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Religious-Based Family Management and Sustainable Household Consumption: Evidence from Indonesia

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ABSTRACT

Many low-income households in Indonesia face persistent economic vulnerability not merely due to income deprivation, but also due to behavioral and social constraints rooted in religious and kinship structures. This study investigates how Religious-Based Family Management (RBFM) and *Silaturahmi* Quality (SQ)—two socially embedded institutions—shape household consumption behavior and resilience relevant to sustainable energy planning. Using a social feasibility approach, the study draws on primary data from 325 households and applies Structural Equation Modeling (SEM) to test the mediating role of SQ between RBFM and Absolute Poverty (AP). Results show that RBFM significantly reduces AP both directly ($\beta = -0.52$, $p < 0.001$) and indirectly via SQ ($\beta = -0.17$, $p < 0.001$), with the model explaining 64% of the variance in AP. RBFM also strongly increases SQ ($\beta = 0.59$, $p < 0.001$), indicating that religiously grounded household governance fosters higher-quality social support networks. These findings highlight the importance of informal social systems as complementary mechanisms in household-level energy transition strategies. Policy recommendations emphasize integrating local value systems into decentralized energy and consumption planning to enhance sustainability outcomes in culturally diverse, low-income contexts.

Keywords

Religious-based family management;
Social feasibility;
Sustainable household consumption;
Silaturahmi quality;
Behavioral energy poverty

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1. Introduction

Chronic absolute poverty (AP) acts as a systemic barrier toward attaining development equity and sustainable consumption transformation—and, in the context of this journal, toward achieving inclusive and sustainable household energy planning—and is directly geared against low-income household individuals in developing nations [1,2]. Though several interventions on infrastructure, subsidies, and formal education have been proposed, the in-depth embedded influence of household governance under religious precepts and informal social networking in resource resilience has been largely neglected in the energy policy discourse—they serve as key determinants in the critical process of resource allocation within informal support systems, influencing access to survival-based options and shaping

household-level energy use patterns at the micro level of sustainable energy planning and household consumption management [3,4]. Recent findings suggest that household-level religiosity and behavioral norms—including faith-based decision-making and financial literacy—shape consumption behavior and access to sustainable energy solutions, particularly in low-income Muslim communities [5,6].

One of the social mechanisms relatively less explored is *Silaturahmi* Quality (SQ)—the practice of mutual support within cultural grounding in kinship systems—which may make the difference in the feasibility of sustainable poverty alleviation and household energy resilience. While it is embedded under communal practices in many, the specific institutional channel through which Religious-Based Family Management (RBFM)

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List of Abbreviations		SEM	Structural Equation Modeling
SET	Social Exchange Theory	RBFM	Religious-Based Family Management
KM	Knowledge Management Theory	SQ	Silaturahmi Quality
		AP	Absolute Poverty

relates to poverty at the household level is virtually a blind area. A previous study has revealed the relationship between religiosity, prayer, and spiritual discipline in economic resilience [7,8] but has not explicitly linked these mechanisms to energy-related decision-making or sustainable consumption planning.

This study fills this gap by forming a concept of SQ as a social factor of feasibility that makes RBFM real for tangible outcomes of resilience. SQ includes emotional, informational, and material aspects of exchanges and can be explained under the preview of Knowledge Management (KM) as localized tacit knowledge for the governance of resources at the family and community level [9,10]. In this regard, households take part in knowledge sharing at a decentralized level and social coordination which are very important to maintain stability in a resource-scarce setting and to optimize household energy use for long-term sustainability.

In addition to the above, Social Exchange Theory provides another explanation, that is, the economic vulnerability could be diminished by the reciprocal relational exchange in between the trust and the support that acts as an informal safety net for resource shocks [11,12]. Dominantly, when one considers marginalized practices, such informal support substitution stands as a basic facilitating mechanism for the self-reliant livelihood strategy, and not vice versa-in the absence of all types of formal support interventions [13,14]. This dynamic aligns with evidence that mindfulness and religious commitment foster conscious consumption behavior, enabling spiritual frameworks to guide practical decisions on energy use, saving, and budgeting in vulnerable households [15].

RBFM and SQ are framed as interdependent institutions that influence poverty resilience, so this research brings social feasibility, knowledge-based resilience, and institutional culture together in the discourse on sustainable energy and consumption planning. This framing complements recent IJSEPM contributions that emphasize household-level energy knowledge, local behavioral patterns, and decentralized planning [16–21]. Accordingly, the present study addresses a specific literature gap by integrating faith-based governance and kinship-driven

social capital into the sustainable energy planning framework, introducing SQ as a novel mediator in the relationship between RBFM and AP. It aims to evaluate the extent to which household-level religious governance, acting through the mediation of social capital born of kinship, contributes to reducing AP, thereby enriching the field with a culturally grounded, socially embedded mechanism for sustainable poverty alleviation.

2. Literature Review

2.1. Religious-based Family Management (RBFM)

Religious-Based Family Management (RBFM) is household governance at the grassroots level that integrates spiritual principles with economic decision-making. It represents an informal value-based system of control over intrahousehold behavior in the face of economic constraints. The RBFM principle works based on self-regulation, delayed gratification, and social accountability where the members practice praying, being under the watch of a higher power, and patience in times of difficulties [22–24]. These principles serve as lenses that condition household behavioral responses to various levels of scarcity, trade-off dynamics, and resource allocation through time [25,26].

The Theory of Planned Behavior (TPB) supports this by suggesting that behavior is determined not only by intention but also by the internalization of subjective norms and perceived behavioral control [27,28]. In religious households, spiritual values form normative constraints that do not associate with impulsive consumption and rather associate with consuming prayerfully—which is important to livelihood uncertainty [5,15].

Empirical studies have also strengthened the positive role of RBFM in reducing economic vulnerability. The Islamic practices, for instance, *zakat* (obligatory alms-giving in Islamic tradition) and moderation (*wasathiyah*) tend to share redistribution and financial buffering aspects among poor families [2,29]. While not always straightforward, religiosity can bring about a worsening effect on energy poverty when spiritual fatalism overcomes pragmatic financial planning [30].

Based on the above conceptual framework, it is postulated that RBFM enhances *Silaturahmi* Quality

(SQ)—being a form of relational capital—with ingrained ethics of mutual care and discipline [31]. At the same time, it should decrease Absolute Poverty (AP) by creating behavioral reactions in support of resilience within the economic activities [32,33]. This article extends our previous works [25,26] in three substantive ways. First, it introduces *Silaturahmi* Quality (SQ) as a novel mediating construct, which was not modeled in earlier studies. Second, whereas the prior studies relied on econometric modeling and focused primarily on HRM or multidimensional poverty metrics, this paper adopts a behavioral-cultural lens to explain how religious-based governance shapes household responses to resource scarcity. Third, by aligning the analysis with sustainable energy planning, this study contributes to understanding how informal spiritual mechanisms influence rational energy-related behavior and adaptive resilience at the household level.

H1: RBFM has a significant positive effect on SQ.

H2: RBFM has a significant negative effect on AP.

2.2. *Silaturahmi* Quality (SQ)

Silaturahmi Quality (SQ) denotes the quality of the functioning and reliability of the informal systems of support within the family and the community, including emotional attachment, material aid, and reciprocal exchange. In Southeast Asian Islamic cultures, *Silaturahmi* serves as the core of the association and acts as an informal rule of the game for information, shared work, and means of survival [4,34].

Material sharing is one aspect of SQ. The other is co-responsibility in household functions with a collective ethos toward family development [35,36]. Such structures replace formal welfare mechanisms in the low-income context, giving social feasibility for sustainable livelihoods when institutional provisions are limited [12,37].

From the viewpoint of Knowledge Management, SQ improves informal livelihood sharing through the channel of job referrals, education strategies, and financial practices. This in turn improves household adaptability and rationality of energy use [9,10]. The empirical gaps, such as the one noted by Tamsah [26], indicate that more stress is laid in pragmatic exchanges than affective ones—this is indicative of the utilitarian form that social capital takes in high-scarcity settings.

This view tallies with results across poor regions worldwide, where social capital tends to be task-directed rather than emotionally open [38,39]. In such places, SQ becomes a key relational setup for dealing with scarcity of resources and price changes. This construct has not been

previously analyzed as a mediator in the relationship between religious practices and poverty alleviation. Its operationalization in this study represents a significant departure from prior work by Tamsah [26], which emphasized structural antecedents of poverty without incorporating relational and cultural dimensions such as SQ.

H3: SQ has a significant negative effect on AP.

2.3. Absolute Poverty (AP)

Absolute Poverty (AP) transcends mere income insufficiency to encompass multidimensional deprivation: limited access to water, healthcare, education, stable employment, and basic consumption security [1,40]. In the Indonesian context, AP remains entrenched in both rural and urban settings due to a combination of behavioral, institutional, and cultural factors [25,26].

Recent work emphasizes the behavioral poverty trap, whereby low-income households exhibit short-term vision and impulsive consumption in response to scarcity stress, thus perpetuating economic vulnerability [41–43]. These behavioral outcomes are linked to broader cultural systems that may either inhibit or support economic sustainability [44,45].

RBFM introduces cognitive scaffolding and moral regulation, promoting behaviors that align with sustainability goals—such as savings, deferred consumption, and shared responsibilities [46,47]. When mediated by SQ, these values become collectively enacted, supporting broader access to non-market resources such as shared parenting, informal loans, and food assistance [48,49].

Hence, the RBFM–SQ interaction offers a culturally embedded mechanism to reduce AP—moving beyond top-down or purely technocratic models [50,51]. The added value of this study lies in its distinct conceptual contribution—modeling SQ as a behavioral and cultural intermediary that connects spiritual governance (RBFM) to multidimensional poverty outcomes. This offers a shift from earlier econometric models [26] by introducing a culturally embedded behavioral pathway with implications for informal household energy resilience.

H4: SQ significantly mediates the relationship between RBFM and AP.

3. Methodology

3.1 Research Design and Sample Characteristics

This study applies a quantitative, model-driven approach to explore institutional and relational factors contributing to household-level resilience in the context of

absolute poverty. Using Structural Equation Modeling (SEM) with AMOS software, the study examines the interrelationship between value-based household governance (Religious-Based Family Management), informal social structures (*Silaturahmi* Quality), and multidimensional deprivation (Absolute Poverty).

The data were collected from 325 low-income households across six administrative regions in South Sulawesi, Indonesia: Makassar City, Jeneponto, Selayar, Bone, North Luwu, and North Toraja. These districts were selected to capture ethnic, geographic, and cultural variation—particularly among the Bugis, Makassar, and Toraja communities [52–55].

A purposive sampling method was employed, targeting households whose daily income fell below the national poverty line and ensuring representation from culturally and religiously diverse districts. Respondents were identified based on household income thresholds defined by national poverty standards. The majority of respondents (approximately 82%) were Muslim—predominantly from Bugis and Makassar ethnic groups—while Christian respondents, mostly from the Toraja ethnic group, comprised around 15%, and the remaining 3% identified with other beliefs. Trained enumerators—proficient in both the national and local languages—assisted with survey administration to ensure linguistic and cultural clarity.

The demographic profile of respondents is summarized in Table 1, showing a predominance of individuals aged 41–50, limited formal education, and household sizes of 4–6 members. This socio-demographic and religious composition provides important context for interpreting how RBFM and SQ function within varying social norms and cultural expectations across South Sulawesi.

The analytical framework guiding this study is presented in Figure 1, depicting the hypothesized direct and indirect pathways between the constructs, along with their observed indicators.

The framework illustrates the hypothesized relationships between Religious-Based Family Management (RBFM), *Silaturahmi* Quality (SQ), and Absolute Poverty (AP), including the direct and mediated effects tested in the SEM model.

3.2 Ethical Considerations and Disclosure of Related Research

This study forms part of a long-term research agenda examining the intersection of behavioral, religious, and social dynamics in poverty reduction. While some

questionnaire components were adapted from prior work by the authors [25,26], the current model introduces the novel mediating construct *Silaturahmi* Quality (SQ) and incorporates a distinct theoretical framework grounded in Social Exchange Theory and Knowledge Management. The conceptual framework diagram (Figure 1) illustrates the hypothesized relationships between Religious-Based Family Management (RBFM), SQ, and Absolute Poverty (AP). The analytical structure, mediating pathways, and outcome relationships are entirely new, constituting a separate empirical and conceptual contribution. Unlike Hasmin [25], which primarily examined RBFM from a managerial perspective, the present study integrates SQ as a novel relational mediator and positions the analysis within the domain of energy behavior and planning. Furthermore, in contrast to Tamsah [26], which developed poverty models without considering energy-related behavioral dimensions, this research extends the family governance narrative by embedding a socio-energy perspective that links household relational practices to sustainable energy planning and poverty reduction.

No formal ethics board approval was required due to the low-risk, voluntary, and anonymized nature of the study. However, the research protocol followed standard ethical principles for social science research, including respect for persons, beneficence, and justice. Informed consent was obtained from all participants, consistent with ethical practices in community-based social research.

3.3 Variable Definitions and Measurement Constructs

The survey instrument used a 5-point Likert scale, with statements tailored to the context and phrased positively for latent constructs (RBFM, SQ) and negatively for vulnerability-oriented constructs (AP). All latent constructs were measured using multi-item indicators (Table 2) validated in prior studies and adapted to the South Sulawesi socio-cultural context through expert review and pilot testing. Lower scores for RBFM and SQ reflect the absence of religious structure or weak social ties; higher scores on AP items reflect elevated material deprivation.

Religious-Based Family Management (RBFM)

RBFM was operationalized based on qualitative findings from prior research phases and includes six indicators:

- Effort in prayer
- Awareness of divine observation
- Adherence to religious teachings

Table 1: Demographic Characteristics of Respondents.

Demographic Items		Freq.	%
Age	1. Between 20-30	40	12.3
	2. Between 31-40	90	27.7
	3. Between 41-50	195	60.0
	Total	325	100.0
Education	1. Bachelor	1	0.3
	2. finished high school	23	7.1
	3. High school graduate	55	16.9
	4. Elementary School	100	30.8
	5. Did not finish elementary school	61	18.8
	6. Never school	85	26.2
	Total	325	100.0
Origin	1. Makassar City	137	42.2
	2. Jeneponto Regency	48	14.8
	3. Selayar Islands Regency	34	10.5
	4. Bone Regency	38	11.7
	5. North Luwu Regency	36	11.1
	6. North Toraja Regency	32	9.8
	Total	325	100.0
Family Income	1. More than IDR 150,000 per day	3	0.9
	2. IDR 101,000 - IDR 150,000 per day	17	5.2
	3. IDR 51,000 - IDR 100,000 per day	189	58.2
	4. IDR 20,000 - IDR 50,000 per day	61	18.8
	5. Less than IDR 20,000 per day	55	16.9
	Total	325	100.0
Number of Family Members	1. More than 9 people	1	0.3
	2. 7 - 9 people	32	9.8
	3. 4 - 6 people	170	52.3
	4. 1 - 3 people	122	37.5
	Total	325	100.0

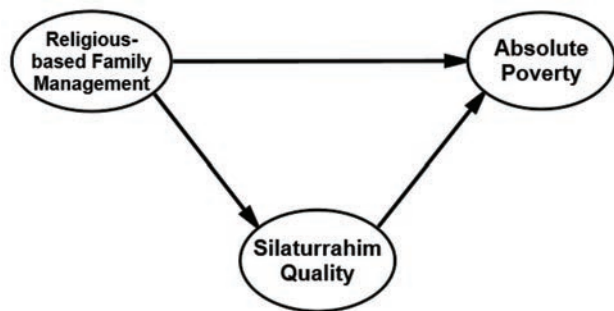


Figure 1: Analytical Framework.

- Belief in divine control
- Patience with divine timing
- Consistency in religious worship

These indicators reflect value-based decision systems that regulate household behavior under uncertainty [24,32,56–58].

Silaturrahim Quality (SQ)

SQ captures the functionality of informal social capital, particularly kinship- and community-based support networks. The indicators measure:

- Emotional and material support
- Shared developmental goals
- Collective responsibility for household welfare
- Reciprocal care mechanisms and proactive community involvement.

These dimensions reflect the depth of relational resilience embedded in social systems [3,4,34,36,59].

Absolute Poverty (AP)

AP was measured using 11 indicators issued by the Indonesian government, grouped into five domains:

- Basic Needs and Infrastructure: Food, water, sanitation, shelter, and health access [60,61].
- Opportunity Structures: Job availability, access to education [62–65].
- Security and Ownership: Household security, land and property ownership [61].
- Environmental and Social Conditions: Participation, ecological safety, and social capital [35,66,67].
- Dependency Burden: Ratio of non-working to working household members [62].

3.4 Instrument Validity and Construct Reliability

The indicators were adapted from previously validated instruments [25,26] and recent unpublished work under review, and were subjected to expert panel review to ensure content validity in the South Sulawesi socio-religious context. Items were refined to reflect localized sociocultural realities while preserving psychometric rigor. Construct validity was assessed using Confirmatory Factor Analysis (CFA), while reliability was evaluated through Composite Reliability (CR) and Cronbach's Alpha, with all values exceeding the recommended thresholds ($CR > 0.70$; $\alpha > 0.70$). Table 2 presents the distribution of indicators across constructs, including measurement directionality and internal consistency.

4. Results

4.1 Model Assumptions and Normality Assessment

An assessment of univariate and multivariate normality was conducted prior to model estimation. Table 3 presents the skewness and kurtosis values for each observed variable. Several indicators, particularly AP2, SQ4, and AP9, exhibited skewness or kurtosis values exceeding the recommended ± 2 threshold, indicating violations of normality assumptions [68]. The multivariate kurtosis

critical ratio (c.r.) was 23.778, which substantially exceeds the cut-off value of 5.0, confirming the presence of multivariate non-normality.

Given these results, a Bollen–Stine bootstrap procedure with 975 resamples was performed to address the violation of multivariate normality assumptions. The bootstrap results indicated that the model fit better in 871 samples, worse in 104 samples, and about equally well in none. The resulting Bollen–Stine p-value was 0.108, exceeding the 0.05 threshold, indicating that the data were suitable for SEM estimation under the adjusted bootstrap approach.

4.2 Measurement Model Evaluation

Prior to evaluating the measurement model, the distributional properties of the data were examined. As shown in Table 3, several indicators exceeded the recommended ± 2.0 thresholds for skewness or kurtosis, and the multivariate critical ratio (c.r.) value (52.094; 23.778) indicated non-normality. To address this, a Bollen–Stine bootstrap procedure with 975 resamples was applied, yielding a p-value of 0.108 ($p > 0.05$), which confirmed the adequacy of the data for Structural Equation Modeling (SEM) despite deviations from normality. This approach ensured robust estimation and reduced potential bias in model fit and parameter estimates.

The measurement model was assessed to confirm convergent validity and internal reliability of each construct. All standardized factor loadings for the retained indicators exceeded the threshold of 0.50 and were statistically significant at $p < 0.01$ (Table 4). Several indicators—such as ‘adhering to religious rules’ (RBFM3), ‘belief in divine power’ (RBFM4), ‘strong emotional ties within kinship’ (SQ5), and multiple Absolute Poverty items (AP1, AP5, AP7, AP8, AP10, AP11)—were removed from the final model due to low standardized loadings or redundancy identified during confirmatory factor analysis. These adjustments improved the model's convergent validity and internal consistency.

For the Religious-Based Family Management (RBFM) construct, all six indicators demonstrated high loadings (0.79–0.96), with ‘effort in prayer’ and ‘divine observation awareness’ emerging as the strongest contributors. The Composite Reliability ($CR = 0.99$) and Average Variance Extracted ($AVE = 0.99$) values indicated excellent construct reliability and internal coherence.

Tabel 2: Indicator Structure and Measurement Items.

Variable/ Dimension		Indicator	Item
Religious-based Family Management (RBFM) Awareness of divine observation (RBFM2) Adhering to religious rules (RBFM3) Belief in divine power (RBFM4) Patience for divine will (RBFM5) Emphasizing effort in prayer (RBFM6)		Emphasizing effort in prayer (RBFM1)	We consistently strive with earnestness in prayer.
		We feel constantly under God’s observation in all our actions.	
		We adhere to religious rules with discipline.	
		We firmly believe that God’s power will assist us in overcoming every challenge.	
		We remain patient in accepting God’s will, even in times of hardship.	
		We persistently pray and make efforts to improve our lives.	
Silaturahmi Quality (SQ) Consistent sharing of material and non-material resources (SQ2) Joint progress and development in community and family life (SQ3) Proactive care for immediate community and family needs (SQ4) Strong emotional ties and sense of belonging within kinship (SQ5)		Active emotional and practical support (SQ1)	We actively provide emotional support and practical assistance to family members and the community.
		We have a habit of sharing, whether in material forms or other support, especially with neighbors in need.	
		We grow and develop together within our family and community, sharing in both joys and sorrows.	
		We proactively care for the urgent needs of close family and neighbors.	
		We feel a strong emotional bond and a sense of belonging to our extended family, neighbors, and close relatives.	
Absolute Poverty (AP)	Basic Needs for a Decent Living	Adequate and quality food supply (AP1)	We lack sufficient food and drink to meet daily needs.
		Accessible quality health services (AP2)	We are unable to afford medical treatment at health centers due to financial constraints.
		Adequate housing and sanitation facilities (AP5)	We live in inadequate housing with poor sanitation conditions.
		Reliable access to clean water (AP6)	We cannot afford or access clean water for daily necessities.
	Access to Economic and Educational Opportunities	Accessible quality education services (AP3)	We are unable to send our children to high school like others.
		Available employment and business opportunities (AP4)	We struggle to find decent employment that meets societal expectations.
	Security and Ownership	Secure land ownership and control (AP7)	We do not own land, forcing us to live as tenants or rely on others for shelter.
		Strong sense of security (AP9)	We often feel insecure due to a lack of health insurance, savings, or proper housing.
	Sustainability and Social Engagement	Sustainable environmental and natural resource conditions (AP8)	We lack the capacity to preserve the surrounding environment and natural resources.
		Active community participation (AP10)	We are unable to actively participate in government programs or community development activities.
	Family Dependence	Manageable family dependency ratio (AP11)	We have many family members to support, making it difficult to manage our household economy effectively.

Source: adapted from [25,26].

Table 3: Assessment of Normality (Skewness and Kurtosis).

Variable	Min	Max	Skew	c.r.	Kurtosis	c.r.
AP2	1.000	4.000	-0.710	-5.225	0.547	2.012
AP3	1.000	4.000	-0.178	-1.309	-0.241	-0.887
RBFM1	1.000	4.000	0.050	0.369	1.359	5.002
RBFM2	1.000	4.000	0.113	0.832	0.235	0.866
RBFM5	1.000	5.000	0.041	0.298	0.347	1.276
RBFM6	1.000	5.000	-0.017	-0.122	0.431	1.587
SQ4	1.000	4.000	-0.594	-4.368	0.309	1.139
AP9	1.000	4.000	0.492	3.624	-0.405	-1.491
AP6	1.000	4.000	-0.141	-1.040	-0.611	-2.250
AP4	1.000	4.000	0.253	1.859	-1.263	-4.524
SQ3	1.000	5.000	-0.458	-3.350	0.142	0.522
SQ1	1.000	4.000	0.737	5.367	-0.582	-2.141
SQ2	1.000	4.000	0.320	2.357	0.243	0.895
Multivariate					52.094	23.778

Silaturahmi Quality (SQ), operationalized as a mediating latent variable, also met the model's validity thresholds. Indicators such as 'active emotional and practical support' and 'reciprocal care' demonstrated loading values above 0.90 and were statistically significant at $p < 0.01$. The construct yielded a CR of 1.00 and AVE of 0.99, signifying high reliability for this newly integrated relational governance variable.

The Absolute Poverty (AP) construct was validated through grouped multidimensional indicators. Key retained items included 'access to quality education' (loading = 0.90) and 'clean water availability' (loading = 0.96), reflecting the multidimensionality of AP across infrastructure, opportunity, and household security domains.

4.3 Structural Model Assessment and Fit Indices

Following the refinement of the measurement model through the removal of low-loading and redundant indicators, the structural model demonstrated excellent empirical fit based on standard SEM fit metrics. The model yielded a Chi-square value of 89.59 ($df = 62$, $p = 0.01$), with a CMIN/df ratio of 1.44, which falls well below the recommended cutoff of 3.00 [69]. Additional fit indices supported this conclusion (Table 5):

- GFI = 0.96, CFI = 0.99, TLI = 0.99, NFI = 0.98, and RMSEA = 0.04, all indicating excellent model-data correspondence [70,71].
- Parsimony-based indices also supported model adequacy: PNFI = 0.78, PGFI = 0.65.

4.4 Structural Path Relationships

Figure 2 depicts the path model and standardized estimates. The results confirm strong theoretical alignment with hypothesized relational pathways:

- RBFM \rightarrow AP: Significant negative effect ($\beta = -0.52$, CR = -9.39), supporting the argument that value-based governance directly reduces poverty risk.
- RBFM \rightarrow SQ: Strong positive effect ($\beta = 0.59$, CR = 11.50), indicating that religious discipline fosters higher-quality social relations.
- SQ \rightarrow AP: Significant negative influence ($\beta = -0.28$, CR = -5.24), suggesting that cohesive social networks act as informal support systems in mitigating deprivation.

These findings collectively validate the social feasibility pathway proposed in the conceptual model, in which institutional values and relational mechanisms jointly enhance household resilience.

4.5 Mediation Analysis

To further evaluate the hypothesized mediating role of SQ, a bootstrap estimation was conducted using two-tailed significance testing. Results, summarized in Table 6, confirm that the indirect pathway from RBFM to AP via SQ was statistically significant ($p < 0.001$). This provides empirical evidence for the relational mediation mechanism, indicating that the impact of value-based family governance on poverty alleviation is partially

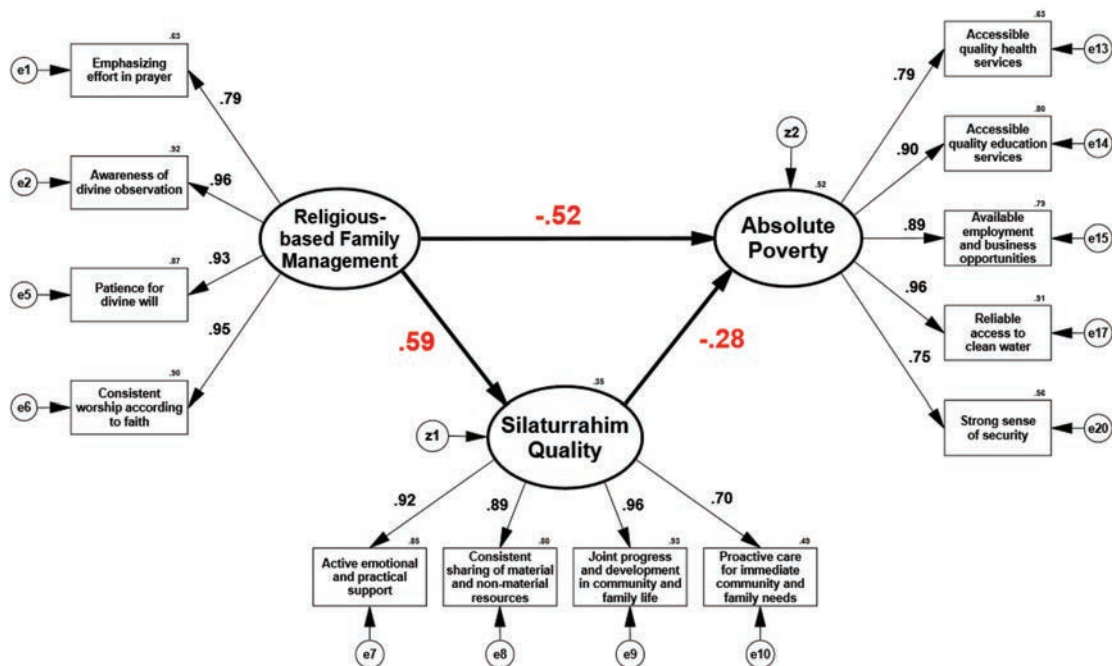
Table 4: Construct Loadings, CR, and AVE Values.

Variables/ Dimensions	Items	Standardized Estimate	Estimate Error	Critical Ratio	P-Value	Construct Reliability	Reliability Average Variance Extracted
Religious-based Family Management (RBFM)	Emphasizing effort in prayer (RBFM1)	0.79	0.74	20.48	***	1.00	0.99
	Awareness of divine observation (RBFM2)	0.96	1.01	34.86	***		
	Adhering to religious rules (RBFM3)	deleted item					
<i>Silaturahmi Quality (SQ)</i>	Belief in divine power (RBFM4)	deleted item					
	Patience for divine will (RBFM5)	0.93	1.00				
	Emphasizing effort in prayer (RBFM6)	0.95	1.03	34.02	***		
	Active emotional and practical support	0.92	1.11	26.53	***	1.00	0.99
	Consistent sharing of material and non-material resources	0.89	1.00				
	Joint progress and development in community and family life	0.96	1.20	29.42	***		
Absolute Poverty (AP)	Proactive care for immediate community and family needs	0.70	0.63	15.54	***		
	Strong emotional ties and sense of belonging within kinship	deleted item					
	Adequate and quality food supply (AP1)	deleted item				1.00	0.99
	Accessible quality health services (AP2)	0.79	0.72	18.97	***		
	Adequate housing and sanitation facilities (AP5)	deleted item					
Access to Economic and Educational Opportunities	Reliable access to clean water (AP6)	0.96	1.21	28.60	***		
	Accessible quality education services (AP3)	0.90	1.01	24.44	***		
	Available employment and business opportunities (AP4)	0.89	1.00				
	Secure land ownership and control (AP7)	deleted item					
Security and Ownership	Strong sense of security (AP9)	0.75	0.67	17.20	***		
	Sustainable environmental and natural resource conditions (AP8)	deleted item					
	Active community participation (AP10)	deleted item					
Sustainability and Social Engagement	Manageable family dependency ratio (AP11)	deleted item					

Note: *** (Significant at Level $p < 0.01$)

Table 5: Model Fit Indices.

Model Fit Testing	Cutoff Points	Result	Remark
1. Absolute Fit Indices:			
Chi-Square	df = 62; $\chi^2 = 81.38$	89.59	Marginal
Significance	≥ 0.05 [72]	0.01	Marginal
CMIN/df	≤ 3.00 (even < 5.00) [69]	1.44	Fit
GFI	≥ 0.90 [71]	0.96	Fit
RMSEA	0.03 - 0.08 [70]	0.04	Fit
2. Incremental Fit Indices:			
AGFI	≥ 0.90 [71]	0.94	Fit
TLI	≥ 0.90 [70]	0.99	Fit
NFI	≥ 0.90 [69]	0.98	Fit
CFI	≥ 0.90 [72]	0.99	Fit
3. Parsimony Fit Indices:			
PNFI	> 0.50 [69]	0.78	Fit
PGFI	> 0.50 [69]	0.65	Fit



Goodness of Fit:
 1. Absolute Fit Indices: df = 62; Chi-Sq = 89.59; Prob. = .01; CMIN/df = 1.44; GFI = .96; RMSEA = .04
 2. Incremental Fit Indices: AGFI = .94; TLI = .99; NFI = .98; CFI = .99
 3. Parsimony Fit Indices: PNFI = .78; PGFI = .65

Figure 2: Structural model with standardized path coefficients.

Table 6: Hypothesis Testing.

Hypothesis	Standardized estimate	Estimate	Standard Error	Critical Ratio	P-Value	Result
H1: Religious-based Family Management (RBFM) → <i>Silaturahmi</i> Quality (SQ)	0.59	0.63	0.05	11.50	***	Accepted
H2: Religious-based Family Management (RBFM) → Absolute Poverty (AP)	−0.52	−0.58	0.06	−9.39	***	Accepted
H3: <i>Silaturahmi</i> Quality (SQ) → Absolute Poverty (AP)	−0.28	−0.30	0.06	−5.24	***	Accepted
H4: Religious-based Family Management (RBFM) → <i>Silaturahmi</i> Quality (SQ) → Absolute Poverty (AP)	−0.17	estimates/bootstrap (two tailed significance-BC)			0.00	Accepted

Note: *** (Significant at Level $p < 0.01$)

transmitted through improved kinship-based support structures.

All four hypotheses (H1–H4) were supported, reinforcing the validity of the relational-governance model as a viable framework for understanding poverty reduction within localized institutional contexts.

5. Discussion

5.1 Interpretation of Key Findings

Results of this study prove the principal role of religiously guided family management in promoting behavioral norms and community support, which in turn enhance mechanisms of resilience at the familial level. Positive effects of RBFM on *silaturahmi* quality support the perspective that spiritual values can enhance mutual care, shared responsibility, and social exchange during economic stress [22–24]. This view is congruent with the social exchange framework describing that the obligations to which members are tied are reinforced when members share faith-based norms [27,31,34]. Recent evidence also suggests that behavioral norms informed by religious or spiritual identity—especially among Muslim households—can enhance economic planning, encourage consumption discipline, and foster energy-resilient attitudes, particularly when combined with financial literacy and environmental values [5,6].

Moreover, the strong negative link between RBFM and absolute poverty (AP) reflects that religiously motivated behaviors in a way to economic rationality, control over consumption, and building non-market safety nets by reducing multidimensional disadvantages [25,40,49].

This finding upgrade former models [25,26] by introducing *silaturahmi* qualities as mediating constructs which transform religious values into concrete, relational, and sustainable economic activities.

In particular, the linking mechanism of social quality (SQ) further supports the standpoint that the relational asset from shared spiritual values can act as a cushion against risks and insecurity and encourage informal channels for energy efficacy, the sharing of resources, and knowledge transfer in low-income contexts [16,18,38,73]. These results also speak to the wider literature on behavioral traps in poverty and the function of adaptive informal institutions in household energy sustainability [43,45,50].

The focus of this study on the spiritual and community aspects of household decision-making, brings to the fore an understanding of energy resilience from a socio-behavioral point of view, and is in line with recent imperatives of including social capital and value-based practices in sustainable energy planning [17,21]. Therefore, our model not only is specific to the culture but at the same time introduces a conceptual approach that can be applied for promoting resilience and sustainability in marginalized communities.

Additionally, studies on secular energy governance also support that community-level peer influence and cognitive awareness are equally crucial for sustainable household energy transitions, suggesting that similar behavioral levers may operate even in non-faith-based or policy-driven settings [15,74]. Although RBFM and SQ are rooted in religious family values, the broader pattern of informal household coordination in energy

and resource use is also visible in secular or culturally neutral settings. For example, non-religious community-based structures have demonstrated comparable outcomes in promoting sustainable household energy behaviors through peer learning, mutual aid, and normative pressure [17,21].

5.2 Theoretical and Practical Contributions

This research is essential for both theory and practice in assisting the reduction of poverty and the resilience of household energy from a socio-behavioral and religious perspective.

In theory, the present study has attempted to extend the theory of planned behavior by including religious values and relational norms as contextual determinants of behavioral control and normative influence on household decision-making [27]. This is very different from conventional models which accent formal incentives or infrastructure. The study found how the management of the household under religious guidance mediates internal disciplinary forces and constraints based on value, therefore moderating impulsive consumption and promoting long-term economic planning [22,24].

This study further enhances the insight into the functioning of the social capital theory by revealing the fact how *Silaturahmi* quality SQ operates as an informal spiritual relational capital that leads to adaptive economic behavior and collective resilience [17,75,76]. The addition of SQ as a mediator contributes methodologically by explaining the precise channels through which religious values work into measurably economic outcomes.

The model practically suggests new policy avenues in energy poverty and livelihood support, especially in low-income, faith-based communities. Policymakers and development actors may consider integrating community faith systems and relational networks in household energy planning, behavior-change campaigns, and social protection programs [20,21]. These insights are especially relevant for regions where formal institutions are weak and informal norms dominate economic life.

Furthermore, development practitioners working on energy resilience or poverty reduction could benefit from this research by promoting culturally embedded, non-technocratic interventions such as strengthening households' financial literacy, redistributing zakat among communities, and peer mentoring programs based on shared values and trust.

5.3 Methodological Limitations and Future Research

This study, while offering novel insights into faith-based household resilience and energy-related poverty reduction, is subject to several limitations that should be addressed in future research.

First, the cross-sectional design constrains our ability to infer causality. Although the hypothesized model aligns with existing theory and empirical patterns, longitudinal data would allow more robust examination of the dynamic interplay between religious-based governance, relational quality, and poverty outcomes over time [77].

Second, while the study employed a large sample ($N = 325$) across low-income religious households in South Sulawesi, the findings may not be generalizable to other religious or geographic contexts. Future research should expand the framework to include diverse cultural-religious settings—such as Christian, Hindu, or animist communities—to explore the universality or specificity of the RBFM–SQ–AP model [23].

Third, the measurement of constructs such as *silaturahmi* quality and religious-based family management relied on self-reported Likert-scale data. While grounded in theory, these constructs may benefit from triangulation using observational, ethnographic, or network-based methods to capture relational dynamics more deeply [17,78].

Fourth, while this study contributes to the socio-behavioral understanding of household energy poverty, it does not directly integrate energy usage metrics such as expenditure, appliance ownership, or access to renewable sources (see also [16,19]). Integrating technical energy data into this behavioral framework would allow a more holistic assessment of household resilience in future studies [20,21].

Finally, future research could expand the current model by including mediators such as financial literacy, religious fatalism, or community governance structures to better understand the psychological and institutional mechanisms that underlie poverty traps and resilience among low-income families.

6. Conclusions

This study highlights the pivotal role of religiously embedded family management and relational capital in reducing absolute poverty and strengthening household energy resilience in low-income contexts. By integrating religious values into the theory of planned behavior and social capital theory, the research offers a culturally

grounded framework for understanding how informal norms and trust-based networks influence economic behavior under constraints.

The findings demonstrate that relational qualities, such as *silaturahmi*, act as a critical mediator translating spiritual values into adaptive economic actions, fostering resource sharing, and enhancing collective resilience. These insights contribute to energy poverty discourse by shifting the focus from purely technical interventions to socio-behavioral strategies that leverage existing community structures.

For policymakers and development practitioners, the results suggest the importance of incorporating value-based and community-driven approaches into sustainable energy planning and poverty reduction initiatives, especially in regions where formal institutions are weak. Future research should test this framework across diverse cultural and religious settings, integrate technical energy-use metrics, and explore additional mediators such as financial literacy and community governance to broaden its applicability.

Author Disclosure Statement

This study draws upon previous models developed and published in Sustainability and Economies. The current manuscript introduces a new construct (*silaturahmi* quality), applies a different theoretical perspective (Social Exchange Theory), and reinterprets the model through additional mediating analysis. All data re-use is acknowledged, and appropriate references are provided.

Ethics Declaration

This study did not involve any experiments with human or animal subjects requiring formal ethical approval. All respondents participated voluntarily and anonymously in accordance with ethical standards for social science research.

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