

Factors Affecting the Family Needs of Families of Children with Down Syndrome: A Predictive Study

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ABSTRACT:

Background: Families who have children with Down syndrome face different requirements because social and demographic elements affect their actual needs through the specific type of social support that they perceive.

Objective: The study investigated which factors predicted family requirements and how selected socio-demographic variables affected this relationship through their mediating role.

Methods: The study used a quantitative cross-sectional design which involved 155 primary caregivers who looked after children with Down syndrome. The researchers used convenience sampling to reach their participants through caregiver networks and online platforms. collected data remotely by using a structured questionnaire which they distributed through Google Forms after the participants had given their electronic informed consent. used multiple linear regression and mediation analysis and structural equation modeling (SEM) to analyze the data which showed both direct and indirect connections between the variables.

Results: The multiple regression analysis showed that only perceived social support could predict family needs through statistical analysis because it led to a strong positive effect with its value of $\beta = 0.879$ and p value below .001. The study found that all other variables including employment child age type services family size economic level and educational level did not have any statistically significant results because their p values exceeded .05. The support from a significant other displayed a trend which approached statistical significance with a value of β equal to -0.253 and a p value of 0.053. The model achieved statistical significance through its F(9 108) value of 9.154 and p value below .001 while it explained 43.3 percent of the variance with an R^2 value of 0.433 and moderate explanatory power. Mediation analysis showed a significant direct effect with p value below .001 for the analysis results while the analysis found no indirect effect because of the p value of 0.935 thus proving that mediation did not occur. Structural

COPYRIGHT STATEMENT: Copyright: © 2026 Authors. Open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).	equation modeling results supported these findings because they proved that direct relationships remained dominant with only minimal indirect pathways existing between the variables. Conclusion: Perceived social support is the dominant determinant of family needs, while socio-demographic variables contribute minimally Keywords: Social support, Down syndrome, family needs, multiple regression, structural equation modeling, mediation.
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1. INTRODUCTION

Families who have children diagnosed with Down syndrome (DS) face a range of difficulties which require assistance across three different areas which include supplying information and delivering emotional support and providing essential services. (Zhang et al., 2025). Down syndrome is one of the most widely occurring chromosomal disorders which affects around 1 out of every 700 infants born alive worldwide according to the Centers for Disease Control and Prevention (CDC) updated data from 2023 (Pelz et al., 2025). Research shows that between 60 to 80 percent of families who have children with developmental disabilities experience unmet requirements which especially arise from needs related to service delivery and information access and emotional assistance (Bailey & Simeonsson, 1990; Sloper & Beresford, 2006). The research shows that parents who have children with DS experience much higher levels of stress than other parents because they need to take care of their child which affects between 40 to 70 percent of parents depending on their situation (Eisenhower et al., 2005).

Families with Down syndrome children face complex needs which encompass psychological, social, economic and service requirements. One in 700 live babies have Down syndrome (Control & Prevention, 2020) highlighting the hardships affected families confront. Families experience unmet needs which range from 60% to 80% with particular shortages in services and information and psychological support (Bailey & Simeonsson, 1990; Sloper & Beresford, 2006). Research shows that 40% to 70% of parents experience stress because of their caregiving responsibilities and financial difficulties (Eisenhower et al., 2005; Guralnick, 2002). Social

support which people perceive functions as main influence on family adaptability and family happiness. Research shows that proper support can decrease caregiver stress by 30% to 50% while enhancing their ability to cope with stress (Cohen & Wills, 1985; Hsiao, 2014). Although sociodemographic factors which include educational level and income and family size take part in family life educational level brings higher influence on family functioning. The shortage of proper services affects 10% to 25% of families which creates new unmet needs (Murphy et al., 2007). Researchers need to study how socio-demographic and psychological factors influence their research of Down syndrome family requirements.

Families who have children with special needs experience stressful situations which depend on their ability to get social support from their surroundings. People who perceive support at higher levels experience reduced stress which decreases between 30 percent to 50 percent while their coping abilities and psychological adjustment show marked improvement (Cohen & Wills, 1985; Hsiao, 2014; Zimet et al., 1990). Families who belong to low socioeconomic status groups and lack educational resources face higher chances of experiencing unmet requirements because they struggle to get necessary support services (Parchomiuk & Kirenko, 2020). Studies show that 10 to 25 percent of families fail to obtain necessary services which creates an additional burden for these families who already face service accessibility issues (Murphy et al., 2007). Most studies have shown that socio-demographic factors which include educational attainment and economic background and household size fail to explain results consistently because these variables only

explain a small part of the outcome variance while psychosocial variables explain more (Esan et al., 2004; Koukouli et al., 2002; Mohd Talmizi et al., 2021). The necessity for integrated predictive models has increased because these models need to study both structural and psychosocial factors which affect family requirements. The study examines how perceived social support functions together with demographic variables to predict family requirements of families who have children with Down syndrome through an extensive analytic approach (Kreijns et al., 2013; Liu et al., 2023; O'Connor, 2002). The understanding of family requirements depends on crucial access to service delivery. Families receive support through educational services and medical services and psychological services and social support services which together enhance child development.

Research has established that people who face challenges accessing services experience more unmet requirements and greater caregiver burden (Murphy et al., 2007; Theng et al., 2023). The successful delivery of services depends on their service quality and service accessibility and their ability to meet actual family needs. The present study aimed to investigate whether socio-demographic factors function as mediators of the connection between social support and family needs. Mediation models predict that social support functions as an independent variable whose effects get transmitted through educational and economic status as intermediary variables (Chetia et al., 2025; Li et al., 2025; Sheikh & Khan, 2025).

Families raising a child with Down syndrome require more support than what their diagnosis provides. Child development and behavioral problems together with parental educational background and family income and social support and access to organized healthcare services all shape the requirements that these families face (Hsiao, 2014; Skelton et al., 2021). The requirements of the situation need to be understood because they exist as permanent entities which undergo transformations over different periods of time and with varying levels of family obligations and available resources. Research shows that family obligations which reach their peak level together

with limited support resources will result in increased chances of unmet needs while social support and family function and early treatment will create better outcomes for families (Van Riper et al., 2023; Van Riper et al., 2024). The literature shows that eight particular variables should be studied because they serve as the most effective predictive tools for assessing child development. The research demonstrates that early intervention together with care coordination results in better family outcomes which emphasizes the importance of discovering family needs predictors for families with children who have Down syndrome (Skelton et al., 2021; Sophia, 2025).

The research from Alrayes et al. (2026) examined the maternal experiences after Down syndrome diagnosis in Saudi Arabia. The study included a sample of 161 mothers and adopted a quantitative descriptive design. The study showed that mothers experienced extreme psychological stress during the period immediately following their child's diagnosis because they did not have information to resolve their feelings of uncertainty. The study discovered that social support from family members and spouses led to lower emotional distress levels, which showed how critical social support functions for family members who need to adjust to life changes.

Lee et al. (2021) studied 120 families with Down syndrome children in Saudi Arabia to measure their quality of life and their families' well-being. The study used a cross-sectional design to show that families with greater social and environmental support achieved superior psychological and social results while their service restrictions created additional family responsibilities and left their needs unfulfilled. The research by Alanazi et al. (2025) studied the financial burden and healthcare access challenges faced by Saudi Arabian families who have children with Down syndrome through research with 220 families. The study found that economic challenges and unfair healthcare access created major obstacles for families who lived in remote regions to access essential services. The study showed that structural barriers need to be combined with psychosocial support systems to achieve success in their intended results. Zhang et al. (2024) studied the stress and coping methods

used by 180 caregivers who take care of children with developmental disabilities like Down syndrome. The research found that caregivers faced high stress levels because of their ongoing caregiving responsibilities. Caregivers who received social support showed improved coping abilities which resulted in lower stress levels according to the study.

Marković et al. (2025) conducted a study in Serbia with 95 families who have children with Down syndrome to research how families adjust and how parents see their situation. The research found that 65–70% of families showed positive adaptation when they received adequate social support and services to help them. The study established that family resilience depends on the availability of support systems more than demographic characteristics which only provide partial explanation.

family Needs in the Context of Down Syndrome

Families who care for children with Down syndrome (DS) face numerous requirements that go beyond their regular duties of providing care. The family requirements according to experts need particular resources and help services which help families achieve their goal of maintaining stability and improving their well-being (Bailey & Simeonsson, 1990). Family needs require multiple assessment approaches because they include requirements for information and emotional support and financial assistance and service delivery to family members (Noroozi et al., 2024; Zhang et al., 2025).

Study's findings demonstrate that families who have children with Down syndrome (DS) face more unmet requirements than families who have typically developing children especially when they need services and understanding medical information about their child and face regular caregiving responsibilities (Chawla et al., 2023; Cuskelly, 2016). The requirements of the family members will change because the development of their child progresses and their family situation alters. The Family Needs Survey (FNS) categorizes family needs into various domains which include information requirements and social and family

support and financial requirements and explaining the child's condition to others and child care and professional support and community services (Bailey & Simeonsson, 1990; Bodde et al., 2025). The complex family situations need to be assessed with a particular method which requires multiple assessment approaches because family needs assessment needs to consider all family requirements.

Perceived Social Support

The definition of perceived social support describes how people assess their ability to receive sufficient assistance from their social network which includes family and friends and special relationships according to (Zimet et al., 1990). The resource functions as an essential psychological asset which affects how people handle their stress response and their ability to deal with difficult life situations. The Multidimensional Scale of Perceived Social Support (MSPSS) identifies three primary sources of support: family, friends, and significant others. The different sources of support create three types of support which include emotional support and informational support and instrumental support to help caregivers reduce their workload while improving their mental health according to Zimet et al. 1988 and Cohen and Wills 1985. The study discovered that social support perception led to decreased stress levels which resulted in better family dynamics and improved coping mechanisms for families who have children with DS according to (Hsiao, 2014). The hypothesis states that social support functions as a stress buffer because it gives people the tools, they need to handle difficult times according to (Cohen & Wills, 1985).

Socio-Demographic Variables and Family Needs

The examination of family needs requires analysis of both psychosocial factors and socio-demographic variables which include educational level and economic status and family size and child birth order and type of disability and service access. The different variables lead to family functioning changes because they determine which resources and opportunities families can obtain. Educational level enables parents to better understand

information and navigate support systems and economic status determines which financial resources parents can use for their child care and child service needs (Parchomiuk & Kirenko, 2024). Families experience increased caregiving requirements when their family size grows and their children achieve higher birth order (Hedov et al., 2002). The socio-demographic variables which were expected to affect family needs showed no statistical impact because their p-value exceeded .05 (Pandey et al., 2012). The study's results support earlier research by demonstrating that structural variables cannot completely account for family experiences because psychosocial factors also affect family dynamics (Azmoode et al., 2017; Skelton et al., 2021).

The existing research on families who have children with Down syndrome has expanded through new studies which created descriptive family needs assessments while studying family stress levels and their ability to access services and receive social support. The research results about socio-demographic factors show inconsistency because studies either fail to demonstrate their impact or provide uncertain results about their influence. Research needs to establish a framework which combines predictive modeling with systematized analysis to investigate how social support affects family requirements. The research studies have neglected to investigate how socio-demographic elements function as mediators in this specific relationship. The research study uses a predictive framework to determine which social support and socio-demographic factors choose between their family requirements of Down syndrome families.

The study extends the existing knowledge about Down syndrome families through its multiple research contributions. The research uses a predictive framework which combines socio-demographic data and psychological information into one model for its analysis instead of using descriptive methods. The study demonstrates that families need social support more than any other requirement while socio-demographic factors explain only a small portion of their needs according to research findings which previously showed inconsistent results. The research uses multiple regression and mediation analysis together with

structural equation modeling (SEM) to study all direct and indirect relationships between its variables. Social support research demonstrates that it directly affects people without needing any intermediary mechanisms for its impact. The research findings present contextual details which will enable development of precise treatments and support programs while showing that Down syndrome families require more social support systems to meet their needs.

2. METHODS

2.1. STUDY DESIGN

Through quantitative cross-sectional research this study investigated family needs predictors for families with Down syndrome children while testing how selected socio-demographic factors would affect those relationships. Researchers used a predictive and analytical approach to study how perceived social support affects family needs through direct and indirect relationships. Researchers collected data through structured measures from a sample of 155 families who have children with Down syndrome. The study used multiple linear regression analysis to find major family needs predictors before testing mediation effects which family size and educational level and economic level and significant other support would create. The researchers conducted structural equation modeling (SEM) to validate the complete model and test the reliability of direct and indirect pathways. The design enabled researchers to study how different social support sources and socio-demographic factors affect family needs through their respective contributions to family needs.

2.2. Participants

The sample for this research included 155 primary caregivers who looked after children with Down syndrome, which included both mothers and fathers as participants. Non-probability convenience sampling, which involved contacting relevant community networks and support groups and online platforms for families of children with Down syndrome, was used to recruit the participants. Remote data collection was performed through an online questionnaire that used Google Forms as its platform. The survey link was distributed

electronically through social media channels and caregiver networks, allowing participants to complete the questionnaire at their convenience. The researchers established particular inclusion standards to confirm that the sample was suitable for their study. Participants needed to fulfill three requirements: (a) they must be a parent or primary caregiver of a child diagnosed with Down syndrome, (b) they must directly take care of the child, and (c) they must understand the questionnaire items.

The survey process began with participants receiving an electronic informed consent form which they needed to sign before proceeding. The study purpose plus all study details were explained to participants who also received information about their voluntary rights to enter the study and exit at

any point. The study provided participants with guarantees that their answers would remain confidential and anonymous while researchers would only use study data for scientific purposes. Participants had to give their consent before they could continue with the questionnaire. Researchers conducted response screening to maintain data quality before they started their analysis. The study eliminated respondents who submitted incomplete questionnaires as well as those who did not satisfy the established inclusion criteria. The researchers eliminated any answer patterns that indicated participants answered the questions without care, which included both straight-lining and inconsistent response patterns. The research team used these procedures to create a dataset that showed improved validity and reliability when they finished their study.

Table 1: Sample Distribution According to Demographic Variables (n = 155)

Variable	Category	Frequency (n)	Percentage (%)
Educational Level	Secondary	61	39.4
	Bachelor's	63	40.6
	Graduate Studies	31	20.0
Economic Level	1–5	36	23.2
	6–10	104	67.1
	>10	15	9.7
Child's Birth Order	First–Second	7	4.5
	Third–Fourth	61	39.4
	Fifth or later	87	56.1
Type of Disability	Type 1	28	18.1
	Type 2	99	63.9
	Type 3	28	18.1
Type of Service	Psychological/Social	29	18.7
	Educational	73	47.1
	Medical	36	23.2
	No Services	17	11.0

The research findings presented in Table X showed that most participants had a bachelor degree 40.6 percent and secondary education 39.4 percent, while 20.0 percent had completed graduate studies. The population distribution showed that most people belonged to the moderate economic group 67.1 percent, while the lower economic group contained 23.2 percent and the higher economic group had 9.7 percent of people. More than half of the children studied were born as fifth or later children's 56.1 percent, while their third to fourth

born siblings comprised 39.4 percent and first to second born siblings made up 4.5 percent. The majority of cases fell under Type 2 disability category 63.9 percent, while Types 1 and 3 each made up 18.1 percent of cases. The distribution of services showed that educational services represented 47.1 percent of cases, while medical services accounted for 23.2 percent and psychological/social services made up 18.7 percent, with 11.0 percent of people not receiving any services.

2.3. Ethical Considerations

The research process of this study followed all ethical requirements which apply to studies that involve human subjects. The research team provided participants with a detailed description of the study objectives and procedures which included information about their responsibilities in the research work before they started data collection. The online questionnaire began with an electronic informed consent form presentation. Participants needed to provide their voluntary agreement confirmation before they could continue. The researchers informed participants that they had the right to choose whether to take part in the study and could leave the research whenever they wanted without facing any negative results. Researchers maintained complete confidentiality while protecting the anonymity of study participants. The study collected data through anonymous methods which prevented the identification of any individual respondents. Researchers used the collected data exclusively for scientific research purposes while they protected the data through secure storage methods which blocked all unauthorized access. The study maintained its ethical standards by respecting people's rights while protecting their privacy and handling their data during the entire process of data collection and analysis.

2.4. MEASUREMENT

The research needed to include specific socio-demographic factors which were educational level and economic level and family size and child birth order and disability type and service type, The research team used two standardized measurement tools for their assessment of family needs together with their evaluation of social support received.

The Family Needs Survey (FNS) developed by **Bailey and Simonson (1990)** serves as the assessment tool to determine the requirements of families with disabled children. The scale consists of a series of items covering multiple domains, including information needs, family and social support, financial needs, explaining to others, child care, professional support, and community services. The instrument includes approximately 35 items distributed across seven domains, with responses

typically rated on a three-point scale (Yes, Not Sure, No), reflecting the extent to which families express each need. Families who receive more resources show their needs at a higher level.

The first test of FNS demonstrated satisfactory internal consistency which showed Cronbach's alpha coefficients above 0.80 for both the complete scale and its individual subdomains. The present study confirmed internal consistency reliability through testing which produced a Cronbach's alpha coefficient of 0.89 for the complete scale, demonstrating high reliability. The instrument proved effective for assessing family needs within the target population according to these findings.

To achieve the study's objectives, the Multidimensional Scale of Perceived Social Support (MSPSS), developed by **Zimet, Dahlem, Zimet, and Farley (1988)** to determine how people perceive their social support system. The scale consists of 12 items divided into three subscales representing sources of support: family, friends, and significant others. The survey uses a 7-point Likert scale which ranges from strongly disagree (1) to strongly agree (7), where higher scores show greater perceived social support.

The MSPSS demonstrates strong reliability because its internal consistency testing results show Cronbach's alpha coefficients which fall between 0.85 and 0.95 according to past research. The current study achieved an overall reliability coefficient of 0.91 which demonstrates exceptional internal consistency. The subscale reliability results confirmed that the scale dimensions maintained their stability because they fell within acceptable limits.

2.5. TRANSLATION OF STUDY MEASURES

The study instruments required initial development in English before their Arabic translation through standard forward-backward translation procedure which built linguistic and conceptual equivalence. The original English version was translated into Arabic by a bilingual expert who worked on psychological and social research. The second independent bilingual translator performed the back-translation into English after she received no

information about the original version. The back-translated version was then compared with the original instrument to identify and resolve any discrepancies. The experts in the field evaluated the translated version to establish its content validity and cultural suitability. The team made small adjustments to the content which improved its understanding and important message delivery. The research team ran a pilot test with a small group of people to evaluate how well participants understood the test items. The research found that the translated measures presented clear content which was appropriate for use in the target population.

2.6. STATISTICAL ANALYSIS

The researchers employed SPSS statistical software (version XX) together with AMOS to conduct their structural equation modeling analysis. The researchers used descriptive statistics to calculate frequencies and percentages in order to describe the socio-demographic characteristics of the sample. began their analysis process after they had completed data screening which included checking data accuracy and identifying missing data and outlier cases. The researchers examined the data for normal distribution and linear relationship and consistent variance and multiple variable interdependence and found that all three conditions

were satisfied. Multiple linear regression analysis was used to identify the primary factors which determine family needs. The researchers presented their findings through standardized regression coefficients (β) together with t-values and their respective significance levels. conducted mediation analysis to identify how family size and educational level and economic level and support from a significant other effect the link between perceived social support and family needs. The researchers calculated direct and indirect and total effects and assessed their statistical significance.

The researchers used structural equation modeling (SEM) to evaluate the complete model structure and to test whether direct and indirect relationships between variables followed consistent patterns throughout the study. The model interpretation process analyzed how strong path coefficients and their significance levels determined the model's outcome. All statistical analysis work established p value thresholds of $p < .05$ as the standard for determining statistical significance.

3. RESULTS

3.1.strongest predictors of family needs among families of children with Down syndrome based on standardized regression coefficients (Beta).

Table (1): Regression Coefficients for Predicting Family Needs

Variable	B	SE	Beta	t	p
Social Support (Scale)	1.910	0.302	0.879	6.336	< .001
Employment	- 5.774	3.922	- 0.120	- 1.472	0.144
Child Age	0.656	3.157	0.017	0.208	0.836
Type	1.384	2.885	0.036	0.480	0.632
Services	- 0.098	1.924	- 0.004	- 0.051	0.960
Significant Other	- 1.469	0.752	- 0.253	- 1.953	0.053
Family Size (Number)	2.048	2.481	0.067	0.826	0.411
Economic Level	- 2.919	3.415	- 0.068	- 0.855	0.394
Education Level	0.033	2.561	0.001	0.013	0.990

The study used multiple linear regression analysis to find which factors most effectively predicted family requirements of families who have children with Down syndrome. The study found that perceived social support served as the only measurement which showed a statistically significant result ($\beta = 0.879$, $p < .001$) because it demonstrated a strong positive effect. The study found that all variables except employment child age type services family size economic level and educational level failed to show any statistically significant results ($p > .05$). The study showed that support from a significant

other demonstrated a trend which approached statistical importance ($\beta = -0.253$, $p = 0.053$). The study results proved that perceived social support functioned as the main factor which determined family requirements while the other studied variables showed no important impact on the target model.

3.2. variance in family needs is explained by the overall predictive model (R^2), and how well does the model fit the data

Table (2): Model Summary and ANOVA for the Regression Model

Model	R	R^2	Adjusted R^2	RMSE
M ₁	0.658	0.433	0.385	18.112

ANOVA					
Source	Sum of Squares	df	Mean Square	F	p
Regression	27024.950	9	3002.772	9.154	< .001
Residual	35428.542	108	328.042		
Total	62453.492	117			

The regression model showed statistical significance through its F value of 9.154 with 9 numerator degrees of freedom and 108 denominator degrees of freedom and its p value which was less than .001. The model showed moderate explanatory power by explaining 43.3% of family needs variance through its R^2 value of 0.433 and adjusted R^2 value of 0.385. The model stability is shown by the small difference between R^2 and adjusted R^2 which demonstrates that overfitting does not significantly impact model performance.

3.3. Do family size, educational level, economic level, and support from a significant other mediate the relationship between perceived social support and family needs among families of children with Down syndrome?

Effect Type	Estimate	SE	z	p
Direct Effect	1.363	0.171	7.962	< .001
Total Effect	1.357	0.156	8.676	< .001

Total	-0.006	0.076	-	0.935
Indirect				0.081

The mediation analysis tested how family size and educational level and economic level and partner support capabilities function as mediating factors which affect the connection between social support perception and family requirements. The direct effect of perceived social support on family needs was statistically significant (Estimate = 1.363, SE = 0.171, $p < .001$), and the total effect was also significant (Estimate = 1.357, SE = 0.156, $p < .001$). The total indirect effect did not reach statistical significance (Estimate = -0.006, SE = 0.076, $p = 0.935$), which demonstrates that the proposed mediators lack power to explain the relationship. The results demonstrate that perceived social support directly affects family needs as the main path of its impact.

The researchers applied structural equation modeling to investigate how the study variables interacted with each other. The findings

demonstrate that people who receive social support from others experience improved capacity to address their family's requirements. Despite some mediator paths showing large connections to family needs the regression results proved these connections did not reach statistical significance thus requiring careful interpretation. The paths from perceived social support to the mediators show

negligible strength which demonstrates that the indirect connections between these variables are weak. The mediation analysis showed no indirect effects which confirms the study results. The SEM analysis shows that perceived social support serves as the main factor predicting family needs while mediation evidence remains weak.

Figure (X): Path Model of the Mediation Analysis

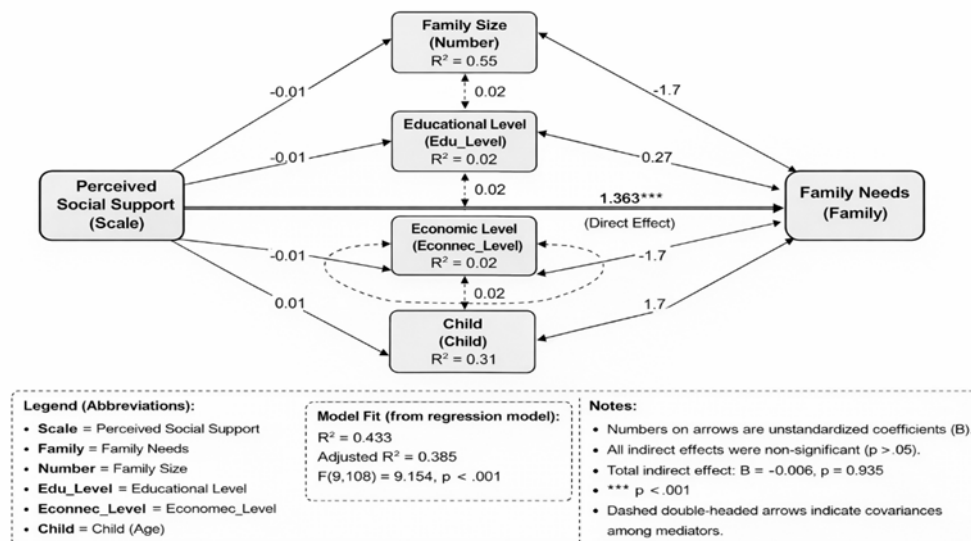


Figure 1. Structural equation model of socio-demographic determinants of family outcomes.

The model displays standardized path coefficients which connect the exogenous variable *Sco* to the mediating variables *nmb*, *ed_*, *ec_*, *chl* and their resulting impacts on the dependent variable *Fml*. The results show that *nmb* produces strong positive effects on family outcomes with a β value of 2.90 while *chl* produces similar effects with a β value of 1.70. The effect of *ed_* is comparatively weak with a β value of 0.27. The direct effect of *Sco* on *Fml* is positive with a β value of 1.40 but it has minimal impact on mediators which indicates that its indirect influence remains restricted. The mediators show weak covariance relationships except for *ec_* and *chl* which demonstrate a moderate relationship. The figure uses curved arrows to show the error variances. The model demonstrates that direct effects serve as the primary mechanism which explains how family outcomes exhibit variation.

4. DISCUSSION

The research aimed to identify the main factors which determine family requirements for families who have children with Down syndrome while investigating the effect of certain socio-demographic factors as potential mediators of this connection. The results showed that perceived social support served as the sole substantial predictor which positively impacted family requirements while socio-demographic factors did not show any statistical effect.

The finding receives strong backing from earlier studies which showed that social support functions as the fundamental element that determines family result. The study found that perceived social support improves family functioning while decreasing the burden on caregivers according to (Cohen & Wills, 1985; Hsiao, 2014)

Hsiao (2014) developed the buffering hypothesis which shows how social support protects against stress through emotional and informational and instrumental help. The study discovered that families use psychosocial resources as their primary method to fulfill requirements from the strong predictive effect which showed a coefficient of $\beta = 0.879$.

The study found that socio-demographic factors had no impact on family well-being because previous research showed economic status and education level had partial effects on family well-being (Lee et al., 2021; Li et al., 2025; Murphy et al., 2007) The study found that socio-demographic factors work as indirect effects which link to family outcomes instead of serving as direct predictors. The impact of these variables decreases when services and support systems become equally available across different contexts which enables psychosocial factors to operate at their maximum potential because perceived support becomes more important. The research demonstrates that demographic factors explain less variability than psychosocial factors because studies show this relationship (Parchomiuk & Kirenko, 2024; Skelton et al., 2021)

The conclusions about mediation support this interpretation, The research demonstrates that socio-demographic features cannot serve as mediators between perceived social support and family requirements because they fail to create indirect effects. The study found that perceived social support serves as the primary mechanism which directly creates family requirements without needing any third-party intermediaries. The research demonstrates that people who perceive they have available support will achieve better outcomes than those who only operate under actual resource limitations (Pandey et al., 2012; Parchomiuk & Kirenko, 2020; Zhang et al., 2024; Zhang et al., 2025)

The structural equation modeling (SEM) results showed that direct effects dominated the model because there were only minimal and non-significant indirect pathways present. The research results showed consistency between different analytical methods which produces reliable findings

that confirm the model displays actual connections between the variables.

The present study examines literature through its demonstration that socio-demographic factors need to be regarded as important yet their significance varies between contexts while perceived social support serves as the primary factor which determines family requirements. The research results demonstrate the need to shift from structural explanations toward comprehensive models which use psychosocial dynamics to study family needs for families who have children with Down syndrome (Collie & Slater, 1987; Klarer, 2023; Neuman, 1999)

The research results show that established theoretical frameworks can explain the study findings through their particular application of the stress-buffering model which demonstrates how people perceive social support to reduce caregiving demands. The results clearly demonstrate that perceived social support functions as the primary determinant of family needs through direct mechanisms instead of socio-demographic pathways. Families need to evaluate their available support because this subjective assessment will determine their actual housing situation more than any piece of structural information which includes income and education and family size. The study demonstrates that socio-demographic variables provide essential background information about the study participants yet their study results show how these variables explain less than psychosocial resources which studies show to be more important than structural factors for understanding family adaptation. Theoretical perspectives and empirical research demonstrate that effective family support for children with Down syndrome requires organizations to develop both social support networks and actual support resources because these two aspects emerge as the most powerful means to decrease family requirements while improving their health outcomes (Crigler, 2025; Kalyani, 2024; Prabawa et al., 2025)

5. CONCLUSION

This research evaluated which factors predict family requirements for families with children who have

Down syndrome. The study results revealed that family needs depend on perceived social support which serves as the main factor that determines those needs. The socio-demographic variables which included family size and educational level and economic status showed no statistically significant effects in the model. The results showed that there was no mediation present because the indirect effects from the variables studied did not reach statistical significance. The study results indicate that perceived social support establishes direct connections with family needs while socio-demographic factors do not function as intermediary connections. The findings demonstrate how social support systems require enhancement to meet the essential needs of families who have children with Down syndrome. The process of improving family well-being requires organizations to enhance their formal support systems and their informal support networks which will help organizations provide better services to families.

6. Limitations & Strengths

The research contains multiple restrictions which demand recognition by the researchers. The cross-sectional design restricts researchers from establishing causal connections between different variables. The study results depend on self-reported data, which creates potential for response bias because participants tend to hide their true feelings while assessing their own experiences. The convenience sampling method together with online data collection prevents researchers from applying their study results to different population groups. The research used only a few socio-demographic variables to study family requirements which do not explain all the factors that affect family needs. The research study presents important benefits which exist beyond its existing limitations. The researchers used an extensive analytical method which combines three advanced statistical techniques to establish how different factors related to each other in their study. The study results become more reliable because researchers used validated and widely recognized instruments for their investigation. The research study investigates an important yet under-explored population group

while providing essential evidence about how perceived social support affects family requirements in families with Down syndrome children.

7. Practical Implications and Recommendations

The study shows that perceived social support acts as the main element which determines family requirements in families who have children with Down syndrome. Service providers should focus on building both formal and informal support systems because these systems include counseling services and parent support groups and community-based programs. Families can achieve better well-being through improved access to reliable information and emotional support which decreases their overall family burden. Stakeholders should develop integrated support services that provide continuous and accessible and family-centered services according to the policy requirements. The process requires two major improvements which involve better educational and healthcare coordination with social services and the need for people to learn about existing resources. Future research should investigate additional psychosocial and contextual factors while using longitudinal studies to track family need changes throughout time.

Data availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request, subject to ethical and confidentiality considerations.

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CONFLICT OF INTEREST

The authors declare no competing interests.

Competing interests

The authors declare no competing interests.

Clinical trial number

Not applicable

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