

Analysis Report

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Sample Characteristics

The sample characteristics of the dataset reveal several key insights. Regarding couple status, 74.7% of the participants are in a couple, while 24.7% are not. Gender distribution shows 57.1% females and 42.9% males. A significant majority, 66.1%, do not have supplementary health insurance, whereas 33.6% do.

In terms of health literacy, 75.7% of the participants fall into the "less frequent" category, with only 24.0% being "more frequent" in their health literacy practices. Physical inactivity is prevalent, with 79.4% of participants reporting activity other than vigorous or moderate physical activity. Financially, 36.3% of households make ends meet with some difficulty, and 23.2% with great difficulty. Satisfaction with the national health system is moderate, with 59.9% somewhat satisfied and 10.1% very satisfied. Most participants (90.5%) were born in the country of the interview. Job situation analysis reveals that 54.2% are retired, 28.3% are working, and 13.9% are non-working. Concerning the area of residence, 39.4% live in building category 5, with the next largest group (14.5%) in category 3. Health literacy regarding help needed indicates that 62.8% never need help, while 11.0% always do. Educational levels show that 74.9% have primary education or lower, 12.2% have secondary education, and 11.6% have higher education. Marital status is predominantly in a couple (74.7%), with 11.3% widowed and 8.6% separated. Health status is predominantly less than very good (89.7%). Regarding chronic diseases, 63.4% have two or more chronic diseases. Household size is mostly composed of two members (53.7%), with single-member households making up 15.3%.

couple or non couple

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	non couple	364	24.7	24.9	24.9
	couple	1100	74.7	75.1	100.0
	Total	1464	99.5	100.0	
Missing	System	8	0.5		
Total		1472	100.0		

feminine ou masculine

Valid	sexo feminino	840	57.1	57.1	57.1
	sexo masculino	632	42.9	42.9	100.0
	Total	1472	100.0	100.0	

Has supplementary health insurance

Valid	No	973	66.1	66.3	66.3
	Yes	494	33.6	33.7	100.0
	Total	1467	99.7	100.0	
Missing	System	5	0.3		
Total		1472	100.0		

Recoded health literacy

Valid	more frequent	354	24.0	24.1	24.1
	less frequent	1115	75.7	75.9	100.0
	Total	1469	99.8	100.0	
Missing	System	3	0.2		
Total		1472	100.0		
<i>Physical inactivity</i>					
Valid	Other	1169	79.4	79.6	79.6
	Never vigorous nor moderate physical activity	300	20.4	20.4	100.0
	Total	1469	99.8	100.0	
Missing	System	3	0.2		
Total		1472	100.0		
<i>Is household able to make ends meet</i>					
Valid	With great difficulty	341	23.2	23.6	23.6
	With some difficulty	534	36.3	37.0	60.6
	Fairly easily	368	25.0	25.5	86.1
	Easily	200	13.6	13.9	100.0
	Total	1443	98.0	100.0	
Missing	System	29	2.0		
Total		1472	100.0		
<i>Satisfaction with national health system</i>					
Valid	Very satisfied	148	10.1	10.2	10.2
	Somewhat satisfied	881	59.9	61.0	71.3
	Somewhat dissatisfied	297	20.2	20.6	91.8
	Very dissatisfied	118	8.0	8.2	100.0
	Total	1444	98.1	100.0	
Missing	System	28	1.9		
Total		1472	100.0		
<i>Born in the country of interview</i>					
Valid	No	64	4.3	4.6	4.6
	Yes	1332	90.5	95.4	100.0
	Total	1396	94.8	100.0	
Missing	System	76	5.2		
Total		1472	100.0		
<i>current job situation</i>					
Valid	retired	798	54.2	56.2	56.2
	working	416	28.3	29.3	85.6
	Non working	205	13.9	14.4	100.0
	Total	1419	96.4	100.0	
Missing	System	53	3.6		
Total		1472	100.0		
<i>Area of building</i>					
Valid	Rural	207	14.1	14.9	14.9
	2	179	12.2	12.9	27.7
	3	213	14.5	15.3	43.1
	4	212	14.4	15.2	58.3
	5	580	39.4	41.7	100.0

	Total	1391	94.5	100.0	
Missing	System	81	5.5		
Total		1472	100.0		
<i>Health literacy: how often help needed</i>					
Valid	Always	162	11.0	11.0	11.0
	Often	70	4.8	4.8	15.8
	Sometimes	122	8.3	8.3	24.1
	Rarely	191	13.0	13.0	37.1
	Never	924	62.8	62.9	100.0
	Total	1469	99.8	100.0	
Missing	System	3	0.2		
Total		1472	100.0		
<i>level of education</i>					
Valid	ensino primário ou inferior	1103	74.9	75.9	75.9
	ensino secundário	179	12.2	12.3	88.2
	ensino superior	171	11.6	11.8	100.0
	Total	1453	98.7	100.0	
Missing	System	19	1.3		
Total		1472	100.0		
<i>Estado civil reorganizado</i>					
Valid	single	71	4.8	4.8	4.8
	In a couple	1100	74.7	75.1	80.0
	separated	126	8.6	8.6	88.6
	widow	167	11.3	11.4	100.0
	Total	1464	99.5	100.0	
Missing	System	8	0.5		
Total		1472	100.0		
<i>Sphus-less than very good health</i>					
Valid	Very good/excellent	151	10.3	10.3	10.3
	Less than very good	1321	89.7	89.7	100.0
	Total	1472	100.0	100.0	
<i>2+ chronic diseases (w9 version)</i>					
Valid	Less than 2 diseases	539	36.6	36.6	36.6
	2+ chronic diseases	933	63.4	63.4	100.0
	Total	1472	100.0	100.0	
<i>Household size</i>					
Valid	1	225	15.3	15.3	15.3
	2	791	53.7	53.7	69.0
	3	285	19.4	19.4	88.4
	4	131	8.9	8.9	97.3
	5	28	1.9	1.9	99.2
	6	8	0.5	0.5	99.7
	7	4	0.3	0.3	100.0
	Total	1472	100.0	100.0	

Outlier Evaluation

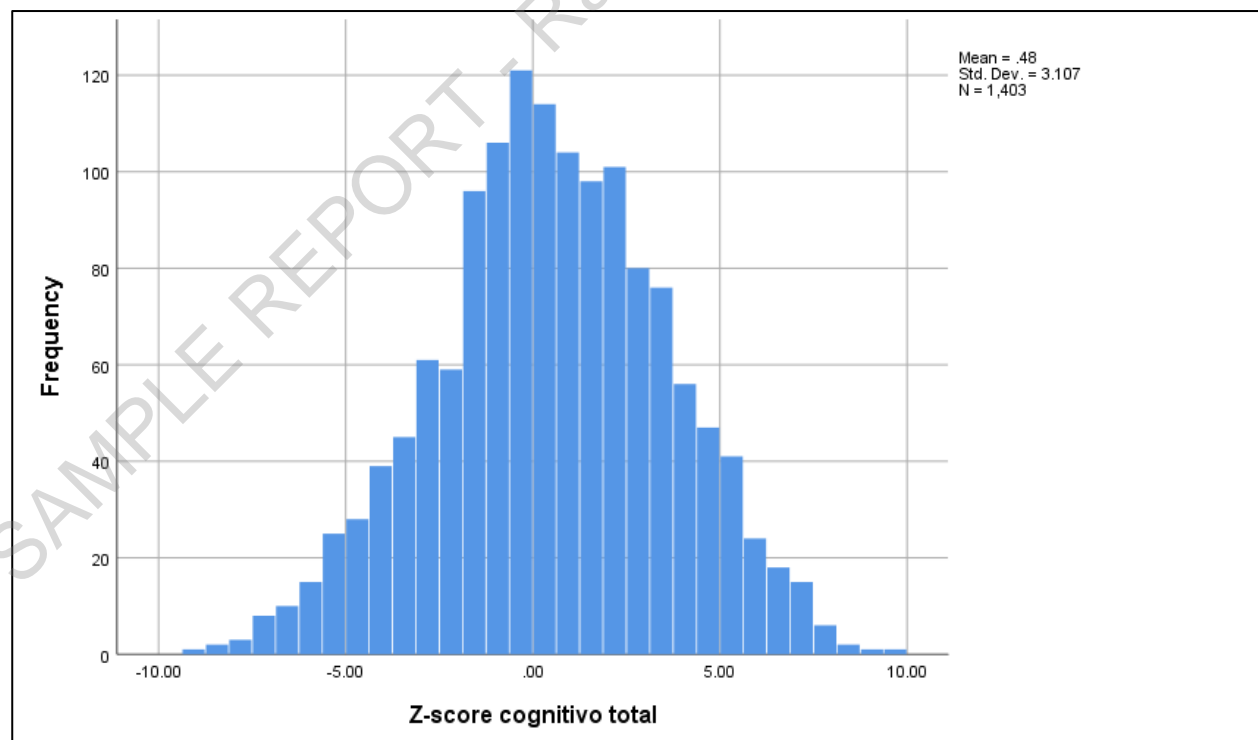
Before proceeding to statistical analyses, outliers of cognitive scores and health system use were evaluated using Z-scores. Cases surpassing the ± 3.00 threshold had their respective variables removed from any subsequent analyses. 4 cases were removed from cognition scores, 12 cases from 'contact_mgf' and 24 cases from 'contact_esp'. The final sample size (listwise) was 1,330 individuals.

Descriptive Statistics

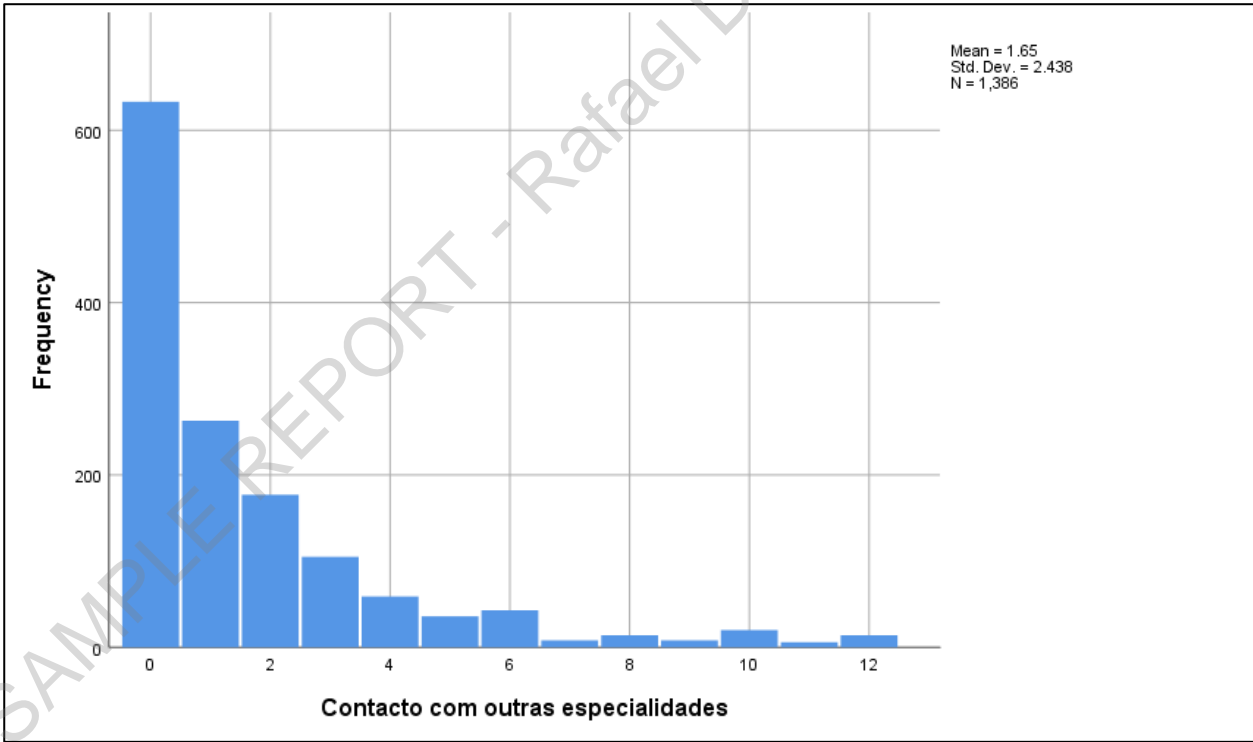
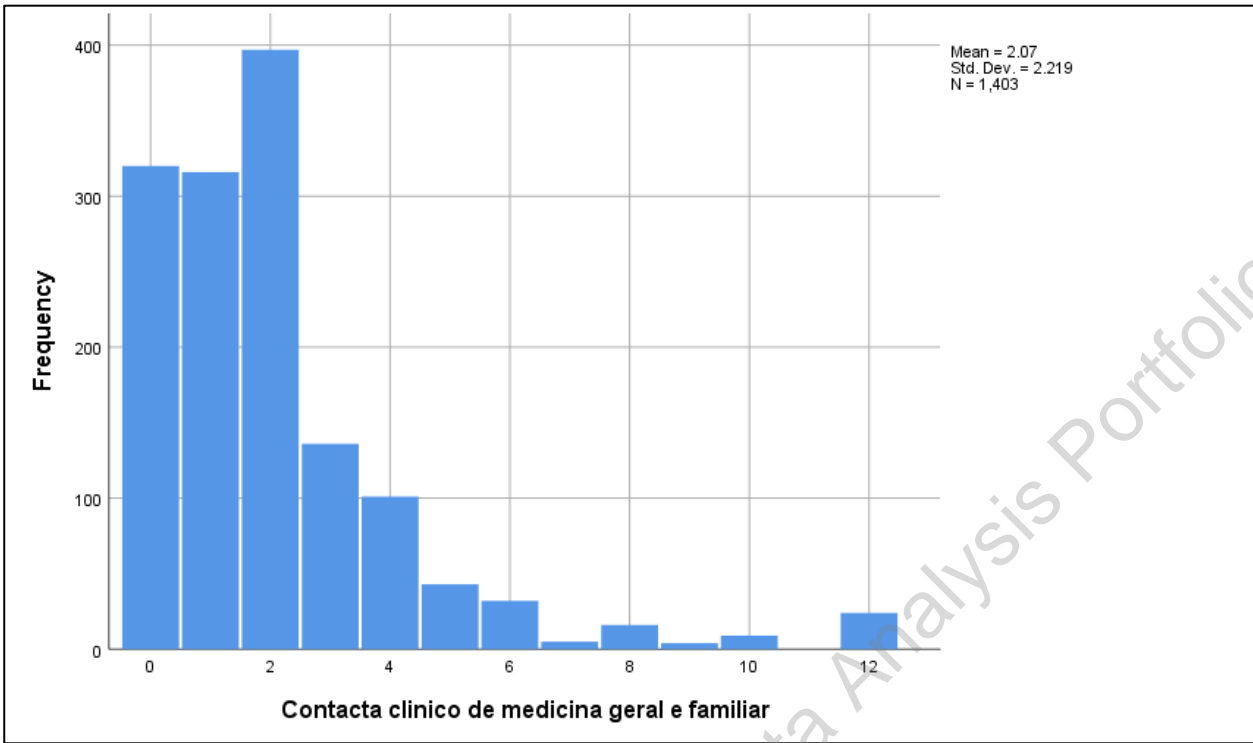
The following table provides the descriptives for the three variables under study.

	Mean	Standard Error of Mean	Median	Standard Deviation
Z-score cognitivo total	.455	.084	.491	3.149
Contacta clinico de medicina geral e familiar	2.300	.104	2.000	3.909
Contacto com outras especialidades	2.074	.114	1.000	4.291

The distribution of cognitive scores is presented below in the form of a histogram.



The following figures show the distribution of the health access variables.



The table below disaggregates the mean scores of the three variables by many sociodemographic characteristics.

			Z-score cognitivo total	Contacta clinico de medicina geral e familiar	Contacto com outras especialidades
couple or non couple	non couple	Mean	.046	2.238	1.982
		Standard Deviation	3.328	5.901	4.754
	couple	Mean	.592	2.311	2.111
		Standard Deviation	3.077	3.002	4.147
feminine ou masculine	sexo feminino	Mean	.240	2.356	2.120
		Standard Deviation	3.174	4.396	4.479
	sexo masculino	Mean	.737	2.226	2.015
		Standard Deviation	3.095	3.166	4.035
Has supplementary health insurance	No	Mean	-.220	2.294	1.727
		Standard Deviation	2.907	2.707	3.801
	Yes	Mean	1.760	2.310	2.748
		Standard Deviation	3.193	5.552	5.047
Self-perceived health - us version	Excellent	Mean	1.820	1.100	1.660
		Standard Deviation	2.486	1.515	6.793
	Very good	Mean	2.558	1.286	1.020
		Standard Deviation	2.769	1.140	1.308
	Good	Mean	1.548	1.728	1.359
		Standard Deviation	3.005	1.914	2.196
	Fair	Mean	.110	2.553	2.147
		Standard Deviation	2.987	5.073	4.129
Recoded health literacy	more frequent	Mean	-1.776	2.879	2.382
		Standard Deviation	3.132	6.318	5.198
	less frequent	Mean	1.132	2.123	1.982
		Standard Deviation	2.826	2.773	3.974
Physical inactivity	Other	Mean	.860	2.201	1.815
		Standard Deviation	2.984	3.994	3.696
	Never vigorous nor moderate physical activity	Mean	-1.156	2.709	3.137
		Standard Deviation	3.271	3.525	6.051
	0	Mean	2.831	2.374	3.003

			Z-score cognitivo total	Contacta clinico de medicina geral e familiar	Contacto com outras especialidades
edu_isced=ensino primário ou inferior		Standard	2.821	6.315	5.810
		Deviation			
	1	Mean	-.272	2.260	1.783
		Standard	2.852	2.637	3.649
		Deviation			
edu_isced=ensino secundário	0	Mean	.219	2.284	1.970
		Standard	3.083	3.888	4.150
		Deviation			
	1	Mean	2.400	2.314	2.861
		Standard	2.888	3.710	5.238
		Deviation			
edu_isced=ensino superior	0	Mean	.109	2.267	1.934
		Standard	3.005	2.810	3.927
		Deviation			
	1	Mean	3.279	2.435	3.149
		Standard	2.687	8.176	6.359
		Deviation			
Is household able to make ends meet	With great difficulty	Mean	-.930	2.537	1.656
		Standard	3.020	2.874	3.922
		Deviation			
	With some difficulty	Mean	.441	2.506	2.098
		Standard	3.026	5.200	4.568
		Deviation			
	Fairly easily	Mean	1.034	2.090	2.205
		Standard	3.066	3.222	3.918
		Deviation			
	Easily	Mean	1.569	1.755	2.513
		Standard	2.997	2.349	4.823
		Deviation			
Born in the country of interview	No	Mean	2.191	2.083	2.450
		Standard	2.641	2.644	6.524
		Deviation			
	Yes	Mean	.363	2.312	2.010
		Standard	3.141	3.971	4.034
		Deviation			
current job situation	retired	Mean	-.171	2.322	2.402
		Standard	3.198	2.914	4.596
		Deviation			
	working	Mean	1.788	1.794	1.441
		Standard	2.745	2.357	2.604
		Deviation			
	Non working	Mean	.034	3.325	2.268
		Standard	2.813	8.005	5.884
		Deviation			
level of education	ensino primário ou inferior	Mean	-.272	2.260	1.783
		Standard	2.852	2.637	3.649
		Deviation			

			Z-score cognitivo total	Contacta clinico de medicina geral e familiar	Contacto com outras especialidades
Estado civil reorganizado	ensino secundário	Mean	2.400	2.314	2.861
		Standard	2.888	3.710	5.238
		Deviation			
	ensino superior	Mean	3.279	2.435	3.149
		Standard	2.687	8.176	6.359
		Deviation			
	single	Mean	.303	1.574	1.191
		Standard	3.282	1.839	2.352
		Deviation			
	In a couple	Mean	.592	2.311	2.111
		Standard	3.077	3.002	4.147
		Deviation			
Sphus-less than very good health	separated	Mean	1.256	2.233	1.742
		Standard	2.926	3.075	3.148
		Deviation			
	widow	Mean	-.985	2.536	2.523
		Standard	3.323	8.288	6.304
		Deviation			
	Very good/excellent	Mean	2.300	1.223	1.236
		Standard	2.688	1.277	4.075
		Deviation			
	Less than very good	Mean	.247	2.425	2.172
		Standard	3.130	4.090	4.307
		Deviation			
2+ chronic diseases (w9 version)	Less than 2 diseases	Mean	1.181	1.642	1.526
		Standard	3.041	2.002	3.769
		Deviation			
	2+ chronic diseases	Mean	.039	2.688	2.399
		Standard	3.136	4.641	4.543
		Deviation			

The graph below shows the distribution of scores of health access by levels of financial stress.

General and Family Medicine Contacts (Blue Boxplots):

The median number of contacts decreases as household financial ease increases.

Households with "With great difficulty" have the highest median contacts, with a relatively wide interquartile range (IQR).

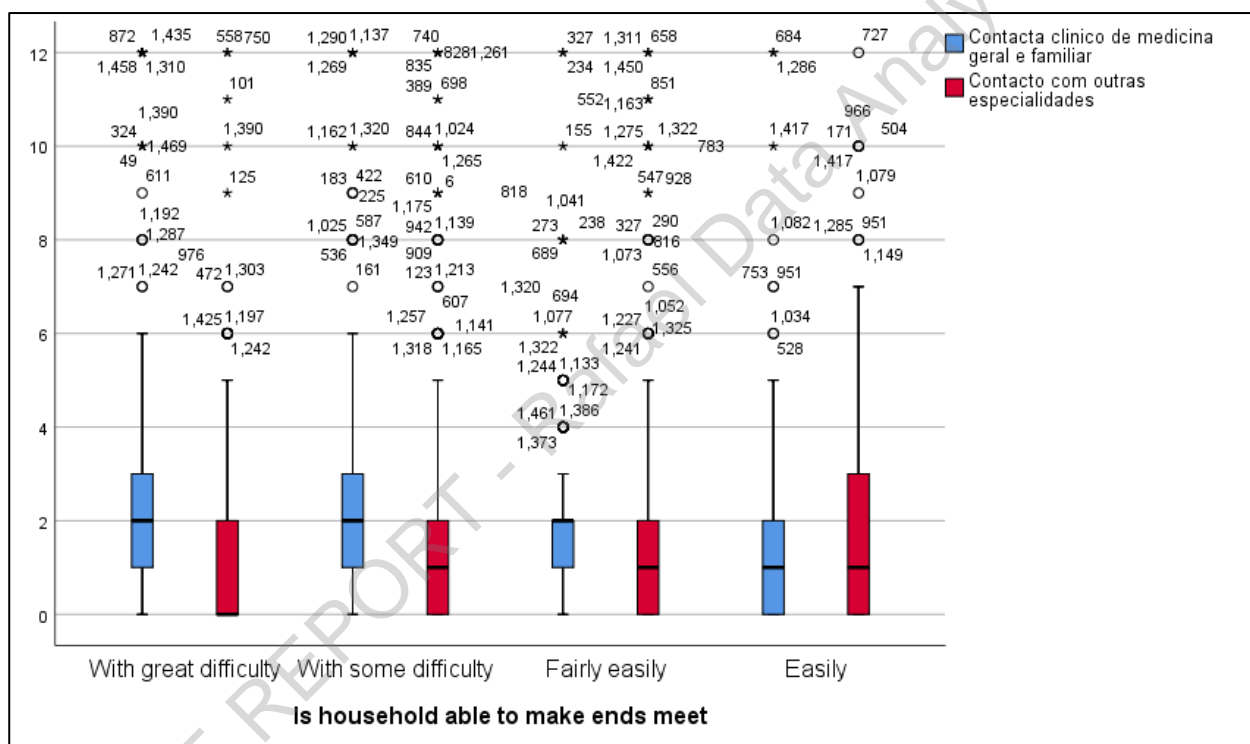
Households with "Easily" show the lowest median contacts and a narrower IQR compared to other categories.

Specialty Contacts (Red Boxplots):

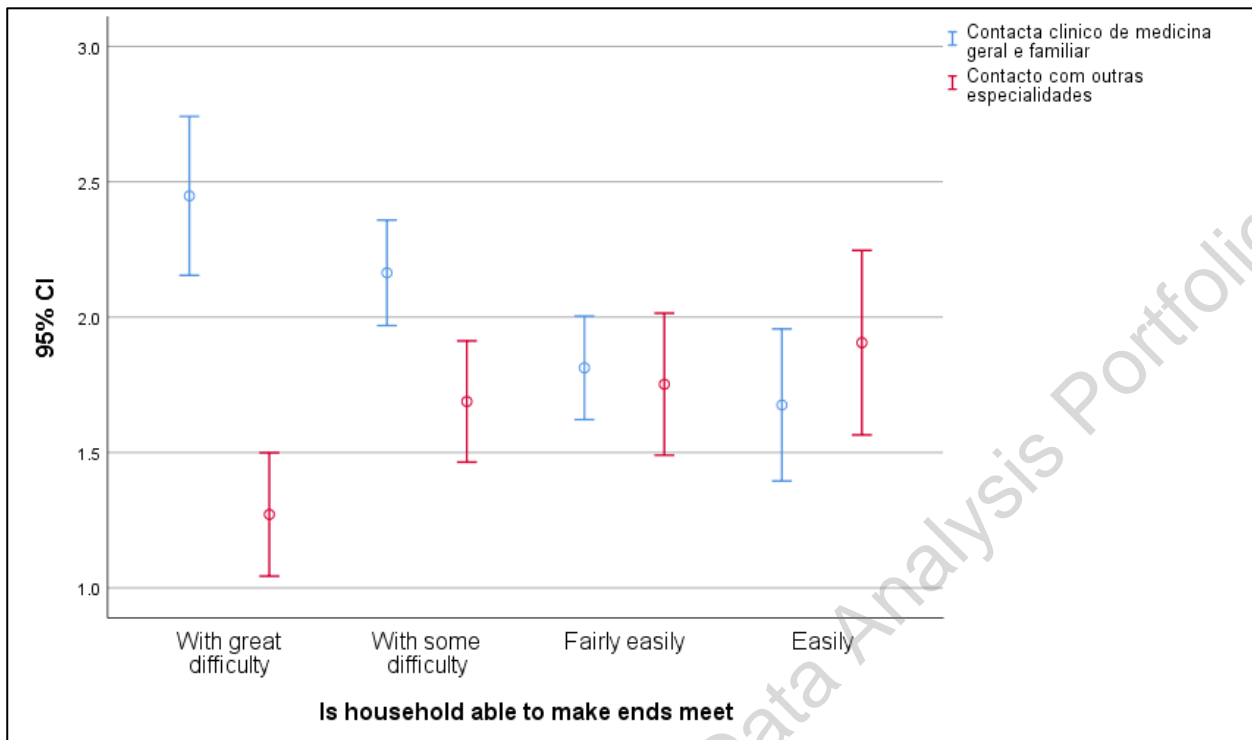
The median number of contacts also tends to decrease as household financial ease improves.

Households with "With great difficulty" show lower median contacts compared to other categories.

The "Easily" category has a lower median number of contacts for general and family medicine contacts.



The next graph shows the means of health access by group and a 95% confidence interval around those means.



There is a clear trend indicating that households facing greater financial difficulty are more likely to contact general and family medicine services.

The trend for contacting other specialties is the opposite.

Models – General Medicine

Poisson regression models were used to analyze the count of contacts with the health system, specifically focusing on general and family medicine clinics. The dependent variable, "Contacta clinico de medicina geral e familiar," is a count variable, making Poisson regression suitable for this analysis. The models included predictors such as financial stress (measured by the ability to make ends meet) and cognitive scores, along with their interaction to perform mediation analysis.

No Control Variables

The first analysis did not account for any control variables. The first model only included financial stress as independent variable. Model 2 included cognitive scores and Model 3 tested for the moderation.

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
Model 1										
(Intercept)	1.025	0.0476	0.932	1.118	464.247	1	0.000	2.787	2.539	3.059
Is household able to make ends meet	-0.134	0.0199	-0.173	-0.095	45.570	1	0.000	0.874	0.841	0.909
Model 2										
(Intercept)	1.005	0.0485	0.910	1.100	428.845	1	0.000	2.732	2.484	3.005
Is household able to make ends meet	-0.123	0.0206	-0.163	-0.083	35.803	1	0.000	0.884	0.849	0.921
Z-score cognitivo total	-0.013	0.0064	-0.026	-0.001	4.247	1	0.039	0.987	0.975	0.999
Model 3										
(Intercept)	1.005	0.0485	0.910	1.100	429.289	1	0.000	2.732	2.484	3.004
Is household able to make ends meet	-0.122	0.0207	-0.162	-0.081	34.636	1	0.000	0.885	0.850	0.922
Z-score cognitivo total	-0.005	0.0156	-0.036	0.025	0.115	1	0.735	0.995	0.965	1.026
Is household able to make ends meet * Z-score cognitivo total	-0.004	0.0065	-0.016	0.009	0.311	1	0.577	0.996	0.984	1.009

Dependent Variable: Contacta clinico de medicina geral e familiar

Model: (Intercept), Is household able to make ends meet, Z-score cognitivo total, Is household able to make ends meet * Z-score cognitivo total

a. Fixed at the displayed value.

Model 1 included only the financial stress variable. The model fit statistics indicated a deviance of 2742.983 (df = 1326, Value/df = 2.069), Pearson Chi-Square of 3062.710 (df = 1326, Value/df = 2.310), Log Likelihood of -2742.667, and AIC of 5489.334. The Omnibus test showed a likelihood ratio chi-square of 46.271 with 1 degree of freedom, significant at $p < .001$. Significant parameters included the intercept ($B = 1.025$, $SE = 0.0476$, $p < .001$) and financial stress ($B = -0.134$, $SE = 0.0199$, $p < .001$).

Model 2 added cognitive scores to the predictors. The model fit statistics were a deviance of 2738.741 (df = 1325, Value/df = 2.067), Pearson Chi-Square of 3060.726 (df = 1325, Value/df = 2.310), Log Likelihood of -2740.545, and AIC of 5487.091. The Omnibus test resulted in a likelihood ratio chi-square of 50.514 with 2 degrees of freedom, significant at $p < .001$. Significant parameters included

the intercept ($B = 1.005$, $SE = 0.0485$, $p < .001$), financial stress ($B = -0.123$, $SE = 0.0206$, $p < .001$), and cognitive scores ($B = -0.013$, $SE = 0.0064$, $p = .039$).

Model 3 included the interaction between financial stress and cognitive scores. The model fit statistics showed a deviance of 2738.429 ($df = 1324$, $Value/df = 2.068$), Pearson Chi-Square of 3060.868 ($df = 1324$, $Value/df = 2.312$), Log Likelihood of -2740.390, and AIC of 5488.779. The Omnibus test indicated a likelihood ratio chi-square of 50.825 with 3 degrees of freedom, significant at $p < .001$. Significant parameters were the intercept ($B = 1.005$, $SE = 0.0485$, $p < .001$) and financial stress ($B = -0.122$, $SE = 0.0207$, $p < .001$). The interaction term was not significant ($B = -0.004$, $SE = 0.0065$, $p = .577$).

These results suggest that financial stress significantly predicts the number of contacts with general and family medicine clinics, and cognitive scores also have a minor but significant impact. The interaction between financial stress and cognitive scores was not significant, indicating no moderating effect.

With Control Variables

A second model tested the same effects, but now controlling for sociodemographic characteristics.

Model 1 included only the financial stress variable. The model fit statistics indicated a deviance of 2563.042 ($df = 1253$, $Value/df = 2.046$), Pearson Chi-Square of 2852.989 ($df = 1253$, $Value/df = 2.277$), Log Likelihood of -2585.667, and AIC of 5193.334. The Omnibus test showed a likelihood ratio chi-square of 109.600 with 10 degrees of freedom, significant at $p < .001$. Significant parameters included the intercept ($B = 0.273$, $SE = 0.2302$, $p = .236$) and financial stress ($B = -0.113$, $SE = 0.0220$, $p < .001$). Significant control variables included job status (working: $B = -0.141$, $SE = 0.0633$, $p = .026$; non-working: $B = 0.147$, $SE = 0.0632$, $p = .020$), marital status (married/union: $B = 0.281$, $SE = 0.1050$, $p = .007$; separated/divorced: $B = 0.330$, $SE = 0.1220$, $p = .007$), and age ($B = 0.008$, $SE = 0.0029$, $p = .008$).

Model 2 added cognitive scores to the predictors. The model fit statistics were a deviance of 2562.520 ($df = 1252$, $Value/df = 2.047$), Pearson Chi-Square of 2849.926 ($df = 1252$, $Value/df = 2.276$), Log Likelihood of -2585.406, and AIC of 5194.812. The Omnibus test resulted in a likelihood ratio chi-square of 110.122 with 11 degrees of freedom, significant at $p < .001$. Significant parameters included the intercept ($B = 0.245$, $SE = 0.2336$, $p = .295$), financial stress ($B = -0.116$, $SE = 0.0223$, $p < .001$), job status (working: $B = -0.141$, $SE = 0.0632$, $p = .026$; non-working: $B = 0.149$, $SE = 0.0632$, $p = .019$), marital status (married/union: $B = 0.275$, $SE = 0.1054$, $p = .009$; separated/divorced: $B = 0.323$, $SE = 0.1223$, $p = .008$), and age ($B = 0.008$, $SE = 0.0030$, $p = .006$). Cognitive scores were not significant ($B = 0.006$, $SE = 0.0077$, $p = .470$).

Model 3 included the interaction between financial stress and cognitive scores. The model fit statistics showed a deviance of 2562.422 (df = 1251, Value/df = 2.048), Pearson Chi-Square of 2849.536 (df = 1251, Value/df = 2.278), Log Likelihood of -2585.357, and AIC of 5196.715. The Omnibus test indicated a likelihood ratio chi-square of 110.220 with 12 degrees of freedom, significant at $p < .001$. Significant parameters were the intercept ($B = 0.243$, $SE = 0.2336$, $p = .298$), financial stress ($B = -0.116$, $SE = 0.0224$, $p < .001$), job status (working: $B = -0.140$, $SE = 0.0632$, $p = .027$; non-working: $B = 0.149$, $SE = 0.0633$, $p = .018$), marital status (married/union: $B = 0.276$, $SE = 0.1054$, $p = .009$; separated/divorced: $B = 0.325$, $SE = 0.1224$, $p = .008$), and age ($B = 0.008$, $SE = 0.0030$, $p = .006$). Cognitive scores and their interaction with financial stress were not significant (cognitive scores: $B = 0.001$, $SE = 0.0164$, $p = .950$; interaction term: $B = 0.002$, $SE = 0.0069$, $p = .755$).

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Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
Model 1										
(Intercept)	0.273	0.2302	-0.178	0.724	1.407	1	0.236	1.314	0.837	2.063
Is household able to make ends meet	-0.113	0.0220	-0.156	-0.070	26.272	1	0.000	0.893	0.855	0.933
job_sit=working	-0.141	0.0633	-0.265	-0.017	4.962	1	0.026	0.869	0.767	0.983
job_sit=Non working	0.147	0.0632	0.023	0.271	5.415	1	0.020	1.159	1.023	1.311
edu_iscd=ensino secundário	-0.076	0.0664	-0.206	0.054	1.307	1	0.253	0.927	0.814	1.056
edu_iscd=ensino superior	-0.126	0.0725	-0.268	0.016	3.003	1	0.083	0.882	0.765	1.017
est_civil=Casado(a)/União de facto	0.281	0.1050	0.075	0.487	7.177	1	0.007	1.325	1.078	1.628
est_civil=Separado(a)/divorciado(a)	0.330	0.1220	0.091	0.569	7.316	1	0.007	1.391	1.095	1.767
est_civil=Viuvo (a)	0.087	0.1244	-0.156	0.331	0.494	1	0.482	1.091	0.855	1.393
Age during interwiw	0.008	0.0029	0.002	0.013	6.969	1	0.008	1.008	1.002	1.013
feminine ou masculine	-0.053	0.0419	-0.135	0.030	1.574	1	0.210	0.949	0.874	1.030
Model 2										
(Intercept)	0.245	0.2336	-0.213	0.703	1.096	1	0.295	1.277	0.808	2.019
Is household able to make ends meet	-0.116	0.0223	-0.159	-0.072	26.770	1	0.000	0.891	0.853	0.931
Z-score cognitivo total	0.006	0.0077	-0.010	0.021	0.522	1	0.470	1.006	0.991	1.021
job_sit=working	-0.141	0.0632	-0.264	-0.017	4.936	1	0.026	0.869	0.768	0.984
job_sit=Non working	0.149	0.0632	0.025	0.273	5.531	1	0.019	1.160	1.025	1.314
edu_iscd=ensino secundário	-0.087	0.0681	-0.220	0.047	1.623	1	0.203	0.917	0.802	1.048
edu_iscd=ensino superior	-0.143	0.0764	-0.293	0.007	3.505	1	0.061	0.867	0.746	1.007
est_civil=Casado(a)/União de facto	0.275	0.1054	0.068	0.481	6.808	1	0.009	1.316	1.071	1.618
est_civil=Separado(a)/divorciado(a)	0.323	0.1223	0.084	0.563	6.990	1	0.008	1.382	1.087	1.756
est_civil=Viuvo (a)	0.083	0.1246	-0.161	0.327	0.443	1	0.505	1.086	0.851	1.387

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi- Square	df	Sig.		Lower	Upper
Age during interwiw feminine ou masculine	0.008 -0.055	0.0030 0.0421	0.002 -0.138	0.014 0.027	7.483 1.732	1 1	0.006 0.188	1.008 0.946	1.002 0.871	1.014 1.027
Model 3										
(Intercept)	0.243	0.2336	-0.215	0.701	1.084	1	0.298	1.275	0.807	2.016
Is household able to make ends meet	-0.116	0.0224	-0.160	-0.072	26.827	1	0.000	0.890	0.852	0.930
Z-score cognitivo total	0.001	0.0164	-0.031	0.033	0.004	1	0.950	1.001	0.969	1.034
Is household able to make ends meet * Z-score cognitivo total	0.002	0.0069	-0.011	0.016	0.098	1	0.755	1.002	0.989	1.016
job_sit=working	-0.140	0.0632	-0.264	-0.016	4.921	1	0.027	0.869	0.768	0.984
job_sit=Non working	0.149	0.0633	0.025	0.273	5.566	1	0.018	1.161	1.026	1.314
edu_iscled=ensino secundário	-0.089	0.0685	-0.223	0.045	1.689	1	0.194	0.915	0.800	1.046
edu_iscled=ensino superior	-0.148	0.0781	-0.301	0.005	3.592	1	0.058	0.862	0.740	1.005
est_civil=Casado(a)/União de facto	0.276	0.1054	0.069	0.482	6.835	1	0.009	1.317	1.071	1.620
est_civil=Separado(a)/ divorciado(a)	0.325	0.1224	0.085	0.565	7.040	1	0.008	1.384	1.089	1.759
est_civil=Viuvo (a)	0.084	0.1246	-0.161	0.328	0.450	1	0.502	1.087	0.852	1.388
Age during interwiw feminine ou masculine	0.008 -0.056	0.0030 0.0421	0.002 -0.138	0.014 0.027	7.508 1.748	1 1	0.006 0.186	1.008 0.946	1.002 0.871	1.014 1.027

Dependent Variable: Contacta clinico de medicina geral e familiar

Model: (Intercept), Is household able to make ends meet, Z-score cognitivo total, Is household able to make ends meet * Z-score cognitivo total, job_sit=working, job_sit=Non working, edu_iscled=ensino secundário, edu_iscled=ensino superior, est_civil=Casado(a)/União de facto, est_civil=Separado(a)/ divorciado(a), est_civil=Viuvo (a), Age during interwiw, couple or non couple, feminine ou masculine

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

These results suggest that financial stress significantly predicts the number of contacts with general and family medicine clinics, even when controlling for sociodemographic variables. Cognitive scores have a minor and non-significant impact, and the interaction between financial stress and cognitive scores does not significantly affect the outcome.

Models – Specialized Medicine

The exact same models were performed to test the effects on specialized medicine.

No Control Variables

Model 1 included only the financial stress variable. The model fit statistics indicated a deviance of 3884.672 (df = 1310, Value/df = 2.965), Pearson Chi-Square of 4710.292 (df = 1310, Value/df = 3.596), Log Likelihood of -2918.952, and AIC of 5841.904. The Omnibus test showed a likelihood ratio chi-square of 35.846 with 1 degree of freedom, significant at $p < .001$. Significant parameters included the intercept ($B = 0.186$, $SE = 0.0573$, $p = .001$) and financial stress ($B = 0.130$, $SE = 0.0217$, $p < .001$).

Model 2 added cognitive scores to the predictors. The model fit statistics were a deviance of 3863.404 (df = 1309, Value/df = 2.951), Pearson Chi-Square of 4705.967 (df = 1309, Value/df = 3.595), Log Likelihood of -2908.318, and AIC of 5822.636. The Omnibus test resulted in a likelihood ratio chi-square of 57.113 with 2 degrees of freedom, significant at $p < .001$. Significant parameters included the intercept ($B = 0.225$, $SE = 0.0579$, $p < .001$), financial stress ($B = 0.104$, $SE = 0.0225$, $p < .001$), and cognitive scores ($B = 0.033$, $SE = 0.0073$, $p < .001$).

Model 3 included the interaction between financial stress and cognitive scores. The model fit statistics showed a deviance of 3863.403 (df = 1308, Value/df = 2.954), Pearson Chi-Square of 4706.156 (df = 1308, Value/df = 3.598), Log Likelihood of -2908.318, and AIC of 5824.635. The Omnibus test indicated a likelihood ratio chi-square of 57.115 with 3 degrees of freedom, significant at $p < .001$. Significant parameters were the intercept ($B = 0.225$, $SE = 0.0585$, $p < .001$), financial stress ($B = 0.104$, $SE = 0.0232$, $p < .001$), and cognitive scores ($B = 0.033$, $SE = 0.0188$, $p = .081$). The interaction term was not significant ($B = 0.000$, $SE = 0.0072$, $p = .973$).

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
Model 1										
(Intercept)	0.186	0.0573	0.074	0.298	10.552	1	0.001	1.205	1.077	1.348
Is household able to make ends meet	0.130	0.0217	0.088	0.173	36.075	1	0.000	1.139	1.092	1.189
Model 2										
(Intercept)	0.225	0.0579	0.111	0.338	15.022	1	0.000	1.252	1.117	1.402
Is household able to make ends meet	0.104	0.0225	0.060	0.149	21.498	1	0.000	1.110	1.062	1.160
Z-score cognitivo total	0.033	0.0073	0.019	0.048	21.195	1	0.000	1.034	1.019	1.049
Model 3										
(Intercept)	0.225	0.0585	0.110	0.340	14.754	1	0.000	1.252	1.116	1.404
Is household able to make ends meet	0.104	0.0232	0.059	0.150	20.119	1	0.000	1.110	1.060	1.162
Z-score cognitivo total	0.033	0.0188	-0.004	0.070	3.045	1	0.081	1.033	0.996	1.072
Is household able to make ends meet * Z-score cognitivo total	0.000	0.0072	-0.014	0.014	0.001	1	0.973	1.000	0.986	1.014

Dependent Variable: Contacto com outras especialidades

Model: (Intercept), Is household able to make ends meet, Z-score cognitivo total, Is household able to make ends meet * Z-score cognitivo total

a. Fixed at the displayed value.

With Control Variables

Model 1 included financial stress and sociodemographic control variables. The model fit statistics indicated a deviance of 3584.580 (df = 1237, Value/df = 2.898), Pearson Chi-Square of 4321.882 (df = 1237, Value/df = 3.494), Log Likelihood of -2725.665, and AIC of 5473.330. The Omnibus test showed a likelihood ratio chi-square of 150.464 with 10 degrees of freedom, significant at $p < .001$. Significant parameters included the intercept ($B = 0.659$, $SE = 0.2642$, $p = .013$) and job status (working: $B = -0.525$, $SE = 0.0707$, $p < .001$; non-working: $B = -0.261$, $SE = 0.0779$, $p = .001$), education (secondary: $B = 0.286$, $SE = 0.0666$, $p < .001$; higher: $B = 0.427$, $SE = 0.0677$, $p < .001$),

marital status (married/union: $B = 0.384$, $SE = 0.1223$, $p = .002$; widowed: $B = 0.412$, $SE = 0.1401$, $p = .003$), and age ($B = -0.007$, $SE = 0.0033$, $p = .024$).

Model 2 added cognitive scores to the predictors. The model fit statistics were a deviance of 3571.900 ($df = 1236$, $Value/df = 2.890$), Pearson Chi-Square of 4312.474 ($df = 1236$, $Value/df = 3.489$), Log Likelihood of -2719.325, and AIC of 5462.649. The Omnibus test resulted in a likelihood ratio chi-square of 163.144 with 11 degrees of freedom, significant at $p < .001$. Significant parameters included the intercept ($B = 0.479$, $SE = 0.2692$, $p = .075$), financial stress ($B = 0.034$, $SE = 0.0248$, $p = .164$), cognitive scores ($B = 0.031$, $SE = 0.0087$, $p < .001$), job status (working: $B = -0.520$, $SE = 0.0705$, $p < .001$; non-working: $B = -0.247$, $SE = 0.0778$, $p = .001$), education (secondary: $B = 0.221$, $SE = 0.0690$, $p = .001$; higher: $B = 0.331$, $SE = 0.0729$, $p < .001$), marital status (married/union: $B = 0.355$, $SE = 0.1226$, $p = .004$; widowed: $B = 0.390$, $SE = 0.1402$, $p = .005$), and gender ($B = -0.107$, $SE = 0.0471$, $p = .023$).

Model 3 included the interaction between financial stress and cognitive scores along with control variables. The model fit statistics showed a deviance of 3569.247 ($df = 1235$, $Value/df = 2.890$), Pearson Chi-Square of 4296.268 ($df = 1235$, $Value/df = 3.479$), Log Likelihood of -2717.998, and AIC of 5461.997. The Omnibus test indicated a likelihood ratio chi-square of 165.796 with 12 degrees of freedom, significant at $p < .001$. Significant parameters included the intercept ($B = 0.479$, $SE = 0.2697$, $p = .076$), financial stress ($B = 0.042$, $SE = 0.0251$, $p = .097$), cognitive scores ($B = 0.059$, $SE = 0.0194$, $p = .002$), job status (working: $B = -0.524$, $SE = 0.0707$, $p < .001$; non-working: $B = -0.253$, $SE = 0.0780$, $p = .001$), education (secondary: $B = 0.231$, $SE = 0.0691$, $p = .001$; higher: $B = 0.352$, $SE = 0.0737$, $p < .001$), marital status (married/union: $B = 0.354$, $SE = 0.1225$, $p = .004$; widowed: $B = 0.391$, $SE = 0.1402$, $p = .005$), and gender ($B = -0.107$, $SE = 0.0471$, $p = .024$). The interaction term was not significant ($B = -0.012$, $SE = 0.0074$, $p = .104$).

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
(Intercept)	0.479	0.2697	-0.049	1.008	3.158	1	0.076	1.615	0.952	2.740
Is household able to make ends meet	0.042	0.0251	-0.007	0.091	2.760	1	0.097	1.042	0.993	1.095
Z-score cognitivo total	0.059	0.0194	0.021	0.097	9.278	1	0.002	1.061	1.021	1.102
Is household able to make ends meet * Z-score cognitivo total	-0.012	0.0074	-0.027	0.002	2.644	1	0.104	0.988	0.974	1.002
job_sit=working	-0.524	0.0707	-0.663	-0.386	55.017	1	0.000	0.592	0.515	0.680
job_sit=Non working	-0.253	0.0780	-0.406	-0.100	10.534	1	0.001	0.776	0.666	0.905
edu_iscd=ensino secundário	0.231	0.0691	0.096	0.367	11.205	1	0.001	1.260	1.101	1.443
edu_iscd=ensino superior	0.352	0.0737	0.207	0.496	22.756	1	0.000	1.421	1.230	1.642
est_civil=Casado(a)/União de facto	0.354	0.1225	0.114	0.595	8.365	1	0.004	1.425	1.121	1.812
est_civil=Separado(a)/ divorciado(a)	0.083	0.1467	-0.205	0.370	0.316	1	0.574	1.086	0.815	1.448
est_civil=Viuvo (a)	0.391	0.1402	0.117	0.666	7.793	1	0.005	1.479	1.124	1.947
Age during interwiw	-0.004	0.0035	-0.011	0.003	1.337	1	0.247	0.996	0.989	1.003
feminine ou masculine	-0.107	0.0471	-0.199	-0.014	5.126	1	0.024	0.899	0.820	0.986

Dependent Variable: Contacto com outras especialidades

Model: (Intercept), Is household able to make ends meet, job_sit=working, job_sit=Non working, edu_iscd=ensino secundário, edu_iscd=ensino superior, est_civil=Casado(a)/União de facto, est_civil=Separado(a)/ divorciado(a), est_civil=Viuvo (a), Age during interwiw, couple or non couple, feminine ou masculine

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

Conclusions for Models on General and Family Medicine Contacts

The analysis of the three models for general and family medicine contacts reveals that financial ease significantly predicts the number of contacts with these clinics, but in a negative direction. This indicates that as financial ease increases, the number of contacts with general and family medicine clinics decreases. Model 1 shows a strong negative association between financial ease and contact frequency. When cognitive scores are included in Model 2, financial ease remains a significant predictor, and cognitive scores show a minor but significant negative impact. However, in Model 3, the interaction between financial ease and cognitive scores is not significant, suggesting no moderating effect. Including sociodemographic control variables in the extended models does not alter the significance of financial ease, indicating its robust impact on general and family medicine contacts. This trend aligns with patterns seen in other areas where higher financial stability tends to correlate with decreased reliance on general medical services.

Conclusions for Models on Specialized Medicine Contacts

The analysis of the three models for specialized medicine contacts shows that financial ease is a significant predictor of contact frequency, indicating that greater financial ease leads to more contacts with specialized medicine. Model 1 demonstrates this positive association, which persists even after adding cognitive scores in Model 2. Cognitive scores have a significant positive impact, indicating that higher cognitive scores are associated with more specialized medicine contacts. In Model 3, the interaction between financial ease and cognitive scores is not significant, suggesting no moderating effect. The inclusion of sociodemographic control variables in the extended models shows that financial ease and cognitive scores remain significant predictors, highlighting their strong influence on specialized medicine contacts. These findings reflect broader trends where increased financial stability allows individuals to access more specialized medical services, similar to the flexibility offered by platforms like Aura Poker Analytics, which allow users to tailor their strategies based on detailed analyses.