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Living Arrangements and Intergenerational Support in Puerto Rico: Are Fathers Disadvantaged?

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Abstract

Objectives: To examine how intergenerational support varies by parents' living arrangements and whether there are gender differences in received support in Puerto Rico.

Methods: Data come from the 2006–2007 Puerto Rican Elderly and Health Conditions Project, a representative longitudinal study of adults aged 60 and older in Puerto Rico (n = 2,288). We examined the association between parents' living arrangements (alone, with spouse/partner only, with children) and their receipt of functional (help with errands/housework/transport) and health (help when sick) support from children, and whether parents' gender moderates the association.

Results: Intergenerational coresidence was associated with higher odds of receiving functional and health support than living alone. Women were more likely than men to receive both forms of support. Parents' gender significantly moderated the association between living arrangements and receiving health support—men living with their partners were less likely to receive health support from children than women in similar living arrangements. These associations persisted when analyses were restricted to those with disability.

Discussion: Our findings suggest that parents' receipt of support from children is conditioned upon their living arrangement and gender, even when their functional health is jeopardized. We discuss these results in relation to the heterogeneous influence of living arrangements for older adults' support needs and provide suggestions for policy and directions for future research in rapidly aging Puerto Rico.

Keywords: Coresidence, Disability, Family, Health, Hispanic-Caribbean, Solo-dwellers

The Commonwealth of Puerto Rico, an unincorporated U.S. territory in the Caribbean, is experiencing fertility declines, out-migration of working-age adults to the mainland, and increasing life expectancy, all of which are influencing rapid aging (Matos-Moreno et al., 2021). In 2010, adults aged 60 years and older accounted for 18% of Puerto Rico's population, and projections indicate their share will increase to 32% by 2030 (United Nations [UN], 2019). The increasing percentage of older adults is also met with health vulnerabilities, including disability and chronic

conditions (Downer et al., 2017), which often demand support. As public formal support systems in Puerto Rico are underresourced, many older adults rely on informal support (Pérez & Ailshire, 2017; Zsembik & Bonilla, 2000).

Family members, typically spouses and adult children, are often the primary sources of informal support for older adults (Agree & Glaser, 2009). As observed in many developing countries throughout Asia, Africa, the Middle East, Latin America, and the Caribbean, coresidence with adult children facilitates the provision of care for older adults (Korinek et al., 2011; Pelaez & Martinez, 2002; UN, 2005, 2017; Yount, 2009). As in many Latin American and Caribbean countries, intergenerational living arrangements in Puerto Rico are embedded within strong sociocultural traditions of family cohesion, intergenerational interdependence, and respect for older adults, which more or less guarantee that family members care for each other across the life course (Garcia-Preto, 1982; Hinojosa et al., 2009).

While the well-being of older adults remains a primary responsibility of the family, especially adult children, demographic and social transformations present potential challenges to upholding these social norms in Puerto Rico. Rapid fertility declines alongside increasing labor migration among the working-age population to the mainland since the beginning of the 21st century and especially following the 2006 economic crisis (Cohn et al., 2014) reduce the availability of children on the island to coreside. Consequently, intergenerational coresidence is declining in Puerto Rico (UN, 2017). According to 2010 U.S. Census estimates, 31% of older adults in Puerto Rico lived with children, while 21% lived alone and 34% lived with a spouse only (UN, 2017). By 2019, the proportion of older adults living alone had increased to 26%, and 44% lived with a spouse only (U.S. Census Bureau, 2021). Furthermore, social transformations associated with modernization, including women's increased participation in paid labor and younger generations' increasing individualism and dismissive attitudes toward Puerto Rican cultural transitions, may weaken traditional norms of filial obligations and respect for the older generation (Zsembik & Bonilla, 2000). These combined demographic and social changes ignite concerns about potential support deficits among older adults in Puerto Rico.

Older adults' receipt of support from their children also differs by gender. Women's longer life expectancy and greater vulnerability to health and financial difficulties in later life may explain these differences (Compton & Pollak, 2015). Alternatively, men's greater reliance on their spouses/partners, especially when health needs arise, may encourage children to provide support to their mothers (Jang & Kawachi, 2019; Katz et al., 2000). Gendered patterns of support to parents also reflect culturally embedded social roles and expectations of family support (Silverstein et al., 2006). For instance, Hispanic and Afro-Caribbean households frequently practice matrifocality, whereby women are the central "kin-keepers" (Safa, 2005), and culturally tend to focus family support on vulnerable women more than men (De Vos, 1990). Thus, traditional matrifocal household norms potentially present a male disadvantage for upward intergenerational support in Puerto Rico.

The increasing prevalence of independent living arrangements among older adults, combined with historical strong sociocultural norms of family support and the gendered dimensions therein, make Puerto Rico a compelling context to examine how older adults' living arrangements structure their receipt of support from their children and the gendered patterns of this relationship. Existing research on intergenerational support among island-dwelling Puerto Ricans primarily relies on small-scale qualitative studies (Zsembik & Bonilla, 2000). Thus, a systematic empirical investigation of living arrangements and support, and their gendered dimensions, is necessary.

Using data from the second wave (2006–2007) of the Puerto Rican Elderly Health Conditions (PREHCO) Project (Palloni et al., 2013), our study investigates older adults' likelihood of receiving functional and health support from their children as it relates to their living arrangements. We examine heterogeneity in living arrangements by differentiating older adults living alone, with their spouse only, and with their children. Furthermore, we examine the significance of parents' gender and disability in structuring support relations across these living arrangements. Our study contributes to and advances the existing literature on how household structure differentially protects men and women, through their relationships with their children, within a region where children remain the most central source of support for older adults.

Living Arrangements and Intergenerational Support: Theoretical Considerations

Intergenerational support may reflect expressions of social exchange, which incorporates mutual dependence and reciprocity between family members, as well as altruism (Silverstein et al., 2002). The social exchange perspective argues that family support is rooted in norms of reciprocity, whereby family members, according to their resources, support others in need with an expectation of reciprocity. Reciprocal support exchanges may include economic and noneconomic resources, including parents' provision of grandchild care and children's financial or instrumental support in exchange (Grundy, 2005; Quashie, 2015). Family members may also operate altruistically to support those with the greatest need without any explicit expectation of repayment regardless of their prior receipt of support. In this framework, parents' needs for support, due to factors like disability or the loss of a spouse, drive the receipt of care (Grundy, 2005; Korinek et al., 2011).

As Puerto Rico has limited formal social services and care infrastructure to support older and younger adults, families are the default resource (Chandra et al., 2021). Thus, we assume that qualitative research from the

1990s—suggesting that Puerto Rican culture strongly values family cohesion, older parents maintain expectations of care from adult children, and adult children actively supporting their parents in vulnerable circumstances such as when a spouse dies, the parent lives alone, or their health declines—remains applicable even as coresidence has declined (Sánchez-Ayéndez, 1998; Zsembik & Bonilla, 2000).

Empirical Overview

Living Arrangements and Intergenerational Support

Coresidence with children is one of the most direct forms of familial support as it facilitates easy and immediate access to support exchange, especially for older adults whose support needs require close proximity (Bengtson & Roberts, 1991; Korinek et al., 2011). Given that parents also support their children across the life course, children's support needs may also drive coresidence (Kahn et al., 2013; Smits et al., 2010). Thus, living with children does not guarantee parents' receipt of support. Research also suggests that even among parents with a disability, married parents are more likely to receive support from their spouse than their children even when they coreside with their children (Gruijters, 2017). Additionally, living independently of children does not equate to support deficits. A study conducted in Barbados has shown that noncoresident parents continue to receive support from their children when faced with declining mobility, regardless of socioeconomic resources and potential access to support from other household members (Quashie & Zimmer, 2013). Therefore, older adults who live independently—alone or with a spouse—may not necessarily receive less care from their children when they need it.

The Role of Gender

A large body of research across developed and developing countries documents that gender influences intergenerational support (Gurung et al., 2003; Kalmijn, 2007; Khan, 2014; Kwak et al., 2021; Quashie, 2015; Silverstein et al., 2006; Yount, 2009). Women tend to have more care demands than men, as they have longer life expectancies and more years in poor health (Crimmins et al., 2011; Pérez & Ailshire, 2017). Widowhood and low rates of remarriage produce more single older women than men (UN, 2005), increasing their likelihood of coresidence with adult children (Compton & Pollak, 2015; Yount, 2009). Thus, greater intergenerational support exchange with mothers than fathers reflects needs, marital status, and coresidence (Kwak et al., 2021; Yount, 2009).

Empirical evidence, however, has been inconsistent. A study of older adults in the Netherlands found that married fathers were less likely than mothers to receive support from children (Kalmijn, 2007). In addition, the gap in received care was even greater between unmarried fathers and unmarried mothers (Kalmijn, 2007). On the other hand, a study in Barbados found no gender differences in older adults' receiving support from coresidential children (Quashie, 2015). However, noncoresidential children gave mothers more support than fathers, regardless of parents' and children's needs and resources or parents' support to children (Quashie, 2015).

Gender differences in parents' receipt of support from their children can also reflect qualitatively distinct gendered social norms and role expectations of familial support. Some research suggests that gender socialization shapes women (as wives, mothers, daughters) to adopt domestic and caregiving responsibilities over the life course, whereas men are specialized into nondomestic and economic roles (Calasanti, 2010; Chant, 2003). Arguably, women's greater involvement in caretaking across the life course increases their bonds with their children, which may secure reciprocal intergenerational support (Silverstein et al., 2006; Yount, 2009). Men may lack practice performing certain household tasks, providing care that their wives ultimately need, or caring for themselves in the event of illness. Thus, in the absence of a spouse/partner, men may rely on their children for support, especially when health needs arise.

In the Puerto Rican context, cultural norms and behaviors regarding family and aging, alongside gendered family relations, shape intergenerational support. Puerto Rican families instill in their children the centrality of family and respect for older adults (Harwood et al., 2003; Mogro-Wilson et al., 2016; Sáchez-Ayé, 1989). However, women bear more responsibility than men for maintaining traditional family values. In the matrifocal context of Puerto Rico, mothers, relative to fathers, are actively involved in the economic and domestic duties of the household and display more investment in their children's well-being and ethical behavior throughout their life course (Rodríguez et al., 2013). These values of intergenerational respect and solidarity, combined with women's stronger bonds with their children over the life course, frame older Puerto Rican women's expectations that their children will care for them at older ages (Sáchez-Ayé, 1989). Earlier research within Puerto Rico suggests fathers have weaker ties with their children and that, if widowed or divorced, they are less likely to live with their children and have overall lower expectations of receiving support from their children than mothers (Zsembik & Bonilla, 2000). However, as women hold the main caregiving roles within the household, partnered older Puerto Rican men are likely more reliant on their wives for support rather than their children. Earlier studies also show that at the end of the 20th century, children, particularly daughters, encourage or actively take their widowed mothers to live with them, creating reciprocal exchanges of care where grandmothers care for grandchildren and

adult daughters care for their mothers (Garcia-Preto, 1982; Zsembik & Bonilla, 2000).

Gendered patterns of intergenerational support also extend to older adults with health needs. When evaluating older adults with disability and their sources of support, research in the United States found that men were more reliant on their wives for support while women relied on their children (Katz et al., 2000). Similarly, Jang and Kawachi (2019) found that among South Korean older adults, men and women with disability primarily received support from their spouses, but women were still more likely than men to receive support from their children. However, Kwak and colleagues (2021) reported that women with disability in South Korea were less likely than men to receive informal care (support from family including children); a finding the authors attributed to declining intergenerational coresidence and changing cultural norms of family care. The same study also found that living arrangements shaped gender differences in support, specifically in the United States; unmarried older women were more likely to receive informal care than their male counterparts (Kwak et al., 2021).

Overall, existing research suggests that intergenerational support varies by parents' gender, living arrangements, and health status. However, existing research in the Caribbean region, and Puerto Rico specifically, has not examined the combined influence of these factors on intergenerational support.

Current Study and Research Questions

Theory and existing empirical evidence suggest that older Puerto Ricans' living arrangements, health needs, and parents' gender may drive the receipt of support from their children. Given the cultural emphasis on intergenerational responsibility to care for parents, solo-dwellers, especially those with health needs, may be as likely as those who coreside to receive support from their children. However, sociocultural norms of family support suggest that the likelihood of receiving support based on living arrangements and health status will also be conditioned on parents' gender. This study examines the relative importance of living arrangements to older adults' receipt of support from their children, and whether gender moderates this relationship in the Puerto Rican context, with respect to the following research questions:

1. Does solo living or living with a partner only present a disadvantage for receiving support from children?
2. Does the parent's gender moderate the association between living arrangements and receipt of support from his or her children?
3. Do any gender differences found in the association between living arrangements and the receipt of support from children persist among parents with severe disability?

Method

Data and Sample Selection

Data come from the most recently gathered representative data for older adults in Puerto Rico: the PREHCO Project, a longitudinal survey of community-dwelling adults aged 60 years and older residing on the main island of the archipelago (Palloni et al., 2013). Researchers conducted 4,291 face-to-face interviews during the baseline observation in 2002–2003. A follow-up observation that included 3,891 face-to-face interviews was completed in 2006–2007. The response rate for each wave was over 90%. Information on the overall design, sampling procedures, and survey instruments of PREHCO has been previously described (McEniry & Palloni, 2010; Palloni et al., 2013). Our study draws on data from respondents who completed the survey independently (i.e., without a proxy) in 2006–2007 (n = 2,726). Unlike past studies on intergenerational support in the Caribbean region, the 2006–2007 PREHCO data provide the opportunity to examine the role of older adults' expressed need for support to address the questions of interest in this study.

Our final analytic sample consists of 2,288 older adults. We excluded respondents without at least one living child (n = 233) and those with missing data on variables included in the analysis (n = 61). Furthermore, within our main independent variable—living arrangements—we excluded 144 respondents living with nonfamily members or family other than their children, as few reported receiving support from their children (n = 20 and n = 28 for functional and health support, respectively). Excluded participants showed no significant differences by gender, education, perceived income inadequacy, or disability (results not shown). However, they were more likely than those in the analytic sample to report having no chronic conditions (14.07% vs 8.17%, $p < .05$) and/or to be aged 80 years and older (24.28% vs 16.21%, $p \leq .01$).

Measures

Dependent variables

We used two binary indicators for older adults' receipt of support from children: functional and health support. Functional support refers to older adults' receipt of at least one of three different types of support—transport, housework, or errands—based on three questions. Respondents were first asked about their need for support. Those who answered affirmatively were asked whether they received it: "Do you need help with transportation, for instance, to go to medical appointments, shopping and to visit friends and family? Do you receive help with transportation?" "Do you need help with household chores or gardening? Do you receive help with work tasks, household chores or gardening?" "Do you need any help with errands? Do you receive help with errands?" Finally, respondents were asked to identify who helps them the most (children,

spouse, siblings, other kin, or nonkin) in each circumstance. Regarding health support, respondents were first asked about their needs for assistance when sick, and their receipt of assistance for those who answered affirmatively: "Do you need help when you are sick? Is there someone that helps you when you are sick?" Respondents were then asked to identify who helped them the most. Respondents were coded as receiving functional support from children if they indicated their children helped them the most with at least one of transport, housework, or errands. Likewise, respondents received health support from children if they indicated that children help them the most when they are sick. For each support outcome, the reference category included respondents who neither needed support nor received support from children.

Independent variable

Our study views living arrangements as an indicator of the support system available to older adults in Puerto Rico. The key independent variable *living arrangements* is derived from information provided by the respondent regarding their relationship to their household members, which we categorized as (1) living alone (reference), (2) living with spouse/partner only, and (3) living with children only. Among those who lived alone and with children only, only two respondents were also partnered: 0.26% and 0.42%, respectively. Thus, the majority of older adults living alone or with children only were unpartnered, indicating that living arrangements and marital status are inextricably linked within Puerto Rico.

Covariates

We accounted for demographic, socioeconomic, and health characteristics, as well as family-related support factors that past research has associated with intergenerational support transfers. These included respondents' reported age in 10-year groups, gender, number of living children, receipt of functional support from others, provision of grandchild care, educational attainment, perceived income adequacy, chronic conditions, and activities of daily living (ADL) and instrumental activities of daily living (IADL) limitations. Table 1 summarizes the measurement of these variables.

Analytical Plan

Table 2 presents descriptive analyses of the sample by respondents' receipt of functional and health support using Pearson chi-square and adjusted Wald tests to compare categorical variables. Multivariate binary logistic regression models for older adults' receipt of functional and health support from their children follow (Table 3). Our regression models proceed in three steps. Model 1 only includes living arrangements without controls. Model 2 includes all covariates for a fully adjusted model. Finally, to examine whether gender moderates the association between living arrangements and the receipt of support from children, we include interactions of living arrangement and gender (Model 3). Given that older adults' living arrangements and their receipt of functional and health support may depend on their disability status, we replicate our multivariate analyses with a subsample of older adults with severe functional limitations. Table 4 presents our multivariate results for the subsample of older adults with an ADL limitation. For all analyses, we accounted for PREHCO's complex sampling design by incorporating sample weights and stratification variables.

Finally, given that older adults' expressed need for support can influence the likelihood of receiving support, we replicated all our analyses restricted to older adults who indicated they needed functional or health support and estimated whether they received such support (Supplementary Tables S1–S3). Our results are generally similar to our main analyses, suggesting parents' expressed needs for support do not drive our results.

Results

Table 2 shows participants' characteristics according to their receipt of functional and health support from their children. Those who lived with their children were more likely than those living alone or only with a spouse to receive functional and health support from children (43.7% and 36.8%, respectively). Differences across living arrangements showed that for older adults living alone, 29% reported not receiving functional support, but 32% received health support from their children. Participants who lived with their spouse only were more likely to indicate not receiving either form of support from their children. For both forms, women were far more likely to receive support from their children than men (functional: 80.3% vs 19.7% and health: 78.3% vs 21.7%). Overall, participants with less than high school education, lower perceived income inadequacy, ADL and IADL limitations, and who reported more chronic conditions (three and four or more conditions) were more likely to receive functional and health support from their children. Neither form of support reflected any significant association with respondents' provision of grandchild care nor receipt of functional support from people other than their children.

Table 3 presents the results of our multivariate binary logistic regression models that examine the association between living arrangements and the receipt of support from children and how gender moderates this association in relation to our research questions. Our results indicate that coresidence with children is positively and significantly associated with the highest odds of receiving both forms of support relative to living alone (Model 1, odds ratio [OR] = 6.10, OR = 3.01, functional and health, respectively). This significant association persisted after controlling for demographic, socioeconomic,

Table 1. Description of the Measurement Details for All Covariates Included in Analyses

Variable	Survey question	Measurement
Age, in 10-year groups	Respondents' reported age	Categorical: 0 = 60–69, 1 = 70–79, 2 = 80+
Gender	Respondents' reported gender	Dichotomous: 0 = women, 1 = men
Number of living children	Number of living children including biological, step, and adopted	Continuous
Receipt of functional support from others	Receipt of support from others beside children	Dichotomous: 0 = no, 1 = yes
Grandchild care	Respondent provided care to grandchildren	Dichotomous: 0 = no care given, 1 = provided care
Education	Respondents' highest level of education attained	Categorical: 0 = less than high school, 1 = high school/general education diploma, 2 = college and beyond
Perceived income inadequacy	Frequency respondent (and spouse/partner) has difficulty paying for daily living expenses	Categorical: 0 = none, 1 = sometimes, 2 = frequently
Chronic conditions	Respondents' ever diagnosed with at least one of hypertension, diabetes, cancer, asthma, chronic pulmonary disease, heart disease, stroke, arthritis, or osteoporosis	Categorical: 0 = none, 1 = 1 condition, 2 = 2 conditions, 3 = 3 conditions, 4 = 4+ conditions
Activities of daily living	Respondents' indicating difficulty with at least one activity—eating, dressing, bathing, using the toilet, getting in and out of bed, walking across a room—have a limitation.	Categorical: 0 = none, 1 = 1+ limitations
Instrumental activities of daily living	Respondents' indicating difficulty with at least one activity—using the telephone, using public transit, shopping, preparing meals, doing housework, taking medication, managing money—have a limitation.	Categorical: 0 = none, 1 = 1+ limitations

Notes: Receipt of functional support from others is included as a covariate only in the models for older adults' receipt of functional support from children. We omitted the corresponding variable for health support due to the lack of observations.

health needs, and other family-related support exchanges (Model 2, OR = 5.69, OR = 2.40, functional and health, respectively). Parents who lived with a spouse/partner only received the same level of functional support from children as those living alone, but less health support than those living alone (Model 2, OR = 0.49). Gender differences were evident as men were less likely than women to receive both forms of support from their children (Model 2, OR = 0.29, OR = 0.36, functional and health, respectively).

Next, we explored the impact of parents' gender (Model 3). Parents' gender did not moderate the association between living arrangements and the receipt of functional support. However, it significantly moderated the association between living arrangements and the receipt of health support. Figure 1 (panel A) presents the predicted probabilities of parents' receipt of health support according to their living arrangement and gender (Model 3, health support). Results show that women were more likely than men to receive health support from their children across all living arrangements. Such gender differences were strongest for those who only lived with their spouse/partner. However, we do not observe statistically significant gender differences in the receipt of health support among older adults living alone and those living with children.

Finally, we explored whether disability status conditioned gender differences in the association between living arrangements and older adults' receipt of support from their children, focusing on those with severe functional limitations. Table 4 presents the results of our multivariate analyses among older adults with at least one ADL limitation. Similar to our models for the full sample (Table 3), older adults with disability who lived with children showed the highest odds of receiving both forms of support from children relative to those who lived alone (Model 4, OR = 8.91, OR = 2.83, functional and health, respectively). This association remained after adjusting for covariates (Model 5, OR = 7.49, OR = 2.47, functional and health, respectively). Likewise, parents' gender significantly moderated the association between living arrangements and the receipt of health support from children (Models 6). Figure 1 (panel B) shows a similar pattern observed in the full sample—among older adults with disability, men who lived with their partner only were significantly less likely than women in the same living arrangement to receive support from their children.

Discussion

This study contributes to the limited empirical evidence on intergenerational support in Puerto Rico by examining how different living arrangements are associated with support, examining whether parents' gender modifies the relationship between living arrangements and support received from children and exploring this relationship among older adults with disability.

Table 2. Description of the Sample Characteristics According to Older Adults' Receipt of Functional and Health Support (n = 2,288)

	Functional support			Health support		
	No	Yes	Total	No	Yes	Total
Characteristics	n = 1,748	n = 540	n = 2,288	n = 1,669	n = 619	n = 2,288
% Living arrangement***						
Alone	29.07	21.17	27.45	25.76	32.27	27.45
With spouse	61.10	35.13	55.77	64.48	30.98	55.77
With children	9.83	43.70	16.78	9.76	36.75	16.78
% Age***						
60–69	43.68	25.32	39.92	42.73	31.9	39.92
70–79	44.18	42.69	43.88	44.81	41.21	43.88
80+	12.14	31.99	16.21	12.46	26.89	16.21
% Gender***						
Women	49.50	80.34	55.83	47.96	78.26	55.83
Men	50.50	19.66	44.17	52.04	21.74	44.17
Number of living children, mean**	3.73	4.70	3.93	3.73	4.48	3.93
% Education attainment***						
Less than high school	61.68	75.54	64.52	59.22	79.64	64.52
High school/general education diploma	23.19	16.57	21.83	24.5	14.24	21.83
College	15.13	7.90	13.64	16.29	6.12	13.64
% Perceived income inadequacy**						
None	57.48	4.71	55.35	58.48	46.45	55.35
Sometimes	3.31	39.14	34.34	33.10	37.87	34.34
Frequently	9.42	13.76	10.31	8.42	15.68	10.31
% Activities of daily living (ADL) limitations***						
None	86.13	6.77	82.35	86.07	71.75	82.35
At least one ADL	13.87	32.30	17.65	13.93	28.25	17.65
% Instrumental activities of daily living (IADL) limitations***						
None	78.96	46.66	72.33	76.79	59.62	72.33
At least one IADL	21.04	53.34	27.67	23.21	40.38	27.67
% Chronic conditions***						
None	9.20	4.21	8.17	9.64	3.99	8.17
1 condition	18.55	11.62	17.13	18.89	12.10	17.13
2 conditions	26.97	24.82	26.53	26.63	26.26	26.53
3 conditions	23.05	25.31	23.51	23.01	24.94	23.51
4+ conditions	22.23	34.04	24.66	21.83	32.70	24.66
% Received functional support from others						
No	84.11	84.57	84.20	na	na	na
Yes	15.89	15.43	15.80	na	na	na
% Provided grandchild care						
No	65.56	69.62	66.39	65.98	67.58	66.39
Yes	34.44	30.38	33.61	34.02	32.42	33.61

Notes: na = not applicable.
**p < .01. ***p < .001. Pearson chi-square or adjusted Wald tests showing statistically significant differences for receipt of support.
Source: Authors' own calculations, Puerto Rican Elderly Health Conditions (PREHCO) 2006–2007.

Support Deficits by Living Arrangement

Addressing our first research question, our findings show that older Puerto Ricans who live with their children are more likely to receive functional and health support from their children relative to those living alone. This finding is consistent with previous research in other Caribbean contexts (Quashie & Zimmer, 2013) that found closer proximity to children, especially coresidence, was most advantageous for receiving support. Additionally, living with a spouse only as opposed to living alone presented a greater disadvantage with respect to health support from children. As our measure of health support refers to the receipt of assistance when sick and spouses are typically the first to respond to their partners' health needs (Agree

Table 3. Logistic Regression Odds Ratios for Older Adults' Receipt of Functional and Health Support From Children (n = 2,288)

	Functional			Health		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Living arrangement (alone)						
With spouse/partner	0.789 (0.137)	1.222 (0.249)	1.039 (0.254)	0.384*** (0.0645)	0.486*** (0.0898)	0.630* (0.126)
With children	6.103*** (1.219)	5.694*** (1.268)	5.064*** (1.212)	3.005*** (0.595)	2.405*** (0.557)	2.222*** (0.429)
Age (60–69)						
70–79		1.697** (0.305)	1.700** (0.301)		1.108 (0.183)	1.117 (0.176)
80+		4.886*** (1.071)	4.841*** (1.057)		2.282** (0.650)	2.359** (0.637)
Gender (women)						
Men		0.292*** (0.0703)	0.155*** (0.0776)		0.361*** (0.0955)	0.491* (0.140)
Children						
Number of living children		1.120*** (0.0331)	1.127*** (0.0338)		1.088* (0.0436)	1.082* (0.0413)
Education (less than high school)						
High school/general education diploma		0.841 (0.161)	0.828 (0.156)		0.535*** (0.0934)	0.553*** (0.0955)
College and beyond		0.655 (0.170)	0.652 (0.166)		0.357*** (0.0722)	0.368*** (0.0744)
Perceived income inadequacy (none)						
Sometimes		1.193 (0.193)	1.189 (0.192)		1.157 (0.203)	1.218 (0.215)
Frequently		1.312 (0.395)	1.314 (0.391)		1.652* (0.419)	1.756* (0.430)
Chronic conditions (none)						
1 condition		1.151 (0.395)	1.163 (0.397)		1.450 (0.656)	1.526 (0.696)
2 conditions		1.501 (0.525)	1.517 (0.527)		2.096 (0.922)	2.179 (0.962)
3 conditions		1.692 (0.595)	1.697 (0.594)		1.935 (0.868)	2.034 (0.904)
4+ conditions		1.869 (0.632)	1.852 (0.627)		2.176 (1.088)	2.220 (1.065)
IADL limitations (none)						
At least one IADL limitation		Omitted	Omitted		1.106 (0.242)	1.122 (0.234)
ADL limitations (none)						
At least one ADL limitation		2.632*** (0.491)	2.658*** (0.496)		1.565* (0.304)	1.559* (0.305)
Received functional support from others (no)						
Received at least one form from others		0.539* (0.133)	0.550* (0.134)		Omitted	Omitted
Provided grandchild care (no)						
Yes		1.012 (0.174)	1.007 (0.173)		1.335 (0.215)	1.380* (0.215)
Interactions						
Living arrangement × gender						
With spouse/partner × men			2.206 (1.197)			0.439* (0.178)
With children × men			2.053 (1.114)			1.659 (0.879)
F test	59.60***	13.09***	11.64***	76.39***	18.17***	16.73***

Notes: Standard errors in parentheses. ADL = activities of daily living; IADL = instrumental activities of daily living.
*p < .05. **p < .01. ***p < .001.
Source: Authors' own calculations, Puerto Rican Elderly Health Conditions (PREHCO) 2006–2007.

Table 4. Logistic Regression Odds Ratios for the Receipt of Functional and Health Support From Children Among Older Adults With at Least One Activity of Daily Living Limitation ($n = 436$)

	Functional			Health		
	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6
Living arrangement (alone)						
With spouse	0.851 (0.286)	0.849 (0.340)	0.819 (0.353)	0.289** (0.108)	0.271** (0.107)	0.478 (0.188)
With children	8.912*** (3.195)	7.490*** (2.628)	6.355*** (2.339)	2.835** (1.086)	2.470* (0.882)	3.160** (1.236)
Age (60–69)						
70–79		0.481* (0.176)	0.486 (0.179)		0.664 (0.237)	0.691 (0.245)
80+		1.574 (0.690)	1.630 (0.711)		0.936 (0.348)	1.067 (0.392)
Gender (women)						
Men		0.421* (0.155)	0.312 (0.226)		0.387** (0.130)	1.091 (0.576)
Children						
Number of living children		1.015 (0.0655)	1.022 (0.0692)		1.161* (0.0824)	1.126 (0.0705)
Education (less than high school)						
High school/general education diploma		1.071 (0.392)	1.040 (0.381)		0.943 (0.325)	0.991 (0.335)
College and beyond		1.040 (0.442)	1.035 (0.432)		0.397 (0.199)	0.384 (0.197)
Perceived income inadequacy (none)						
Sometimes		1.029 (0.296)	1.053 (0.305)		1.336 (0.426)	1.291 (0.404)
Frequently		1.000 (0.454)	1.030 (0.470)		1.964 (0.848)	2.047 (0.883)
Instrumental activity of daily living limitations (none)						
At least one limitation		Omitted	Omitted		0.815 (0.281)	0.689 (0.222)
Chronic conditions (none)						
1 condition		1.606 (1.455)	1.208 (1.161)		1.407 (1.277)	1.508 (1.571)
2 conditions		4.300 (3.359)	4.166 (3.404)		2.394 (1.962)	2.917 (2.816)
3 conditions		3.389 (2.442)	3.303 (2.455)		1.250 (0.987)	1.585 (1.482)
4+ conditions		3.220 (2.206)	3.007 (2.160)		1.152 (0.909)	1.453 (1.359)
Received functional support from others (no)						
Received at least one form from others		0.438* (0.167)	0.436* (0.168)			
Provided grandchild care (no)						
Provided grandchild care		0.766 (0.306)	0.794 (0.315)		1.516 (0.582)	1.479 (0.562)
Interactions						
Living arrangement × gender						
With spouse/partner × men			1.252 (0.995)			0.138* (0.110)
With children × men			3.635 (3.602)			0.489 (0.439)
F test	24.38***	4.67***	4.45***	21.45***	5.01***	3.79***

Notes: Standard errors in parentheses.
*$p < .05$. **$p < .01$. ***$p < .001$.
Source: Authors' own calculations, Puerto Rican Elderly Health Conditions (PREHCO) 2006–2007.

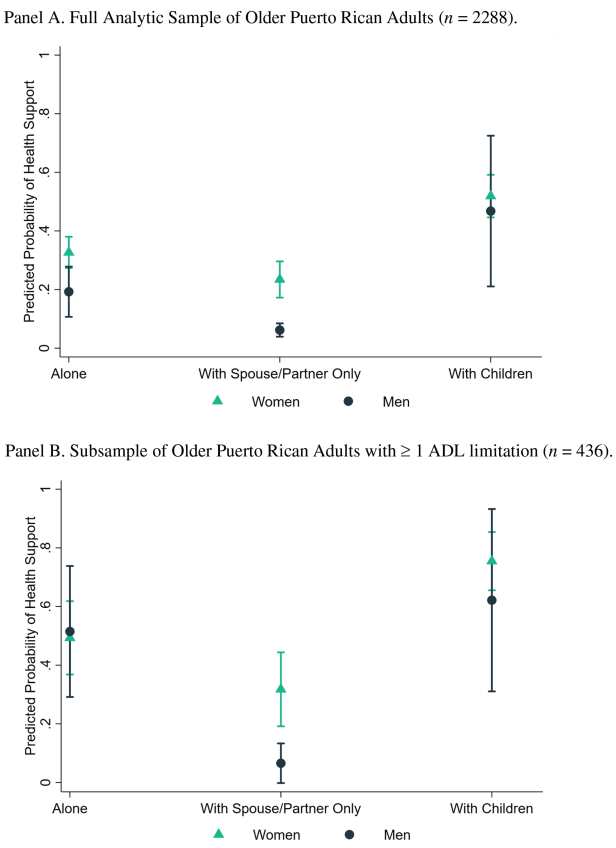

Figure 1. Predicted probabilities of older adults' receipt of health support from their children according to their living arrangements and gender for the full analytic sample of older Puerto Rican adults (Panel A) and those who report at least one ADL limitation (Panel B), Puerto Rican Elderly Health Conditions (PREHCO) 2006–2007. *Note*: 95% confidence intervals are shown with the point estimates; ADL = activities of daily living.

& Glaser, 2009), our finding suggests that older adults who live with a spouse only potentially never ask for their children's help. It is also possible that older Puerto Ricans not benefiting from the culture's strong norms of intergenerational coresidence—those living alone or with a spouse only—may have access to different, potentially compensatory sources of support. Further research is needed to examine how older Puerto Ricans' social networks, including size, composition, and contact with members, vary by their living arrangements and how this may be linked to the receipt of different types of support from children.

Gendered Support Deficits by Living Arrangements and Health Needs: Male Disadvantage?

As in other studies (Khan, 2014; Quashie, 2015), older Puerto Rican women were significantly more likely to receive support from their children than their male counterparts. Regarding our second and third research questions, we found that gender differences in the receipt of support from children were more prominent among older adults who lived with their spouse/partner only, specifically for health support. Furthermore, parents' gender significantly modified the relationship between living arrangements and receiving health support from children; men with disability who lived with their partners only were less likely to receive support from their children than women in similar living arrangements. These findings are also relevant to older adults who expressed support needs (see Supplementary Tables S2 and S3).

Our finding that older Puerto Rican men who lived with a spouse and were sick were significantly less likely to receive support from their children supports prior research highlighting men's greater reliance on their partners and women's reliance on their children when health needs arise (Katz et al., 2000; Kwak et al., 2021). Embedded gender norms of family support may explain these differences. Prior research (Silverstein et al., 2006; Yount, 2009) suggests that women's kin-keeping roles and stronger emotional bonds with their children across the life course may encourage a higher probability of reciprocal support. Moreover, in matrifocal societies such as Puerto Rico, the strength of mother–child bonds is potentially more pronounced. Our findings call for further research on intergenerational relationship quality and its potential role in explaining gender differences in intergenerational support among older Puerto Ricans.

Overall, the gendered pattern of the association between living arrangements and upward intergenerational support in Puerto Rico is most evident within the context of partnership and health needs. Importantly, we did not find statistically significant gender differences in receiving support among older adults who were sick and lived alone or with children only (the majority of whom were also unpartnered). Typically, the partner is the primary source of support among those who live with one; thus, for parents who are not living with a partner only and experiencing health vulnerabilities, parents' gender is a less salient factor for receiving support from children. In this regard, fathers are *not necessarily* disadvantaged in receiving support from their children. Our findings suggest that intergenerational support to older parents in health-related vulnerable circumstances, irrespective of gender, may be guided by sociocultural norms of family cohesion and respect for older adults in Puerto Rico despite concerns about changing attitudes in the context of modernization (Mogro-Wilson et al., 2016; Sáchez-Ayé, 1989; Zsembik & Bonilla, 2000).

Policy Implications

Our findings have identified some segments of the older Puerto Rican population who may lack informal support, which has several policy implications in the context of rapid population aging. Policymakers should direct more efforts toward developing programs that meet the support and long-term care needs of older adults living alone,

particularly those who have a disability. Although living with children presents the greatest advantage in receiving support, especially among those with a disability, children as informal caregivers also need targeted policies, support services, and training to meet their parents' care needs and sustain their own health. While parents may have multiple geographically dispersed children who may all provide support, further descriptive analyses suggest that as distance to the nearest child increases, the share of parents receiving support also decreases (see Supplementary Table S4). Thus, coresident children likely bear the most responsibility for supporting their parents and may be vulnerable to caregiving strain that jeopardizes their well-being and subsequent care for their parents.

Such policies are increasingly critical in the context of Puerto Rico's worsening health care infrastructure following natural disasters (e.g., Hurricanes María and Irma) and increasing federal financial shortfalls, which have reduced access to the health care system (García et al., 2021; Roman, 2018). Notably, there are severe shortages in access to care in the rural municipalities of Puerto Rico (e.g., Culebra, Jayuya), where there are larger proportions of older adults (García et al., 2021). Moreover, the archipelago is facing significant out-migration of health care workers due in part to low Medicare reimbursement payments (Pierluisi, 2012), which will make it increasingly difficult to meet the increasing health and caregiving needs of the older adult population in Puerto Rico. Additionally, social policy needs to be attentive to potential future support deficits due to demographic realities of declining fertility and the continued out-migration of younger adults. Thus, continued reliance on coresident children may not be sustainable for future Puerto Rican older adults, particularly those with health vulnerabilities, who are residents on the island.

Finally, our findings also suggest that older Puerto Rican men, including those with disabilities, are especially vulnerable to support deficits. Thus, when designing programs and interventions for older adults with support deficits, attention should be given to older men as they are more vulnerable to unmet support needs and are most likely to be eligible for such programs.

Limitations and Future Directions

Our study has limitations. First, we used cross-sectional data and cannot examine underlying causal mechanisms of the relationship between living arrangements and support. Support may be associated with changes in living arrangements as older adults experience health declines or spousal loss (Korinek et al., 2011). However, living arrangements were very stable across the two waves of the PREHCO study (see Supplementary Tables S5 and S6). Second, our assessments of gender differences in intergenerational support only examine the parents' gender. Although prior studies suggest the children's gender also shapes the likelihood of parents' receipt of support (Garcia-Preto, 1982; Quashie, 2015; Song et al., 2012), this study did not examine dyadic gendered patterns. Third, and related, we did not account for other characteristics of children (e.g., distance to parents or employment situation, which can have implications for time availability) that may shape parents' receipt of support. Such life circumstances among children may also be critical for partnered older women with health vulnerabilities as our findings suggest they may rely more on their children for support than partnered men. Therefore, when children are unavailable or do not live nearby, partnered women may be potentially at higher risk of unmet support needs. Further research is planned to incorporate these dimensions to broaden our understanding of intergenerational support in Puerto Rico. Fourth, our measures of support receipt do not reflect a specific time frame of support. Thus, we interpret the survey questions to reflect recent support. Fifth, due to data constraints, we could not account for parents' provision of different types of support to their children in addition to grandchild care. Additionally, we cannot examine children's provision of financial support, which likely differs by living arrangements and may supplement functional and health support, thereby limiting a holistic assessment of intergenerational support. For instance, noncoresident children, particularly those who live at further distances (within Puerto Rico and overseas on the U.S. mainland), may provide financial support to assist their coresident siblings who are primarily supporting their parents (Quashie, 2019). The third wave of PREHCO data currently being collected can potentially address these limitations.

Conclusion

Rapid changes in family and household structure, particularly due to declining fertility and migration, imply that a growing segment of older Puerto Ricans will live independently—alone or with a spouse/partner only. Recent natural disasters, such as Hurricane María, have brought devastation, deeply affected the local economy, and escalated net migration losses, particularly of younger cohorts. Despite strong norms of familial support, some older Puerto Ricans potentially face familial support deficits, especially those living alone. As a consequence, the older adult population in Puerto Rico is increasingly vulnerable to unmet support needs. Our study provides the foundation for future research by underscoring the importance of examining familial support relations across diverse living arrangements in Puerto Rico and the wider Latin America and Caribbean region.

Supplementary Material

Supplementary data are available at *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* online.

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Conflict of Interest

None declared.

Author Contributions

N. T. Quashie planned the study, performed all statistical analyses, and wrote the paper. F. C. D. Andrade and G. Meltzer conducted the literature review and wrote the paper. C. García assisted with statistical analyses and interpretation of data and contributed to revising the paper. All authors contributed to editing the paper and approved the final version.

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