SOCIOECONOMIC DIFFERENTIALS OF THE AGED ON QUEENSLAND'S GOLD COAST: WHY EDUCATION MATTERS

Nerina Vecchio and
Ross Guest
School of Accounting and Finance
Faculty of Commerce and Management
Griffith University Gold Coast Campus
PMB 50 Gold Coast Mail Centre
Queensland 9726 Australia
email: n.vecchio@mailbox.gu.edu.au

Sukhan Jackson
School of Economics
The University of Queensland
Brisbane Qld 4072
email: s.jackson@economics.uq.edu.au

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Nerina Vecchio, Sukhan Jackson and Ross Guest *

This is a socioeconomic study of Gold Coast aged residents to explore their access to private resources (wealth, health and social network) by focusing on individual characteristics (gender and education). The analysis tests the hypothesis that socioeconomic differentials exist between men and women aged 65 and over, by conducting a household survey of 401 residents in 1999. Issues specific to Queensland's Gold Coast (e.g. length of residence and accommodation type) were also investigated.

The analyses revealed that when segregated into single-person and couple households, more single women were economically disadvantaged than single men, but more single men were found to be socially disadvantaged than single women. Education was significant in explaining socioeconomic differentials in both household types and explained some of the gender differences in single-person households.

Key Terms: aged, gender, education, Gold Coast, income, health, housing, Queensland, socioeconomic, social network.

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1. INTRODUCTION

This is a socioeconomic study of men and women aged 65 and over living in the Gold Coast region[1], approximately one hour's drive from Brisbane. The purpose of this work is to examine the relationship between economics and social phenomena using an institutional framework (Forni et al. 1998), and extend previous research on the aged by investigating individual characteristics that most influence their socioeconomic status; specifically, their level of wealth, health and their social network (Arber and Ginn 1991). Clearly, policy making aimed at improving the socioeconomic welfare of the aged will benefit from research of a nature that provides further understanding of the life situations of this sector of our society. (Dugger 1944; O'Boyle 1999).

While income differentials are at the forefront of microeconomic studies of the aged, research on the interrelated social forces in determining status is inadequate. The rising number of single-person households among older Australians - an increase of 24% since 1971 (ABS 1996) - requires new research into household types when studying socioeconomic differentials. The proportion of Australian population aged over 65 years has also risen from 8.5% in 1966 to 12% of the total population in 1996 (ABS 1986; 1996). In addition, the relatively high proportion of the aged residing on the Gold Coast (17% of the total Gold Coast population) far exceeds the Australian average of 12%[2]. This necessarily raises concerns about whether there are adequate resources to accommodate the needs of the aged in this region. An imperative in these concerns, of course, is the notion of self-reliance that since the late 1970s[3] has reduced government budget allocation for the aged, assuring a shift of reliance from public to private resources (see Creedy 2000) [4]. Thus, to assess the adequacy of available resources for the aged population on the Gold Coast, individual characteristics of

[1] Gold Coast City Part B statistical subdivisions includes: Arundel, Ashmore, Benowa, Biggera Waters, Bilinga, Broadbeach Waters, Broadbeach, Bundall, Burleigh Heads, Burleigh Waters, Carrara – Merrimac, Coolangatta, Coombabah, Coomera, Currumbin Waters, Currumbin, Elanora, Ernest – Molendinar, Guanaba – Currumbin Valley, Helensvale, Hollywell, Hope Island, Kerrydale – Stephens, Labrador, Main Beach – Broadwater, Mermaid Beach, Mermaid Waters, Miami, Mudgeeraba, Nerang, Oxenford, Palm Beach, Paradise Point, Parkwood, Robina – Clear Island Waters, Runaway Bay, Southport, Surfers Paradise, Tugun, Worongary – Tallai.

[2] Australian Bureau of Statistics (1999), Information consultancy service.

[3] Initiatives included: introduction of an assets test for the pension in 1984; introduction of Home and Community Care programmes in 1985; progressive increases in superannuation coverage after 1986 under the Accord; introduction of the Superannuation Guarantee Charge in 1992; and monetary incentives initiated by the federal Coalition government in 2000 to encourage private health insurance.

[4] Although, using a range of assumptions, Creedy (2000) found that projections of the ratio of social expenditure to Gross Domestic Product to be only just significantly different.

the aged are likely to be more important in explaining socioeconomic differentials than previously.

Section 2 of this paper highlights the controversy in the literature over the determinants of individual characteristics, and gender differentials in particular, in establishing socioeconomic status. Section 3 outlines the conceptual framework in which the hypotheses is posited, followed by a model for testing the determinants of socioeconomic differentials in Section 4. Section 5 presents an explanation of the research method. The descriptive statistics in Section 6 outline the research results, while the results of testing the hypotheses on the significance of education and other individual characteristics in explaining socioeconomic differentials is defined in Section 7. The conclusions of this study are detailed in Section 8.

2. GENDER VERSUS EDUCATION CONTROVERSY

Since the mid-1980's economists such as Schulz and Crown (1991), Manning and King (1992) and Sax (1993), as well as sociologists Minkler and Stone (1985) and Arber and Ginn (1991) have consistently found that in the general population women are financially worse off than men during old age. However, their explanations for these socioeconomic differentials vary immensely.

Research indicates that older women are more likely than older men to be concentrated at the lower income levels (McFee and Bray 1995; McGarry 1995; Ozawa 1995) as a result of long-term gender disadvantages in the labour market (Sarensen 1990; Ozawa 1995; Lynott and Lynott 1996; Orand 1996). Mehdizadeh and Luzadis (1994) and O'Rand (1996) also identify institutional factors such as the opportunity to save for retirement as sources of inequality among the aged. Investigating how opportunities in working life contribute to income differentials, Arber and Ginn (1991) concluded that gender and class primarily influenced the well-being of people in later life. By contrast, empirical evidence collected by Dressel (1988) and McCallum (1990) dispel the common notion that older women are poorer because they are women, concluding that class and education are more important in determining economic status among the aged.

Discontent has been expressed in the literature with a preoccupation by economists with pecuniary measures of status (Seltzer 1989; Schulz 1992; Manning and King 1992; Saunders 1996). In response to this criticism, contemporary research on the aged now adopts a more holistic approach as subscribed to by social economists, recognising an interrelationship among material wealth, health, and access to social and care resources (Kendig and McCallum 1990; Arber and Ginn 1991; Orand 1996; Schulz 1996; Arber and Ginn 1999). In considering how and why women are disadvantaged, Arber and Ginn (1991) concluded that gender, class, race and household type influence their accessibility to economic and social resources.

Recent studies incorporate household types in the assessment of socioeconomic status. People in single-person households have less access to status-enhancing resources (Hugo and Wood 1984; Colman and Watson 1987; Holden 1989; Harding 1993; OWN 1995; Harding 1997). In addition to income, care for the aged singles has been identified as a limited resource (Arber and Ginn 1991; Manning and King 1992; ABS 1994; Gonyea; Sinha 1995; OWN 1995; Schulz 1996). While the domination of aged women in single-person households partly explains their disadvantaged financial position, studies consistently report that aged women living alone also experience greater financial strains than aged men living alone (Keith 1986; Moon 1989; Arber and Ginn 1991; Blieszner 1993; OWN 1995; Lee et al 1998). This suggests that within the group of aged singles, gender may explain the aged women's poorer financial status.

3. SOCIOECONOMIC STATUS OF THE AGED: WEALTH, HEALTH AND SOCIAL NETWORK

For the purposes of this paper, the socioeconomic status of the aged refers to three forms of private resource:

- **wealth** indicated by the level of income and rate of homeownership;
- **health** indicated by the level of physical independence; and
- **social network** indicated by frequency of contact with family and friends and access to private transport[5].

[5] Ability to drive a motor vehicle and availability of a motor vehicle.

The ability of the aged to access these private resources depends primarily on their individual characteristics[6]. This paper postulates that the most important individual characteristics in accessing these three forms of private resource are *gender and education.* Whilst human capital and institutionalist theories suggest that education and gender discrimination explain wealth differentials with females financially worse off than males (Rothschild and Stiglitz 1982; Bellante & Jackson 1983), this study seeks to extend the understanding of the significance of these variables in determining socioeconomic differentials among the Gold Coast aged.

This paper hypothesises that g*ender and education are significant determinants of the differences in socioeconomic status between men and women aged 65 and over.*

4. THE REGRESSION MODELS

There are three regression models that test for relationships between independent variables (gender and education) that contribute to socioeconomic differentials in wealth (income, home ownership), health (physical independence) and social networks (friendship ties, family ties, private transport). Age is the control variable.

First, analysis of an estimation of the structural model for the total sample establishes the importance of gender and education for each of the indicators of status (income, house ownership, physical independence, friendship ties, family ties, private transport). Table 4 presents the estimated coefficients (with t-statistics in parentheses) for a number of alternative model specifications (*home ownership, income, physical independence, private transport, friendship ties* and *family ties)* of the total sample of 401 aged men and women[7].

The model is:

$$Y_I = \beta_0 + \beta_1 G_I + \beta_2 E_I + \beta_3 A_I + \beta_4 HHT_I + \varepsilon_I \qquad (1)$$

where

[6] While wealth, health and social networks are interrelated (Arber and Ginn 1991), this paper focuses on the gender and education variable

[7] For *home ownership* and *income*, gender is excluded from the model because we assume that *home ownership* and *income* are shared equally within the couple households (Bradbury 1996; Del Bene Vaughan 1992).

Y is a measure of socioeconomic status (either home ownership, physical independence, private transport, friendship ties or family ties) for indicator *i*,

where

G = 1 if male
0 female

E = categories of education: junior, senior and tertiary. the latter is the reference category.

A = age in 5 year cohorts from 65 years

HHT = 1 if single-person household, 2 if couple household

This regression analysis also includes factors specific to the Gold Coast region (residency status and accommodation type) to determine their significance as explanations for variations in the level of social network (friendship ties, family ties). To analyse the socioeconomic status indicators of friendship ties and family ties the model adds:

House = 1 if living in a detached house
0 if relocatable home, unit/flat or high-rise

Resid = 1 if residing on the Gold Coast for more than 10 years
0 if less than 10 years

By recognising that single-person and couple households possess different resource bases, the regression analysis establishes the significance of the gender and the education variable for each of the indicators of socioeconomic status (income, home ownership, physical independence, friendship ties, family ties and private transport) by household type. Studies report that home ownership and income are shared equally within couple households (Bradbury 1996; Del Bene Vaughan 1992). Therefore this analysis excludes the gender variable from the couple household model for dependent variables home ownership and income.

The model is:

$$Y_I = \beta_0 + \beta_1 G_I + \beta_2 E_I + \beta_3 A_I + \varepsilon_I \qquad (2)$$

For the socioeconomic status indicators of friendship ties and family ties, two independent variables, ‘House’ and ‘Resid’, are again added to the model.

To investigate observed gender differences, an interactive model (moderated regression analysis with a dummy variable) determines the difference between the education coefficients

of male and female samples segregated by household type. The model identifies the source of this difference, whether it occurs at their intercept values or slope values or both[8]. The first regression model (1) is augmented by adding slope dummy variables. This is recommended by Herzog (1989) and used by Kessler & McLeod (1984). Hence the second model is:

$$Y_I = \beta_0 + \beta_1 G_I + \beta_2 E_I + \beta_3 (G.E_I) + \beta_4 A_I + \beta_5 (G.A_I) + \varepsilon_I \quad (3)$$

For discrete dependent variables (home ownership, physical independence and private transport) and continuous dependent variables (friendship ties, family ties, and income), a logistic and a linear regression analysis are performed respectively.

5. RESEARCH METHOD

As relevant socioeconomic indicators were unavailable, a household survey was conducted in 1999 of the 10 statistical areas with the highest median age in the City of Gold Coast (Statistical Subdivision)[9]. The majority (93%) of the aged on the Gold Coast resided in private dwellings in 1998(ABS 1998) and therefore the survey focused on the non-institutionalised aged, rather than nursing home residents.

The household survey questions were influenced by the outcomes of key informant interviews with persons providing services for the elderly on the Gold Coast within the following organizations[10]: 60 and Better, Home and Community Care (HACC), Blue Nursing, St Vincent Community Services, Fast Track and Gold Coast City Council.

Because of the influx of retirees to the area, the key informants were able to assist in identifying issues specific to the Gold Coast such as length of residency and accommodation type. These issues have not been considered in previous economic studies.

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[8] Analysis can reveal one of 4 possibilities. That:
Male and female regressions are identical i. e. coincident regression
Male and female regressions differ only in their intercept i. e. parallel regression.
Male and female regressions have the same intercept but different slope i. e. concurrent regression.
Male and female regressions have the different intercepts and different slope i. e. dissimilar regression (Gujarati 1999).

[9] Bilinga, Broadbeach Waters, Burleigh Heads, Burleigh Waters, Coolangatta, Hollywell, Palm Beach, Paradise Point, Runaway Bay, Tugun

[10] The questions on income and home ownership were based on ABS census surveys. Questions relating to the indicators of health and social network were based on the literature

The survey instrument was formatted on multiple choice based on a selection of responses, as well as yes/no responses. The first pilot study (20 participants) revealed that personal interviews posed a strong sampling bias because those living alone were more reluctant to agree to an interview. The second pilot study (132 participants) demonstrated that a postal survey using reply paid envelopes produced a greater response rate.

The data collected from the two pilot studies enabled the refinement of the survey instrument to improve its robustness. This involved compiling a frequency matrix to identify consistent responses, a missing response report to identify misunderstood, inappropriate questions, and bivariate correlation to assist in the greater dispersion of questions.

After the deletion of several questions and the refinement of others, the total number of survey questions reduced from 41 to 29. The final survey questionnaire was distributed to the Gold Coast residents in 1999. The implementation of the refined household survey using the postal method increased the response rate of the household survey from 33.3% (pilot studies conducted in 1998) to 45.4%. The total number of respondents represented 0.8% of the Gold Coast's total 49,235 aged population.

After completion of the survey, the data was screened for validity and reliability using the SPSS statistical package. This involved an examination of the survey data for plausibility, missing data, outliers, normality, linearity, homoscedasticity and mutlicollinearity. The screening process included the deletion of variables with a low response rate (where 15% or more of the respondents did not answer a particular question); the inspection of minimum and maximum values, means and standard deviations of each of the variables; and where there were variables with a low percentage of missing data (i.e. below 5%), the replacement of the missing data with either mean values or additional information gained from the household survey data (Tabachnick and Fidell 1996).

In addition, outliers were minimised by deleting dichotomous variables with more than a 90-10 split between categories (Rummel 1970), and reducing the number of scales among several of the offending continuous variables. After vigorous screening of the data, Box’s Test confirmed the homogeneity of variances. The Spearman correlation (nonparametric) statistics reported no bivariate correlations greater than 0.7 (Tabachnick and Fidell, 1989). The absence of multicollinearity produced no biased coefficients for the explanatory

variables.

Spearman Correlation for Explanatory Variables, Gender, Education and Age

	Coefficient (two –tailed p-value)		
Variable	Gender	Education	Age
Gender	1.000	.151**	.042
Education	.151**	1.000	-.102*
Age	.042	-.102*	1.000

** Correlation is significant at the .01 level (2-tailed). *. Correlation is significant at the .05 level (2-tailed).

A comparison of characteristics of the surveyed households with ABS local area statistics (1996) revealed that the household sample was highly representative of the Gold Coast's aged population.

6. DESCRIPTIVE STATISTICS AND THE RESULTS OF SUBJECTIVE QUESTIONS

This section presents descriptive data of the household survey on 401 non-institutionalised individuals (204 females and 197 males, with a mean age of 74 years). Summary information from the household survey is presented in Table 1. Significant differences are found for private transport ($p<.001$) and income ($p<0.1$) between male and female proportions of the sample i.e. 88% of total male respondents drive cars compared to 55% of total female respondents, while women in the sample population receive 76% of the average income of men. The proportion of the aged relying on other people in their daily activities and frequency of contact with friends and family are the same for both males and females; other indicators reveal little gender differences.

Two subjective questions were also included in the survey to gain greater understanding of the quality of life and livelihood concerns of the aged, specifically, to identify the availability of personal resources and to provide greater insight into the resilience of the aged in crisis situations.

Table 1 **Statistical Characteristics of the Sample By Gender, 1999**

Characteristics	Males (N = 197) Mean	% of total males	Females (N = 204) Mean	% of total females	p-value[11]
Socioeconomic Status Indicators					
Income	$15348.2		$14448.2		0.354
Home ownership		79		81	0.24
Full independent living		77		79	0.358
Friendship ties[12]	25.5 days		24.3 days		0.718
Family ties[13]	13.7 days		14.9 days		0.651
Private Transport		88		55	0.000
Individual Characteristics					
Junior education		44		56.7	0.04
Senior/diploma education		40.3		36.6	0.30
Tertiary education		15.7		6.7	0.02
Age	74.1		73.8		0.68
Single-person households		20.8		44.6	0.00
Lived on Gold Coast 10yrs/+		71.6		72.9	0.42
Reside in a house		42.1		42.6	0.47
Full Pension		41.3		51.3	0.08
English speaking background		90.8		90.5	0.47

Source: Gold Coast Household Survey 1999

The results of the first subjective question: *"Since turning 65 years of age which issues have caused significant hardships, worries or challenges"?* Is disaggregated by gender and household type and is documented in table 2. The results relating to social network indicators reveal greater gender differences than in wealth or health indicators.

In this survey the aged in single-person households are in general susceptible to isolation, but single males do appear to be more socially disadvantaged. However, a greater proportion of both single males (17%) and single females (13%) report very few or no relatives or friends living nearby, compared to a smaller number of men (7.7%) and women (9.6%) from couple households. A relatively large proportion of single males also report separation or divorce as a cause of hardship (17%), and nearly 30% of single males admit to experiencing loneliness.

[11] P-value for home ownership, full independent living, private transport, education, English speaking background, full pension, lived on the Gold Coast 10years or more and household type were calculated using the difference between two population proportions. P-value for age, income, friendship ties and family ties were calculated using ANOVA.

[12] Amount of days respondent met with friends over a three month period.

[13] Amount of days respondent met with family over a three month period.

Table 2 **Issues That Have Caused Significant Hardship Or Worries For Gold Coast Residents 65 Years And Over, 1999**

Hardships/worries	Couple Male (%)	Female (%)	Household % of total Couple	Single-person Male (%)	Female (%)	Household % of total Single	Total % total Male	Households % total Female
WEALTH								
Insufficient income	23.9	20.2	22.3	26.8	23.3	24.4	24.9	21.1
Medical expenses	17.4	14	16	12.2	11.1	11.5	16.2	12.7
Pharmaceutical expenses	17.4	18.4	17.8	17.1	11.1	13	17.3	15.2
Lack of health insurance	4.5	6.1	5.2	4.9	7.8	6.9	5.1	6.4
Lack of other insurance	0	0.9	0.4	4.9	0	1.5	1	.5
Lack financial security	10.3	12.3	11.2	19.5	15.6	16.8	12.7	13.2
Costly health insurance	23.2	28.1	25.3	14.6	23.3	20.6	21.8	25.5
HEALTH								
Deterioration of health	35.5	21.9	29.7	29.3	32.2	31.3	34	26.5
Deterioration of others	16.8	18.4	17.5	7.3	8.9	8.4	14.7	14.2
Loss of independence	1.3	3.5	2.2	2.4	3.3	3.1	1.5	3.4
SOCIAL NETWORK								
Loss of close ones	9.7	8.8	9.3	41.5	38.9	39.7	16.2	22.1
Little family/friends nearby	7.7	9.6	8.6	17.1	13.3	14.5	9.6	11.3
Separation/divorce	0.6	1.8	1.1	17.1	4.4	8.4	4.1	2.9
Inadequate transport	0	3.5	1.5	7.3	10	9.2	1.5	6.4
Difficult access to services	1.3	1.8	1.5	0	6.7	4.6	1	3.9
Unable to drive	5.2	10.5	7.4	2.4	21.1	15.3	4.6	15.2
Loneliness	1.3	5.3	3	29.3	17.8	21.4	7.1	10.8
Personal safety/crime	9	10.5	9.7	17.1	22.2	20.6	10.7	15.7

Source: Gold Coast Household Survey 1999

The survey reveals that an inability to drive is a serious concern for women, more so for those living alone (21%) compared with those living as a couple (10.5%). A greater number of single-person households also express their concern for personal safety (20.6%) and lack of financial security (16.8%), compared with those from couple households (9.7% and 11.2% respectively).

The second subjective question in the survey was "Since turning 65 years of age what strategies have you implemented at least once to alleviate hardships, worries, or challenges?" This question was intended to provide a comparison of resources available to aged men and women. The results are presented in Table 3. Single males are more likely to borrow money and sell major assets in times of hardship than single females. There is a greater tendency among single females (27%) to reduce electricity consumption compared with single males

Table 3 **Strategies Implemented at Least Once to Alleviate Hardship or Worries by Gold Coast Residents aged 65 Years and Over, 1999**

Strategies	Couple Household			Single-person Household			Total Household	
	Male (%)	Female (%)	% of total Couple	Male (%)	Female (%)	% of total Single	% total Male	% total Female
take in boarders	0	0	0	4.9	0	1.5	1	0
borrow	5.8	2.6	4.5	12.2	4.4	6.9	7.1	3.4
sell major assets	5.2	4.4	4.8	9.8	3.3	5.3	6.1	3.9
sell personal assets	3.2	3.5	3.3	2.4	6.7	5.3	3	4.9
sell financial assets	9.7	3.5	7.1	9.8	2.2	4.6	10.2	2.5
cancel insurance policies	6.5	3.5	5.2	7.3	5.6	6.1	7.1	3.9
cancel medical insurance	8.4	6.1	7.4	7.3	8.9	8.4	8.6	6.9
defer elective surgery	1.9	1.8	1.9	7.3	6.7	6.9	3	3.9
cut back medication	1.9	3.5	2.6	4.9	2.2	3.1	2.5	2.9
cut back or cancel therapy	2.6	1.8	2.2	4.9	3.3	3.8	3.6	2
reduce utility consumption	14.2	9.6	12.3	14.6	26.7	22.9	14.7	16.7
buy generic brands	30.3	22.8	27.1	29.3	35.6	33.6	30.5	27.9
join organisations	12.3	9.6	11.2	22	12.2	15.3	14.2	10.8
help from family/friends	3.9	4.4	4.1	9.8	12.2	11.5	5.1	7.8
private health insurance	7.1	7	7.1	0	2.2	1.5	5.6	4.9
play pokies etc	7.7	11.4	9.3	14.6	11.1	12.2	9.1	11.3
drink alcohol or smoke	4.5	6.1	5.2	12.2	6.7	8.4	6.1	6.4
go to shops, movies etc	9.7	13.2	11.2	19.5	21.1	20.6	11.7	16.7
help others	12.9	8.8	11.2	14.6	17.8	16.8	13.2	12.7
remain active	32.9	34.2	33.5	53.7	44.4	47.3	37.1	38.7
reorganise/simplify finances	9.7	8.8	9.3	7.3	8.9	8.4	9.6	8.3

Source: Gold Coast Household Survey 1999

(14.6%) and couple households (12.3%). Those living alone (males 7.3%, females 6.7%) are more likely to defer elective surgery compared with those in couple households (males 1.9%, females 1.8%). This reflects the lack of post operative care resources available for single-person households. More single-person households (males 9.8%, females 12.2%) seek help from friends and relatives than couple households (male 3.9%, female 4.4%). Although single males tend to lack strong social networks, more single males (22%) than single females (12.2%) join organisations to improve their social network.

7. RESULTS

7.1 Analysis of the Total Sample

A test of the full logit models (refer Table 4) for *home ownership*, *health* and *private transport* with predictors against a constant-only model are statistically reliable (X^2 = 21.453, p<.01; X^2 = 21.28, p<.01; X^2 = 109.94, p<.01 respectively)[14]. The predictors, as a set, reliably distinguish between home ownership and non home ownership, dependent and independent living, able to drive and unable to drive. The relatively larger variance in *private transport* is accounted for by gender, education, age and household type.

Gender: Gender explains the differences in access to *private transport*; females are eight times less likely to drive compared with males. This is consistent with Dent (1999) who found that gender and age mainly explained access to *private transport* among the aged.

Education: The survey analysis support the views of Arber and Ginn (1991), McCallum (1990) and Dressel (1988), who found a positive relationship exists between wealth (income and home ownership) and education. Those possessing education levels higher than junior or senior are more likely to own a home and receive incomes greater than others. Education also explains the differences in access to social network as represented by the indicators of *private transport* and *friendship ties.* Those holding poorer educational qualifications are 80% less likely to drive.

Household type*:* The magnitude and significance of the coefficients on household type indicate that this variable explains wealth (indicators *home ownership* and *income)*. Those who live as a couple rather than alone are 2.5 times more likely to own a home[15].

[14] Analysis as suggested by Tabachnick and Fidell (1996).
[15] The higher income received by single-person households reflects the higher pension rate received for those living alone compared to those living as a couple.

Table 4 Regression Analysis of the Total Sample Explaining Status Differentials, Model 1

	Estimate [odds ratio] (t-statistics)			Estimate (t-statistics)		
	Home ownership	**Physical Independence**	**Private Transport**	**Income**	**Friendship ties**	**Family ties**
β_0	1.332*	3.6927***	3.0491***	28763.65***	26.539***	7.191
	[3.788] (1.522)	[40.153] (4.746)	[21.096] (3.637)	(11.193)	(2.958)	(.983)
G		-.0107	2.1594***		.445	-2.666
		[.989] (.0457)	[8.666] (6.778)		(.125)	(-.911)
EJ	-1.88**	-.7321	-1.6490***	-10124.59***	-8.469*	-2.45
	[.153] (2.503)	[.481] (1.404)	[.192] (2.488)	(-6.159)	(-1.476)	(-.524)
ES	-1.791**	-.6934	-1.0145*	-8896.62***	-6.143	-4.253
	[.167] (2.364)	[.4999] (1.313)	[.363] (1.499)	(-5.284)	(-1.054)	(-.895)
A	.108	-.4408***	-.6642***	-32.63	1.273	1.459
	[1.114] (.961)	[.644] (4.091)	[.515] (5.495)	(-.077)	(.876)	(1.224)
HHT	.943***	-.3686	.0420	-3846.732***	-1.711	4.402
	[2.567] (3.487)	[.692] (1.240)	[1.043] (.1449)	(-3.585)	(-.445)	(1.286)
Resid					10.349*** (2.643)	-.579 (-.181)
House					-6.704** (-.867)	4.245 (1.447)
R^2	0.09	.08	.36	.124	.033	.017
F or model X^2	X^2 = 21.453***	X^2 = 21.28***	X^2 =109.94***	F=13.145***	F=1.82**	F=.896

Source: Household Survey 1999 * Significant at 0.1 level (two-tailed). ** Significant at 0.05 level (two-tailed). ***Significant at 0.01 level (two-tailed) Nagelkerke R^2 reported for logistic regression models tenure, physical independence and private transport.

Other variables*:* When testing for explanatory variables specific to the Gold Coast, the analyses reveal that residency status[16] ($p < .01$) and accommodation type ($p < .05$) are significant determinants of social network as indicated by *friendship ties*. The surprising result that single-persons residing in a detached house are more socially isolated than others dispels the commonly held notion among key Gold Coast informants that high rise apartment residents are the most socially isolated. Possibly the low proportion of high rise apartment residents (9.7%) in the survey analysis has misled the results.

7.2 Analysis by household type

Table 5 presents the estimated coefficients (with t-statistics in parentheses) for socioeconomic status indicators: income, home ownership, physical independence, friendship ties, family ties and private transport, segregated by household type. The model does not successfully explain the rate of home ownership of couple households ($X^2 = 5.692$, $p > 0.1$), nor the level of family ties and friendship ties of both single-person ($F = 1.304$, $p > 0.1$) ($F = 1.68$, $p > 0.1$) and couple households ($F = 1.627$, $p > 0.1$) ($F = 1.268$, $p > 0.1$). There is no evidence of skewness or kurtosis to explain the poor results for these models. However, adding to these models physical independence and income as independent variables does explain the rate of home ownership for couple households ($X^2 = 35.9$, $p < 0.01$), the level of family ties for single-person households ($F = 2.541$, $p < 0.05$) and the level of friendship ties for couple households ($F = 1.776$, $p < 0.1$).

7.2.1 Analysis of Single-person Households

Gender: Among single-person households some of the variance in wealth (home ownership (6%)[17] and income (3%)) is accounted for by gender. Interestingly, single females are 66% more likely to own a house but receive a smaller income ($4 423 less per annum) than single males. This could reflect differences in saving patterns over time[18]. Gender also explains private transport status. Males are ten times more likely to drive compared with females. This implies that females are more at risk of being socially disadvantaged. However in the

[16] I.e. how long a resident has lived in the area.
[17] R2 = .06
[18] Since women historically have been excluded from private retirement incomes (Rosenman and Winocour 1989; Orand 1996) they tend to rely on housing as a major form of savings. Men over a lifetime accumulate more private retirement benefits and other liquid assets (ABS 1998b) with greater opportunities to capitalise on their investments.

Table 5 Regression Analysis Explaining Socioeconomic Differentials by Household Type, Model 2

	Estimate [Odds Ratio] (t-statistics are in parentheses)						Estimate (t-statistics are in parentheses)					
	Home ownership		Physical Independence		Private Transport		Income		Friendship ties		Family ties	
	Single	Couple	Single	Couple	Single	Couple	Single	Couple	Single	Couple	Single	Couple
β_0	3.1141*** (2.729)	2.915*** (2.747)	3.9502*** (3.2491)	2.6912*** (3.9759)	2.7793*** (2.9591)	3.4655*** (3.0681)	23063.97*** (5.507)	21269.8*** (13.622)	11.587 (1.049)	31.167*** (3.571)	14.679* (1.797)	13.822** (1.885)
G	-1.0679*** [.3437] (2.4895)		-.1486 [.8619] (.2934)	.0513 [1.0527] (.16)	2.4675*** [11.7934] (3.9057)	2.0959*** [8.1331] (5.4954)	4423.47* (1.693)		8.78 (1.340)	-2.685 (-.620)	-7.022 (-1.443)	-1.733 (-.474)
EJ	-2.2448** [.1059] (2.0629)	-1.709* [.181] (1.635)	-1.4126 [.2435] (1.2841)	-.4560 [.6338] (.7596)	-1.7039** [.1820] (1.9711)	-1.7736* [.1697] (1.6472)	-12119.8*** (-3.092)	-8869.7*** (-6.005)	-7.004 (-.721)	-10.322 (-1.443)	6.819 (.950)	-6.727 (-1.119)
ES	-1.9495* [.1424] (1.7739)	-1.742* [.175] (1.657)	-.9778 [.3761] (.8667)	-.5921 [.5531] (.9824)	-.6229 [.5364] (.6984)	-1.3792 [.2518] (1.2652)	-11405.9*** (-2.842)	-7414.49*** (-4.904)	-1.824 (-.184)	-8.892 (-1.230)	1.216 (.165)	-6.821 (-1.124)
A	.0305 [1.031] (.1954)	.193 [1.213] (1.142)	-.4684*** [.6260] (2.6326)	-.4239*** [.6545] (3.1009)	-.6122*** [.5422] (3.3554)	-.7054*** [.4939] (4.3586)	867.637 (.940)	-645.690* (-1.613)	4.171* (1.808)	-.574 (-.304)	.971 (.563)	1.756 (1.103)
R									11.09* (1.677)	10.29** (2.08)	-6.09 (-1.23)	.952 (.229)
H									-6.77 (-1.034)	-6.62 (-1.53)	-8.05* (-1.66)	9.17 (2.52)
R^2	.131	.038	.134	.066	.405	.312	.105	.140	.079	.030	.063	.038
F or MX^2	X^2=12.07***	5.692	10.998***	11.382***	44.118***	59.510***	F=3.504***	13.555***	1.68	1.268	1.304	1.627

Source: Household Survey 1999 * Significant at 0.1 level (two-tailed). ** Significant at 0.05 level (two-tailed). ***Significant at 0.01 level (two-tailed)

descriptive statistics, single males (29.3%) report greater levels of loneliness[19] compared with single females (17.8%). This paradox may be explained by Millward's (1998) research that found aged women possess more robust relationships among family and friends compare with aged men**.**

Education: A positive relationship exists between wealth (income and home ownership) and education. The coefficients on education significantly explain income levels and the rate of home ownership. For instance, a change in educational attainment from junior to tertiary increases income by $12 120 per annum. Some of the variance in private transport status is also accounted for by education (12%).

Other variables: When testing for explanatory variables specific to the Gold Coast study, the analysis reveals that residency status[20] and accommodation type is approaching significance as a determinant of social network (indicated by friendship and family ties).

7.2.2 Analysis of Couple Households

Gender: Gender is significant in explaining private transport status among couple households. Males are twice as likely to drive than females.

Education: Again there is a positive relationship between wealth (income and home ownership) and education. For instance, a change from junior educational attainment (as highest educational level) to tertiary education increases income by $8 870 per person per annum. Education significantly explains private transport status.

Other variables: As expected residency status is a significant determinant of social network as indicated by friendship ties. Those who have resided on the Gold Coast for less than 10 years possess weaker friendship ties with 10 fewer days contact with friends over a 3 month period compared with those who have resided on the Gold Coast for 10 years or more.

[19] While the descriptive statistics report high levels of loneliness among single males, this personal characteristic was not statistically analysed because it was subjective data with no scale of loneliness, and therefore not quantifiable.
[20] I.e. how long a resident has lived in the area.

7.3 Analysis of Gender Differentials

Table 6 presents results for the interactive model. The coefficents for education and age measure the increase in the expected value of the socioeconomic indicators for males compared with females.

In all the models presented in Table 6 the differential intercept coefficient β_1 is statistically non-significant, indicating that there is no difference between expected values of the socioeconomic indicators for males and females. [21]

Significant differences occur in the slope coefficients for the level of friendship ties among single-person households, private transport status among single-person and couple households, and the level of family ties among couple households. The coefficient of the interaction term for education as an explanation for private transport status and levels of friendship ties is positive and significant. This verifies that education is pronounced among men. An analysis of couple households reveals that education as an explanation for levels of family ties is pronounced among women. The differential slope coefficients for age on private transport status are pronounced among men in couple households, implying that men from couple households are sensitive to increases in age that reduce their capacity to drive.

8. CONCLUSIONS

The descriptive statistics from the household survey of gold coast aged reveal that single-person households carry the greater economic burdens[22] and are less endowed with social networks than couple households. One possible reason is that single-person households may possess less personal resources.

The descriptive statistics also indicate that a greater proportion of single females (27%) reduce their consumption of public utilities (e.g. Electricity), compared to single males

[21] Running the same approach for the total sample (i.e. combining singer-person and couple households) the differential intercept was statistically significant for the private transport model, indicating that male and female levels of *private transport* are different.

[22] Regression analysis of the total sample revealed that household type is important in explaining wealth (indicators home ownership). Those living alone are less likely to own homes compared with those from couple households.

Table 6 **Differential Intercept and Differential Slope Between Coefficients of Male and Female Samples for Each Indicator of Socioeconomic Status: The Interactive Model, Model 3**

	Estimate [Odds Ratio] (t-statistics are in parentheses)					Estimate (t-statistics are in parentheses)				
	Home owner	Physical Independence		Private Transport		Income	Friendship ties		Family ties	
	Single	Single	Couple	Single	Couple	Single	Single	Couple	Single	Couple
β_0	8.4452	8.9023	7.7164	3.5598***	2.071*	24518.3***	18.235	33.148**	16.1*	-2.653
	(.42)	(.4467)	(.4220)	(2.9092)	(1.6661)	(4.987)	(1.387)	(1.817)	(1.636)	(-.173)
G	-7.7386	-4.723	-4.901	-.407	10.314	381.00	-7.936	-9.927	-12.664	17.312
	[.00]	[.009]	[.007]	[.666]	[30154.22]	(.045)	(-.353)	(-.479)	(-.754)	(.996)
	(.3839)	(.236)	(.268)	(.187)	(.5445)					
EJ	-7.5029	-7.043	-5.955	-2.53**	-.7108	-15242.1***	-23.135*	-2.205	4.601	8.887
	[.0006]	[.0009]	[.0026]	[.0797]	[.4912]	(-3.101)	(-1.842)	(-.129)	(.490)	(.618)
	(.373)	(.353)	(.326)	(2.214)	.595					
G.EJ	6.510	7.018	5.781	3.029*	-6.884	7807.71	40.238** (2.000)	-11.322	6.385	-17.225
	[671.811]	[1116.257]	[324.065]	[20.671]	[.001]	(.985)		(-.598)	(.424	(-1.084)
	(.3229)	(.3514)	(.316)	(1.6933)	(.3641)					
ES	-6.1803	-6.037	-5.9814	-1.3198	-.7354	-13765.115***	-13.657	-3.545	1.482	12.884
	[.0021]	[.0024]	[.0025]	[.2672]	[.4793]	(-2.742)	(-1.072)	(-.204)	(.155)	(.884)
	(.307)	(.303)	(.327)	(1.138)	(.606)					
G.ES	3.768	5.133	5.586	2.286	-5.471	3236.38	26.504	-6.212	-2.554	-24.445*
	[43.304]	[169.518]	[266.537]	[9.832]	[.0042]	(.399)	(1.277)	(-.324)	(-.164)	(-1.519)
	(.1868)	(.2569)	(.3052)	(1.1804)	(.2893)					
A	-.1182	-.3247	-.2522	-.6345***	-.4722	1129.739	5.774**	-3.343	.141	2.131
	[.8886]	[.7227]	[.7771]	[.5302]	[.6237]	(1.024)	(2.070)	(-1.067)	(.067)	(.811)
	(1.406)	(1.528)	(1.13)	(3.043)	(2.333)					
G.A	.495	-.472	-.276	.126	-.663*	-810.72	-3.907	4.498	3.156	-.457
	[1.64]	[.6238]	[.7586]	[1.1344]	[.5153]	(-.419)	(-.776)	(.1.141)	(.834)	(-.138)
	(1.406)	(1.1093)	(.9744)	(.2733)	(1.858)					
R							12.096	5.631	-2.909	1.817
							(1.478)	(.747)	(-.467)	(.284)
G.R							1.615	-9.012	-11.051	-1.636
							(.113)	(.897)	(-1.029)	(-.194)
H							-3.261 (-.42)	-5.736 (-.84)	-9.45*(-1.61)	6.113 (1.06)
G.H							-10.490 (-720)	-1.893 (-.213)	5.681 (.521)	5.060 (.675)
R^2	.248	.194	.08	.426	.349	.114	.118	.041	.081	.051
F /model	23.928***	16.285**	13.746***	46.849***	67.703***	2.139**	1.356	.929	.895	1.162
X^2										

Source: Household Survey 1999 * Significant at 0.1 level (two-tailed). ** Significant at 0.05 level (two-tailed). ***Significant at 0.01 level (two-tailed)

(14.6%), and couple households (1
2.3%). Thus, the findings confirm that single females tend to experience the greatest financial hardship. However, this investigation has found that single males have poorer social networks with nearly 30% of them reporting loneliness compared to 17.8% of single females, and only 3% of couples.

The significance of gender and education in explaining socioeconomic differentials is verified in this study, which reveals conclusively that education is a significant determinant of socioeconomic differentials (as indicated by wealth, health and social network) among the total sample and both household types (single-person and couple). Education is a significant determinant of income levels, private transport status and the rate of home ownership among the aged for both household types. The results of the statistical analysis show that most of the gender differences in the level of friendship ties and private transport status among single-person households derive from the different education levels reported by single males and single females. Among couple households, education as the explanation for levels of family ties is pronounced among women.

By contrast, gender explains only private transport status in the total sample and in couple households, revealing that more women than men are unable to drive implying lesser opportunities for social networking. Among single-person households gender is important for explaining the rate of home ownership and income levels, although to a lesser extent. It is interesting to note that single females have a tendency to be the more financially disadvantaged whilst single males are more socially disadvantaged.

REFERENCES

Arber, S. and Ginn, J. (1991) *Gender and Later Life. A Sociological Analysis of Resources and Constraints,* London: Sage.

Bellante D. and Jackson M. (1985) *Labor Economics, Choice in Labor Markets,* New York: McGraw Hill.

Bradbury, B. (1996) 'Household Income Sharing. Joint Consumption and the Expenditure Patterns of Australian Retired Couples and Single People'*, CPRC Discussion Paper 66*, University of NSW, Social Policy Research Centre.

Chapman, B. (1984) 'Sex Differences in Earnings: Changes over the 1970s in the Australian Public Service', in *Australian Labour Economics Readings, third edition,* in Chapman, Issac and Miland (eds), Melbourne: Macmillan.

Creedy, J. (2000) 'The Growth of Social Expenditure and Population Ageing', *Economic Papers,* 19(4); 15-32.

Del Bene, L. and Denton, V. (1992) 'Income Assets and Health Insurance: Economic Resources for Meeting Acute Health Care Needs of the Aged', *Social Security Bulletin*, 55(1); 3-25.

Forni, F., Frey, A. and G. Quaranta (1998) 'Frederic Le Play: a Forefather of Social Economics', *International Journal of Social Economics*, 25 (19); 1380-1397.

Gujarati, D. (1999) *Essentials of Econometrics, Second Edition,* Boston: McGrawhill.

Harding, A. (1997) 'The Suffering Middle: Trends in Income Inequality in Australia, 1982 to 1993-94', *The Australian Economic Review,* 30 (4); 341-48.

Herzog, A. (1989) 'Methodological Issues in Research on Older Women', in *Health and Economic Status of Older Women*, in Herzog, A., Holden C. and Seltzer M. (ed.), New York: Baywood.

Hurd, M. (1990) 'Research on the Elderly: Economic Status, Retirement and Consumption and Saving', *Journal of Economic Literature,* 28; 565-637.

Kendig, H. and McCallum, J. (eds.) (1990) *Grey Policy. Australian Policies for an Ageing Society,* Sydney: Allen & Unwin.

Kessler, R. and McLeod J. (1984) 'Sex Differences in Vulnerability to Undesirable Life Events', *American Sociological Review*, vol. 49, pp. 620-631.

Lynott, R. and Lynott P. (1996) 'Tracing the Course of Theoretical Development in the Sociology of Aging', *The Gerontologist*, 36 (6); 749-760.

Manning, I. and King S. (1992) 'Incomes and Housing Costs of Older Australians', *Social Security Review,* Canberra: Department of Social Security.

Mc Callum, J. (1990) 'Winners and Losers in Retirement Income', in *Grey Policy. Australian Policies for an Ageing Society,* in Kendig, H. and McCallum, J. (eds.), Sydney: Allen & Unwin.

McGarry, K. (1995) 'Measurement Error and Poverty Rates of Widows', *The Journal of Human Resources,* 30 (1); 113-134.

McFee, G. and Bray G. (1995) *Older People in New South Wales: A Profile,* Sydney: Social Policy Directorate NSW and Australian Bureau of Statistics.

Mehdizadeh, S. and Luzadis R. (1994) 'The Effect of Job Mobility on Pension Wealth', *The Gerontologist, 34 (3);* 173-179.

Millward, C. (1998) *Family Relationships in Intergenerational Exchange in Later Life,* Working paper no. 15, Australian Institute of Family Studies, Melbourne.

Minkler, M. and Stone R. (1985) 'The Feminization of Poverty and Older Women', *The Gerontologist,* 25; 351-357.

Orand, A. (1996) 'The Precious and the Precocious: Understanding Cumulative Disadvantage and Cumulative Advantage Over the Life Course', *The Gerontologist,* 36 (2); 230.

Ozawa, M. (1995) 'The Economic Status of Vulnerable Older Women', *Social Work,* 40 (3); 323-331.

Saunders, P. (1996) 'Poverty and Deprivation', in *Australia Year Book*. ABS, Cat.1301.0, Canberra.

Sax, S. (1993) *Aging and Public Policy in Australia,* Sydney: Allen and Unwin.

Schulz, J. (1996) 'Facts to Keep in Mind When You're Older Americans are "Better Off"', *Perspective on Aging, April-June, pp. 4-10*.

Schulz, J. (1992) *The Economics of Aging, Fifth Edition,* New York: Auburn House.

Schulz, J., A. Borowski and Crown, W. (1991) *Economics of Population Aging. The Graying of Australia, Japan, and the United States,* New York: Auburn House.

Seltzer, M. (1989) 'Conclusion', in *Health and Economic Status of Older Women*, in Herzog, A., Holden, K. and Seltzer, M. (eds), New York: Baywood Publishing.

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