid following a screening process, while four were excluded for not meeting the inclusion criteria (i.e., child deceased, respondent was the father, child over 18 years old and a survivor, or diagnosis of a non-cancer condition such as cerebral palsy). All data were complete, with no missing values affecting statistical analysis. Participant characteristics are presented in [Table 1](#).

Table 1. Demographic Characteristics of Participants

	Data Demographics	Frequency	Percentage (%)
Respondent Age	20-24 Years	6	2.78
	25-29 Years	17	7.87
	30-34 Years	47	21.76
	35-39 Years	58	26.85
	40-44 Years	50	23.15
	45-49 Years	25	11.57
	50-54 Years	12	5.56
	55-59 Years	1	0.46
Education	SD	12	5.56
	SMP	27	12.5
	SMA	109	50.46
	Diploma	23	10.65
	S1	43	19.91
	S2	2	0.93
Marital status	Marital status - Married	200	92.59
	Widow/Divorce	16	7.41
Child's age	0-4 Years	40	18.52
	5-9 Years	81	37.5
	10-14 Years	63	29.17
	15-19 Years	32	14.81
Children's education	Not yet in school	59	27.31
	Home Schooling	2	0.93
	Early Childhood Education	1	0.46
	Playgroup / TK	27	12.5
	SD	88	40.74
	SMA	15	6.94
	SMP	20	9.26
Number of children (Siblings)	No school	4	1.86
	0	1	0.46
	1	43	19.91
	2	98	45.37
	3	50	23.15
	4	17	7.87
	5	6	2.78
Treatment Financing	6	1	0.46
	BPJS	209	96.76
	Personal/Office Insurance	4	1.85
	Personal/non-insurance funds	2	0.93
	Funding from the Indonesian Children's Oncology Foundation	1	0.46

	Data Demographics	Frequency	Percentage (%)
Types of Childhood Cancer	Leukaemia	140	64.81
	Retinoblastoma	14	6.48
	Lymphoma	13	6.02
	Neuroblastoma	9	4.17
	Brain Cancer	6	2.78
	Wilms Tumour	5	2.31
	Nasofaring	4	1.86
	Liver Cancer	3	1.39
	Rabdomimosarkoma	3	1.39
	Bone Cancer	2	0.93
Year of Diagnosis	Other	17	7.86
	< 2011	2	0.93
	2011-2015	25	11.57
	2016-2020	62	28.7
Treatment Status	2021-2025	127	58.79
	Not yet in remission / relapse	113	52.31
	Palliative	12	5.56
	Remission	91	42.13

Based on [Table 1](#) data from 216 respondents, the majority of participants were mothers aged 35–39 years (26.85%) and high school graduates (50.46%). Most are married (92.59%) and accompany children with cancer diagnosed in the last five years (2021–2025, at 58.79%), with a status that has not been relapsed (52.31%). Most of the children are 5–9 years old (37.5%) and are educated at the elementary level (40.74%). The composition of the family generally consists of two children (45.37%), and the majority of children are the first child. In terms of medical financing, almost all respondents (96.76%) rely on BPJS. The most common type of cancer experienced by children is leukaemia (64.81%), followed by retinoblastoma (6.48%) and lymphoma (6.02%). This profile indicates that most participants came from young, middle-educated families facing psychosocial and economic challenges and depending on public healthcare services.

The research instrument consists of four measuring instruments that have gone through validity, reliability, and normality tests. The Short Grit Scale, CD-RISC, State Hope Scale, and MSPSS, are instruments that have been tested for validity and reliability in various previous studies. The validity of the construct of the instrument is also supported by the results of the internal reliability test in this research sample. Grit was assessed using the Short Grit Scale which consists of 8 items divided into two subscales: Consistency of Interest and Perseverance of Effort. Responses are rated on a 5-point Likert scale (1 = not at all like me to 5 = very much like me). In the present study, Cronbach's alpha was 0.637, indicating acceptable internal consistency for research purposes ([Rumbold et al., 2022](#)).

Resilience was measured using the Connor-Davidson Resilience Scale in, comprising 25 items across seven dimensions: hardiness, coping, adaptability, meaningfulness, optimism, cognition, and self-efficacy. Each item is scored on a 5-point Likert scale (0 = not true at all to 4 = true nearly all the time). The reliability coefficient in this study was $\alpha = 0.930$, demonstrating excellent internal consistency. Hope was measured with the State Hope Scale (Tian et al., 2018), a 6-item scale covering agency thinking and pathways thinking, rated on an 8-point Likert scale (1 = definitely false to 8 = definitely true). The reliability coefficient was $\alpha = 0.863$, indicating good internal consistency. Social Support was measured using the Multidimensional Scale of Perceived Social Support ([Wojujutari et al., 2024](#); [Zhang et al., 2018](#)), consisting of 12 items across three sources: significant others, family, and friends. Items are rated on a 7-point Likert scale (1 = very strongly disagree to 7 = very strongly agree). The reliability coefficient in this study was $\alpha = 0.930$, indicating excellent internal consistency.

3. RESULTS AND DISCUSSION

Result

This study met all classical assumption tests for regression analysis, including normality, linearity, multicollinearity, and heteroscedasticity. The residual data were normally distributed (Kolmogorov-Smirnov $p = 0.200$), the relationship between variables was linear, no multicollinearity was found (Tolerance > 0.10; VIF < 10), and the error variance was homogeneous, indicating the absence of heteroscedasticity. Therefore, the regression model was deemed appropriate for hypothesis testing. The result of statistical descriptive analysis is show in [Table 2](#).

Table 2. Statistical Descriptive Analysis

Variable	N	Median	Mean	SE	SD	Minimum	Maximum
Grit	216	3.565	3.632	0.037	0.546	2.250	5.000
Resilience	216	3.160	3.194	0.033	0.482	1.160	4.000
Hope	216	6.170	6.032	0.081	1.187	1.830	8.000
Social Support	216	5.750	5.511	0.081	1.190	1.500	7.000

As shown in Table 2, the mean score for grit was 3.632 (SD = 0.546, range = 2.250–5.000, median = 3.565), indicating that participants generally demonstrated medium-to-high levels of perseverance and consistency when facing challenges. Resilience had a mean of 3.194 (SD = 0.482, range = 1.160–4.000, median = 3.160), reflecting a relatively high capacity to adapt and recover from adversity. Hope scored a mean of 6.032 (SD = 1.187, range = 1.830–8.000, median = 6.170), suggesting that participants maintained a strong sense of optimism about the future. Social support recorded a mean of 5.511 (SD = 1.190, range = 1.500–7.000, median = 5.750), indicating a favourable perception of available emotional, informational, and practical support. Collectively, these results depict a participant profile characterized by persistence, psychological adaptability, optimism, and strong perceived support. The adequate variability and symmetrical distribution of these variables support their suitability for subsequent relational and predictive analyses. The range of scores and the number is show in Table 3.

Table 3. The Range of Scores and the Number of Subjects is Classified as Low, Medium, High

Variable	Categorization	Number of Subjects	Percentage (%)
Grit	Low	11	5.093
	Medium	163	75.463
	High	42	19.444
Resilience	Low	59	27.315
	Medium Low	78	36.111
	Medium High	29	13.426
Hope	High	50	23.148
	Low	46	21.296
	Medium	133	61.574
Social support	High	37	17.130
	Low	8	3.704
	Medium	55	25.463
	High	153	70.833

As shown in Table 3, the majority of participants reported grit levels in the medium category (n = 163, 75.46%), followed by high (n = 42, 19.44%) and low (n = 11, 5.09%), indicating generally moderate perseverance and consistency. For resilience, most participants fell into the medium–low category (n = 78, 36.11%) and low category (n = 59, 27.31%), with fewer in the high (n = 50, 23.15%) and medium–high (n = 29, 13.43%) categories, suggesting that resilience tends to be concentrated at lower–moderate levels. In terms of hope, the majority were in the medium category (n = 133, 61.57%), with smaller proportions in the low (n = 46, 21.30%) and high (n = 37, 17.13%) categories, reflecting an overall moderate level of goal-directed optimism. For social support, most participants reported high perceived support (n = 153, 70.83%), followed by medium (n = 55, 25.46%) and low (n = 8, 3.70%), indicating strong perceived emotional, informational, and practical assistance from their environment. Overall, only social support was predominantly high, grit and hope were predominantly medium, and resilience was relatively lower–moderate across the sample.

Correlation Test

The result of correlation test is show in Table 4.

Table 4. Correlation between Variables

Variable		Grit	Resilience	Hope	Social Support
1. Grit	Pearson's r	—			
	p-value	—			
2. Resilience	Pearson's r	0.289***	—		
	p-value	< .001	—		

Variable		Grit	Resilience	Hope	Social Support
3. Hope	Pearson's r	0.242***	0.673***	—	
	p-value	< 0.001	< 0.001	—	
4. Social Support	Pearson's r	0.207**	0.420***	0.474***	—
	p-value	0.002	< 0.001	< 0.001	—

*p<.05, **p<.01, ***p<.001; Pearson's Correlations

As shown in Table 4, all variables demonstrated statistically significant positive correlations. Grit was positively associated with resilience ($r = 0.289$, $p < 0.001$), hope ($r = 0.242$, $p < 0.001$), and social support ($r = 0.207$, $p = 0.002$), suggesting that higher grit tends to co-occur with greater resilience, optimism, and perceived support. Resilience showed a strong correlation with hope ($r = 0.673$, $p < 0.001$) and a moderate correlation with social support ($r = 0.420$, $p < 0.001$), indicating that more resilient individuals tend to have higher hope and stronger support networks. The correlation between hope and social support was also moderate ($r = 0.474$, $p < 0.001$), suggesting that individuals with greater hope are more likely to perceive higher social support. These findings provide empirical support for the interrelated nature of these psychological resources in mothers of children with cancer.

Regression Test

The result of regression test is show in Table 5.

Table 5. Results of Grit's Regression Test on Resilience

Model	R	R ²	Adjusted R ²	t	F	P	Description
Grit→Resiliensi	0.289	0.084	0.080	4.419	19.278	<0.001	Significant

Based on the results of the linear regression analysis presented in Table 5, grit was found to have a significant effect on resilience. The correlation coefficient ($R = 0.289$) indicates a positive relationship between grit and resilience. The coefficient of determination ($R^2 = 0.084$) shows that grit accounted for 8.4% of the variance in resilience among mothers of children with cancer, while the remaining 91.6% was explained by other factors not examined in this study. The analysis further revealed a significant regression coefficient ($t = 4.419$, $p < 0.001$), confirming grit as a significant predictor of resilience. This finding was supported by the overall significance of the regression model ($F = 19.527$, $p < 0.001$). These results suggest that higher levels of grit are associated with greater resilience in mothers caring for children with cancer.

Moderate Regression Test

The result of moderated regression analysis results is show in Table 6.

Table 6. Moderated Regression Analysis results

Variable	Unstandardized Coefficient		B (Standardized)	t	p	F
	B	SE (Standard Error)				
(Intercept)	79.838	0.819		97.437	< .001	
(Intercept)	56.255	5.285		10.644	< .001	
Grit	0.825	0.181	0.299	4.568	< .001	7.870
Grit*Hope	-0.588	0.803	-0.053	-0.732	0.465	7.870
Grit*Social Support	-1.092	0.793	-0.098	-1.378	0.170	7.870

Based on the results presented in Table 6, Grit demonstrated a positive and statistically significant effect on resilience ($B = 0.825$, $\beta = 0.299$, $t = 4.568$, $p < .001$), indicating that higher levels of grit are associated with greater resilience among mothers of children with cancer. In contrast, the interaction between grit and hope yielded a negative coefficient ($\beta = -0.053$) but was not statistically significant ($t = -0.732$, $p = 0.465$). Similarly, the interaction between grit and social support also produced a negative coefficient ($\beta = -0.098$) and did not reach statistical significance ($t = -1.378$, $p = 0.170$). These results suggest that neither hope nor social support moderated the relationship between Grit and resilience in this sample. In other words, the strength of the association between grit and resilience remained consistent regardless of participants' levels of hope and perceived social support. The hypothesis test result is show in Figure 1.

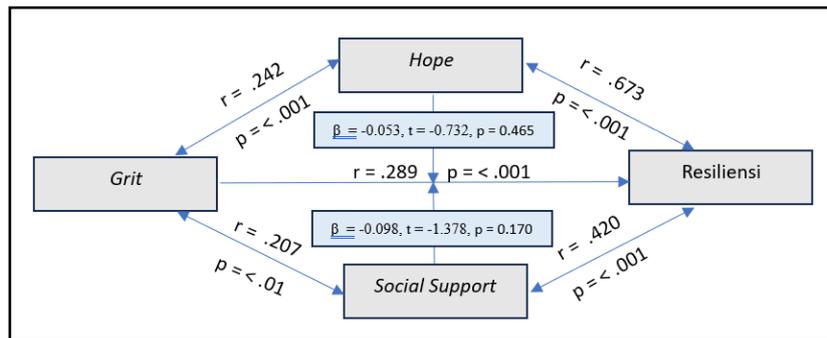


Figure 1. Hypothesis Test Results

Based on Figure 1, grit demonstrated a positive and significant correlation with resilience ($r = 0.289$, $p < 0.001$), indicating that higher levels of grit are associated with higher resilience among mothers caring for children with cancer. All variables showed significant positive correlations. Hope ($r = 0.673$, $p < 0.001$) and social support ($r = 0.420$, $p < 0.001$) were also positively correlated with resilience. However, interaction tests revealed that hope ($\beta = -0.053$, $p = 0.465$) and social support ($\beta = -0.098$, $p = 0.170$) were not found to act as moderators in the correlation between grit and resilience. These findings indicate that the influence of grit on resilience operates directly and is relatively independent of both hope and social support levels.

Discussion

This study aimed to examine the role of hope and social support as moderators in the relationship between grit and resilience among mothers of children with cancer. Grit, as a key protective factor, is particularly important in crisis situations such as a child's cancer diagnosis, where mothers as primary caregivers face significant psychological pressure due to changes in family dynamics and long-term caregiving demands.

The findings indicate that grit has a positive and significant relationship with resilience, meaning that higher perseverance and goal consistency in mothers are associated with greater psychological resilience when facing the demands of caring for a child with cancer. This aligns with research showing that grit is an important predictor of resilience, long-term emotional functioning, and serves as a psychological resource for dealing with life's pressures and uncertainties (Christanty et al., 2021; Heise et al., 2025). Similar findings also reveal that women with Polycystic Ovary Syndrome (PCOS) who have high grit demonstrate greater commitment and consistency in undergoing long-term treatment, positively impacting their quality of life. In addition, resilience has been found to mediate the relationship between loneliness and depression in young adults who lost a parent due to COVID-19, enabling emotional regulation, optimism, and recovery from adversity (Aulia et al., 2023). These results reinforce grit as a vital psychological strength in building resilience, especially in the context of parenting a child with cancer.

The interaction test in the moderation model showed that hope and social support did not function as moderators in the relationship between grit and resilience. Neither hope nor social support significantly altered the direction or strength of the association between grit and resilience. Nevertheless, this finding does not diminish the importance of these variables in the resilience building process. Correlational analysis indicated that grit, resilience, hope, and social support were all positively and significantly related to one another. Hope showed the strongest correlation with resilience ($r = 0.673$, $p < 0.001$), while social support also demonstrated a significant correlation with resilience ($r = 0.420$, $p < 0.001$). These findings suggest that although hope and social support do not statistically moderate the grit-resilience relationship, both factors remain highly important in supporting resilience. In conclusion, the relationship between grit and resilience is direct and significant, without being influenced by hope or social support. However, hope and social support still have positive and significant associations with resilience, indicating that both contribute directly to strengthening the capacity of mothers to cope with the challenges of caring for a child with cancer.

Findings indicate that the experience of hope among parents of children with cancer is dynamic and influenced by the child's health condition as well as the quality of social support received. In that study, hope was described as a fluctuating process that is highly dependent on external contexts, including the treatment phase and the family's emotional state. In contrast, the present study found that grit, resilience, hope, and social support did not show significant differences in scores based on mothers' age, the child's treatment status, type of cancer, or other demographic characteristics. This may suggest a

tendency toward stable perceptions of hope and social support among participants, unaffected by specific situational factors. One possible explanation for this stability is the strong collectivistic cultural values in society, such as togetherness and mutual support, which may contribute to relatively consistent perceptions of hope and social support among mothers. These results are also consistent with findings that hope plays a protective role against psychological distress in mothers of children with chronic conditions (Colla et al., 2022; Liu et al., 2024). Mothers with higher levels of hope tend to experience lower distress and possess better emotional resilience. Thus, although hope did not serve as a moderator in the relationship between grit and resilience, these findings support the view that hope remains an important factor in strengthening mothers' psychological resilience.

The significant correlation between social support and resilience indicates that the higher a mother's perception of the social support she receives, the higher her level of psychological resilience. This finding is reinforced by research showing that social support plays a significant role in reducing stress among young adults during the COVID-19 pandemic, particularly through family and friend support (Hadinata & Sahrani, 2021; Marlene & Sahrani, 2021). High perceived social support from one's immediate environment is associated with lower stress levels. Similarly, social support has been found to correlate positively with life satisfaction. Although the contexts differ, these findings suggest that social support has adaptive potential in various stressful situations, including among mothers of children with cancer.

Furthermore, a review of international studies emphasized the importance of social support for parents of children with cancer. The review concluded that social support consistently plays a crucial role in enhancing resilience, reducing symptoms of stress, anxiety, and depression, and fostering post-traumatic growth and a sense of meaning in life. Social support was described as encompassing emotional, practical, and informational assistance, most often received from the nuclear family, particularly spouses, and other close social circles. These results align with the present study's findings, which showed a positive and significant correlation between social support and resilience among mothers caring for children with cancer. Thus, the conclusions of strengthen the interpretation that social support plays a direct and essential role in fostering resilience, underscoring its status as a primary protective factor for mothers in this context (Gise and Cohen 2022; Gutierrez-Rojas et al., 2025). The main strength of this study lies in its focus on the psychological resilience of mothers caring for children with cancer, a group that has been rarely studied despite facing significant emotional burdens and caregiving demands. This study highlights the relationship between perseverance, hope, and social support in shaping resilience, contributing new insights to the Indonesian family psychology literature, which has yet to explore the aspect of grit in the context of caring for children with chronic illnesses. This uniqueness positions the study as one of the first to emphasize the role of perseverance in mothers during health crises, expanding our understanding of culturally and socially relevant protective factors.

Theoretically, these findings confirm perseverance as a key protective factor, while hope and social support function as integral parts of a broader psychosocial system. This enriches resilience theory by showing that integrating personal strengths with social resources can help individuals cope with stressful situations, particularly in parenting children with cancer. Practically, these findings support community-based interventions that not only build grit, but also increase hope and strengthen access to real social support. Such interventions can be realized through perseverance training programs, meaning-centered counseling, and special support groups for mothers facing their children's treatment process. Thus, these findings contribute to the development of policies and practices that are more responsive to the psychosocial needs of families with cancer.

However, this study has several limitations. The quantitative design and use of self-report instruments limit our understanding of deeper emotional dynamics, even though mitigation measures such as the use of valid measurement tools, anonymity, and clear language have been implemented. The focus on mothers also limits the generalizability to fathers or other caregivers. Therefore, future research is recommended to combine qualitative or longitudinal approaches to explore psychological changes more comprehensively, as well as to apply data triangulation through in-depth interviews or observations. Additionally, spirituality is recommended as an additional variable, given that empirical evidence shows its positive relationship with resilience in cancer patients, especially in the context of Indonesia's religious society. The addition of this perspective has the potential to enrich our understanding of psychological resilience and broaden the scope of more contextual interventions.

4. CONCLUSION

This study emphasizes the importance of perseverance as a key factor in building psychological resilience in mothers caring for children with cancer, while also showing that hope and social support play

a greater role as direct resources than as moderating variables. The uniqueness of this study lies in its focus on grit in the context of caring for children with chronic illnesses, a perspective that is still relatively under-researched, especially in Indonesia, thereby enriching the family psychology literature with a new dimension that links perseverance, hope, and social support. Future research is recommended to develop perseverance-based interventions integrated with community approaches, meaning-centered counseling, and family empowerment programs with health workers. Qualitative or longitudinal approaches with data triangulation, such as in-depth interviews and observations, can be used to explore psychological changes more comprehensively. Additionally, incorporating spirituality as a variable has the potential to enrich our understanding of resilience, particularly within the context of Indonesia's religious society. This perspective is expected to strengthen family psychology theory and serve as a practical foundation for more contextual and responsive health policies and programs addressing the psychosocial needs of families with children with cancer.

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