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ABSTRACT

Background: Socioeconomic inequalities in mental health have been shown in a number of populations. This study aims to investigate the association between asset wealth and psychological distress in New Zealand and whether it is independent of other socioeconomic measures and baseline health status.

Methods: Data for this study were from the first three waves of the Survey of Families, Income and Employment (SoFIE) conducted in New Zealand (2002–2004/05) (n = 15 340). The Kessler-10 was used as a measure of psychological distress. The association of quintiles of wealth with psychological distress was investigated using logistic regression, controlling for confounders, socioeconomic variables and prior health status.

Results: The odds ratio (OR) of reporting high psychological distress were greater in the lowest wealth quintile compared with the highest (OR 3.06, 95% CI 2.68 to 3.50). Adjusting for age and sex did not alter the relationship; however, adjusting for income and area deprivation attenuated the OR to 1.73 (95% CI 1.48 to 2.04). Further controlling for baseline health status reduced the OR to 1.45 (95% CI 1.23 to 1.71), although the confidence interval still excluded the null.

Conclusions: Inequalities in wealth are strongly associated with psychological distress, over and above other confounding demographic variables and baseline health status. Much, but not all, of that association is confounded by adult socioeconomic position. This suggests that policy measures to improve asset wealth, through savings and home ownership, may have positive health implications and help to reduce health inequalities.

Socioeconomic inequalities in mental health and psychological distress have been shown in a number of populations.[1–4] Many of these studies have shown higher rates of specific disorders, such as depression and anxiety, in lower socioeconomic status (SES) groups.[5 6] In New Zealand (NZ), just under half the population experience a mental disorder at some point in their lives, and it has been shown that the 12-month prevalence is higher for people living in disadvantaged circumstances (lower income or education or living in very deprived areas).[7] It is necessary to understand disparities in population-wide levels of psychological distress to facilitate the reduction of health inequalities in NZ.[8]

An important issue in understanding the association between poorer mental health status and low SES is the measure used to ascertain SES. Most studies use occupation or education as measures of SES, which have well-known limitations such as sex, age and cohort effects.[9 10] Income is also commonly used; however, this has been shown to be influenced by short-term changes in occupation, employment and previous health status (health selection).[10–13] Wealth (or net worth) is a measure of accumulated economic resources (over a lifetime) that is less influenced by recent economic changes[14 15] and health selection.[16] Greater wealth has been shown to be associated with better health, after adjustment for other measures of SES, in a number of studies.[15]

Wealth has also been shown to have a stronger or different association with mental disorders such as mood and anxiety than more time-varying variables such as current income.[14] However, there is still limited research on the association of wealth (net worth) with mental health status, due to difficulties in collecting detailed and sensitive data on assets and liabilities in population studies.[17] A number of studies have shown that the significant association between wealth and mental health remained after adjusting for other socioeconomic measures such as income and education.[14 16 18 19]

The aim of this analysis was to investigate the associations between asset wealth and mental health in NZ and whether these are independent of confounding socioeconomic factors and prior health status. If inequalities in wealth are found to have a strong association with mental distress, over and above confounding demographic and socioeconomic variables, this may have implications for aetiological understanding and policy initiatives targeting wealth and reducing inequalities in mental health.

METHODS

Data

Data for this study were utilised from the first three waves of the Survey of Families, Income and Employment (SoFIE) conducted in NZ (2002–2010).[20] Briefly, SoFIE is a representative fixed household panel longitudinal survey of the usually resident population living in private dwellings. The initial SoFIE sample comprised approximately 11 500 responding private households (response rate of 77%) with over 22 000 adults responding in Wave 1, reducing to just over 20 000 in Wave 2 (91%) and 18 300 in Wave 3 (83% of Wave 1 responders).

In SoFIE, face-to-face interviews are used to collect information annually on income levels, sources and changes, and on the major influences on income such as employment and education experiences, household and family status and changes, demographic factors and health status. Every 2 years (Waves 2, 4, 6 and 8), information on assets and liabilities is collected to monitor net worth and savings. A battery of health questions,

collecting information on health-related quality of life, psychological distress, co-morbidities (eg, stroke, diabetes, injury), lifestyle factors, perceived stress and primary care usage, is used in the alternating years (Waves 3, 5 and 7), giving rise to the SoFIE-Health substudy.

Measures

The main outcome measure was level of non-specific psychological distress at Wave 3, based on the Kessler-10 scale (K-10),[21–23] which asks about negative emotional states experienced in the 4 weeks prior to interview. The scores were grouped into four levels: low (10–15), moderate (16–21), high (22–29) and very high (30+).[23 24]

The main exposure of interest was wealth (net worth) at Wave 2, calculated by subtracting the total value of all liabilities from the total value of all assets for individuals and couples. Overall wealth for each respondent was calculated by taking the couple's total wealth and dividing by two if the respondent was in a couple; otherwise, the individual's total wealth was used. Quintiles of wealth are given in table 1.

Other socioeconomic measures were taken from the Wave 2 interview and considered as confounders in the current analyses. Household income was derived by totalling adult annual personal income (before tax) from all sources received, consumer prices index (CPI) adjusted, equivalised for household economies of scale using a NZ-specific Jensen index[25] and categorised into quintiles. Labour force involvement was defined as being employed, not employed but seeking work or not employed and not seeking work at the time of the interview. The highest level of education was coded as nil, school, post-school vocational or degree or higher qualification. The NZ deprivation (NZDep2001) index provides a neighbourhood-level deprivation score.[26]

Other demographic confounders were measured at the Wave 2 interview: age, sex, prioritised ethnicity, legal marital status (never legally married, divorced/separated/widowed or legally married) and family composition (couple only, couple with children, sole parent or not in a family nucleus).

Responses to the global self-rated health question, asked at every wave, were coded as fair/poor compared with excellent/very good/good. Self-rated health at Wave 1 was used to control for health selection.

Statistical analysis

All analyses were conducted using SAS 8.2 within the Statistics NZ data laboratory, Wellington, using SoFIE data version 4. Correlations between socioeconomic and health variables were established using Pearson's product moment correlation. Logistic regression analyses were used to investigate the association of quintile of wealth with psychological distress, comparing K-10 scores low (10–15) vs moderate to high (>15). A staged approach was used where demographic and socioeconomic variables were added to the crude model to see how the relationship between wealth and mental health changed using the change in estimates technique, with a threshold of 10% change indicating a significant effect on the relationship.[27] Sociodemographic confounders were added to the model. The final full model included the demographic and socioeconomic confounders that significantly changed the relationship between wealth and mental health. Finally, self-rated health was added to this model as a control for health selection. Figure 1 presents a directed acyclic graph (DAG) depicting the temporal component of the variables in the model.

To investigate for possible effect modification of the association of wealth with psychological distress, the final models were repeated stratifying by sex.

RESULTS

A total of 15 340 respondents aged 25 years or older were interviewed in the first three waves of SoFIE. There were 285 respondents with missing wealth information and 205 with missing information on psychological distress (final model n = 14 850).

Table 1 shows the demographic and socioeconomic characteristics of the SoFIE population by extent of psychological distress measured by the K-10. Nearly 80% of the population had low levels of psychological distress. There was a linear inverse relationship between wealth and level of psychological distress with more respondents in the lower wealth quintiles scoring moderate to very high levels of psychological distress (K-10>15) than respondents in the upper wealth quintiles. A similar relationship was observed across equivalised household income and area deprivation. A greater proportion of females reported moderate to high levels of psychological distress than males, which was also seen across the wealth quintiles (data not presented), with 32% of females reporting higher levels of distress in the lowest wealth quintile, compared with 28% of males. Self-reported health status (at Wave 1) was strongly associated with the K-10 score at Wave 3, with increasing proportions of respondents reporting moderate to high levels of psychological distress with worsening health status (Pearson correlation 0.25).

Table 2 presents the results of the univariate and multivariable logistic regression analyses. There was a threefold increase in the crude odds of reporting high psychological distress in the lowest wealth quintile compared with the highest wealth quintile (OR 3.06, 95% CI 2.68 to 3.50). This relationship remained after controlling for age and sex. Adjusting for additional demographic and socioeconomic confounders reduced the OR to 1.73 (1.48 to 2.04), a 65% reduction in the excess OR. Adjustment for equivalised household income and NZDep attenuated the crude association of wealth with mental health the most (changing the excess OR between quintiles 1 and 5 by over 30%). The association of quintiles of wealth with mental health was stronger than for quintiles of household income in all models.

To investigate the possible impact of health selection, self-reported health at Wave 1 was added to the full multivariable model 3. The relationship between wealth and psychological distress further attenuated to an OR of 1.45, but the 95% CI still excluded 1.0 (1.23 to 1.71).

The models in table 2 were stratified by sex, and the association between wealth and psychological distress was stronger in women than in men (data not shown). However, the direction of the relationship between wealth and psychological distress was similar, with overlapping confidence intervals for women and men.

DISCUSSION

This study has shown that there is a significant relationship between level of wealth and psychological distress after adjustment for posited confounding demographic and socioeconomic variables and adjusting for prior health status. The results also suggest that mental health may be more strongly associated with long-term economic circumstance than current income.

Table 1 Level of psychological distress by demographics (at Wave 2)*

	n	K10- Psychological Distress	
		Low n (%)	Mod–High n (%)
Total	15 140	11 990 (79.2)	3150 (20.8)
Wealth			
Q1 low–<$25 587	2870	2000 (69.7)	870 (30.3)
Q2 $25 587–<70 313	2960	2235 (75.5)	725 (24.5)
Q3 $70 313–<128 087	2995	2415 (80.6)	580 (19.4)
Q4 $128 087–<232 932	3010	2495 (82.9)	515 (17.1)
Q5 $232 932– high	3015	2640 (87.6)	375 (12.4)
Sex			
Male	6895	5610 (81.4)	1285 (18.6)
Female	8245	6380 (77.4)	1865 (22.6)
Age at interview (years)			
25–34	2665	2015 (75.6)	650 (24.4)
35–44	3720	2900 (78.0)	820 (22.0)
45–54	3265	2650 (81.2)	615 (18.8)
55–64	2605	2145 (82.3)	460 (17.7)
65–74	1670	1350 (80.8)	320 (19.2)
75+	1220	940 (77.0)	280 (23.0)
Marital status			
Never married	2750	2065 (75.1)	685 (24.9)
Divorced/widowed Separated	3065	2285 (74.6)	780 (25.4)
Legally married	9315	7640 (82.0)	1675 (18.0)
Ethnicity—prioritised			
NZ/European	12 175	9840 (80.8)	2335 (19.2)
Māori	1485	1095 (73.7)	390 (26.3)
Pacific peoples	565	375 (66.4)	190 (33.6)
Asian	675	510 (75.6)	165 (24.4)
Other	235	170 (72.3)	65 (27.7)
Standard family type			
Couple only	4825	3965 (82.2)	860 (17.8)
Couple with children	5900	4775 (80.9)	1125 (19.1)
Sole parent	1255	855 (68.1)	400 (31.9)
Not in a family nucleus	3155	2395 (75.9)	760 (24.1)
Labour force status			
Working	10 085	8355 (82.8)	1730 (17.2)
Not employed, looking for work	245	160 (65.3)	85 (34.7)
Not employed, not looking for work	4800	3470 (72.3)	1330 (27.7)
Highest education			
No qualification	3815	2860 (75.0)	955 (25.0)
School qualification	3470	2715 (78.2)	755 (21.8)
Post school qualification	5580	4495 (80.6)	1085 (19.4)
Degree or higher	2270	1920 (84.6)	350 (15.4)
Equiv household income			
Q1 low–<$21 078	1620	1090 (67.3)	530 (32.7)
Q2 $21 078–<34 010	3550	2610 (73.5)	940 (26.5)
Q3 $34 010–<49 379	2870	2250 (78.4)	620 (21.6)
Q4 $49 379–<72 280	3295	2775 (84.2)	520 (15.8)
Q5 $72 280–< high	3800	3270 (86.1)	530 (13.9)
NZ deprivation			
Q1 (least)	1640	1250 (76.2)	390 (23.8)
Q2	2450	1750 (71.4)	700 (28.6)
Q3	3450	2575 (74.6)	875 (25.4)
Q4	3475	2845 (81.9)	630 (18.1)
Q5 (most)	4120	3570 (86.7)	550 (13.3)
Self-rated health (Wave 1)			
Excellent	5435	4775 (87.9)	660 (12.1)
Very good	5065	4140 (81.7)	925 (18.3)
Good	3245	2340 (72.1)	905 (27.9)
Fair/poor	1390	735 (52.9)	655 (47.1)

*All numbers of respondents presented in this paper are random rounded to the nearest multiple of 5, with a minimum value of 10, as per Statistics New Zealand protocol. All dollar values are NZ dollars.

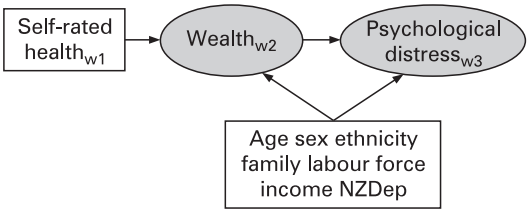

Figure 1 Directed acyclic graph of the association between wealth and psychological distress.

To date, there has been little epidemiological research investigating the association of wealth with mental health, due to difficulties in collecting this information in large population-based studies. The current study found an inverse relationship of increasing levels of psychological distress with decreasing levels of wealth. The 70% increase in the odds of having moderate to high levels of psychological distress between extreme wealth quintiles after adjusting for other socioeconomic and health variables was similar to results found in other studies.[16 18] Using data from the Whitehall II study, researchers investigated the effect of personal and household income and wealth on self-rated health and depression.[16] They found that the association between household wealth and both health outcomes was stronger than the income–health association. Also, the association with wealth seemed to be less affected by controlling for baseline health status and other socioeconomic measures (education and employment grade). However, Martikainen *et al*[16] did not model income and wealth together in the same model, so we cannot differentiate whether the effects are independent of each other.

It has previously been hypothesised that wealth is a more relevant measure of socioeconomic disparities in mental health than income, as wealth estimates the underlying financial stability and security of a person. Individuals who have financial or physical assets may feel more in control of their lives, leading to less vulnerability to anxiety or mood disorders[14] or to severe psychological symptoms. The wealthy individual will be less influenced by economic shocks such as loss of job or changes in income. A recent Australian study showed, in a mutually adjusted model, that wealth was a stronger predictor of mental health status than income.[18] Similar results have been shown in the United States, with associations between wealth and mood disorders or mental health remaining significant even after multivariate adjustment of demographic and other social class measures, including income.[14 28] The current study supported this hypothesis, finding that wealth is an independent predictor of psychological distress, even after adjusting for current income. This supports previous research showing that wealth is a unique measure of socioeconomic position and should be used in conjunction with other socioeconomic measures to attempt to identify and explain inequalities in health.[15–18] It also suggests the possibility that policy interventions focused on wealth accumulation may have some potential to contribute to the enhancement of mental health status.

The strength of the association of wealth with psychological distress may be stronger than for income because of the more unequal distribution of wealth compared with income, which has been shown across a number of countries.[29] Disparities in wealth at a population level have been shown in both Australia and NZ, with the top 10% of wealthy individuals owning over half of total net worth in a NZ study,[30] and the top 10% in Australia owning 45% of total wealth.[31] The most recent GINI

Table 2 Odds ratios (ORs) and 95% confidence intervals (CI) for logistic regression models of wealth quintiles on psychological distress*

	Univariate	Multivariate 1†		Multivariate 2‡		Multivariate 3$	
	OR (95% CI)	OR (95% CI)	Type 3 p value	OR (95% CI)	Type 3 p value	OR (95% CI)	Type 3 p value
Wealth			<0.0001		<0.0001		<0.0001
Q1: low–<$25 587	3.06 (2.68 to 3.50)	3.26 (2.83 to 3.74)		1.73 (1.48 to 2.04)		1.45 (1.23 to 1.71)	
Q2: $25 587–<70 313	2.28 (1.99 to 2.61)	2.37 (2.07 to 2.73)		1.65 (1.42 to 1.92)		1.45 (1.24 to 1.69)	
Q3: $70 313–<128 087	1.68 (1.46 to 1.94)	1.70 (1.48 to 1.96)		1.32 (1.14 to 1.53)		1.18 (1.01 to 1.37)	
Q4: $128 087–<232 932	1.45 (1.25 to 1.67)	1.44 (1.25 to 1.67)		1.24 (1.07 to 1.44)		1.19 (1.02 to 1.38)	
Q5: $232 932– high (ref)	1.00	1.00		1.00		1.00	
Age at HED		1.00 (1.00 to 1.01)	0.0012	0.99 (0.99 to 0.99)	<0.0001	0.98 (0.98 to 0.99)	<0.0001
Sex: female		1.27 (1.171 to 1.38)	<0.0001	1.10 (1.01 to 1.20)	0.0238	1.17 (1.07 to 1.27)	0.0006
Self-rated health							<0.0001
Excellent (ref)						1.00	
Very good						1.64 (1.47 to 1.84)	
Good						2.73 (2.42 to 3.08)	
Fair/poor						5.98 (5.15 to 6.95)	
Ethnicity: prioritised					0.0014		0.0001
NZ/European (ref)				1.00		1.00	
Maori				0.99 (0.86 to 1.14)		0.94 (0.81 to 1.08)	
Pacific Peoples				1.38 (1.13 to 1.70)		1.43 (1.16 to 1.76)	
Asian				1.20 (0.99 to 1.46)		1.22 (1.01 to 1.49)	
Other				1.44 (1.06 to 1.95)		1.50 (1.10 to 2.04)	
Standard family type					<0.0001		0.0001
Couple only				1.08 (0.96 to 1.21)		1.06 (0.94 to 1.19)	
Couple with children (ref)				1.00		1.00	
Sole parent				1.37 (1.18 to 1.59)		1.33 (1.14 to 1.54)	
Not in a family nucleus				1.29 (1.14 to 1.46)		1.23 (1.09 to 1.40)	
Labour force status					<0.0001		0.00008
Employed (ref)				1.00		1.00	
Not employed, looking				1.74 (1.31 to 2.32)		1.63 (1.22 to 2.18)	
Not employed, not looking				1.62 (1.45 to 1.80)		1.35 (1.20 to 1.51)	
Equiv household income					<0.0001		<0.0001
Q1: low–<$21 078				1.58 (1.34 to 1.86)		1.35 (1.14 to 1.60)	
Q2: $21 078–<34 010				1.39 (1.21 to 1.60)		1.24 (1.07 to 1.43)	
Q3: $34 010–<49 379				1.26 (1.09 to 1.44)		1.16 (1.01 to 1.33)	
Q4: $49 379–<72 280				0.98 (0.85 to 1.12)		0.92 (0.80 to 1.06)	
Q5: $72 280– high (ref)				1.00		1.00	
NZDep					<0.0001		<0.0001
Q1 (least) (ref)				1.00		1.00	
Q2				1.32 (1.14 to 1.52)		1.25 (1.08 to 1.45)	
Q3				1.30 (1.12 to 1.51)		1.22 (1.05 to 1.42)	
Q4				1.62 (1.41 to 1.86)		1.50 (1.30 to 1.73)	
Q5 (most)				1.58 (1.36 to 1.84)		1.40 (1.20 to 1.63)	

*All numbers of respondents presented in this paper are random rounded to the nearest multiple of 5, with a minimum value of 10, as per Statistics New Zealand protocol.
†Adjusting for age at Wave 2 interview and sex.
‡Further adjusting for other demographic and socioeconomic factors.
$Further adjusting for self-rated health at Wave 1.
All dollar values are NZ dollars.

coefficient for wealth in NZ was 0.69, using SoFIE data.[30] However, the uneven distribution of wealth in NZ is not as extreme as that seen in the United States and Latin America.[29 32 33] Therefore, the results of our study may be more relevant for countries with more even distribution of wealth across the population, such as Southeast Asia.[33] It might be expected that the relationship would be even stronger in countries with more extreme inequalities in the distribution of wealth.

One of the strengths of our analysis is the temporality of the variables included in the model (see fig 1). But as discussed in the Methods, there are a number of limitations to our analyses. Wealth is not completely exogenous of mental health with potential reverse causation of mental health on wealth (ie, health selection). We adjusted for self-rated health in the year(s) prior to when the wealth and psychological distress information was collected to test for health selection bias, which was conceptualised as confounding.[34] Self-rated health has been shown to be strongly associated with measures of physical and mental health.[35 36] It has been shown in a number of longitudinal studies that health selection is not the primary cause or reason for the development of social class differences in mental health outcomes in the adult years.[37 38] We found that adjusting for health selection attenuated the association but did not fully remove it. However, prior health status may be a function of prior asset wealth, meaning that, in part at least, we are (over)adjusting for a variable on the pathway between cumulative life-course asset wealth and psychological distress. Life-course studies have shown a number of measures, such as parental mental health status and childhood socioeconomic

position, to be associated with adult mental health status.[39] Although we do not have detailed measures over the life course, we aim to investigate, in more depth, the direction (and strength) of the causal pathways between socioeconomic circumstance and mental health when more of the longitudinal data from the SoFIE study are available.

We have considered wealth as a variable accrued based on previous income, labour force status and other factors contingent on demographics. These variables are considered as confounders, rather than mediators, given their likely association with psychological distress through pathways other than wealth. Thus, we are attempting to identify the unconfounded association of wealth with psychological distress. Two key arguments can be raised against these assumptions. First, socioeconomic factors may be reciprocally influenced by wealth, eg, one may generate income based on investments of capital, or one may choose not to work if asset wealthy. We considered these to be lesser magnitude associations than the direct (and reverse) contribution of these variables to wealth. An exception may be neighbourhood deprivation given that the socioeconomic status of the neighbourhood in which one lives is determined, in part at least, by one's asset wealth. Second, we are implicitly assuming that Wave 2 measures of income and labour force status sufficiently capture the prior life-course income and labour force status. Thus, there may be residual confounding.

Adjusting for demographic and socioeconomic factors reduced the excess OR for the lowest compared with the highest quintile of wealth by 78% (95% CI 3.06 to 1.73). It is not inconceivable, therefore, that better measurement of covariates would have seen the OR reduce to the null.[40 41] We also used a selection process for including covariates that required a 10% shift in wealth-self-rated health excess OR, meaning that we may have underestimated the true impact of confounding. However, two potential biases in the opposite direction probably at least offset this possible residual confounding bias. First, some of the socioeconomic factors we considered as confounders may, in part at least, also be on the causal pathway, or correlated with other variables on the causal pathway, from wealth to mental health, meaning that we potentially overadjusted (eg, NZDep). Second, inevitable (and probably non-differential) misclassification bias of our exposure and outcome, asset wealth and mental health, may lead to underestimation of the true wealth–mental health association.

Another strength of the current analysis, compared with other observational studies, is that it was based on a large population-based panel study that is representative of the NZ population. Therefore, although the results presented here were not weighted to the NZ population, they should be generalisable to the majority of the population.

Attrition, and possible resultant selection bias, is a limitation in using longitudinal data. In Wave 3 of the SoFIE study, 83% of the original sample members were re-interviewed,[20] which, combined with the household response rate at Wave 1 of 77%, gives an estimated effective response rate of 64%. However, the attrition within the SoFIE study is low compared with other population-based longitudinal panel surveys.[42 43] Selection bias might arise in our analyses if, on average across the strata of all variables included in the modelling, there was a different wealth–mental health association among those eligible but not included. It is not possible to estimate whether such bias occurred. Given the large effect sizes in this study, it seems implausible that a large *inverse* association of asset wealth with mental health existed among the excluded. For example, for the OR of 1.45 in the final model to have been 1.0 for all eligible people would have required an implausible OR of about 0.5 among the excluded.

There are a number of limitations inherent in collecting wealth data in population-based surveys. Difficulties in capturing the wealthiest population lead to underestimation of the upper end of the net worth distribution compared with other parts of the distribution. Wealthy people have more item non-response because they have more diverse and extensive asset portfolios. There has also been debate about whether wealth should be equivalised for household size, with little consensus on best practice.[31 44] Therefore, in order to model individual wealth rather than household wealth, we divided couple wealth by two. A number of other studies have used equivalised wealth.[44 45] However, there may be disadvantages in equivalising wealth, with the assumption that joint wealth is not equal between parties and males typically hold more wealth than females.

The K-10 scale is a common instrument used to screen for non-specific psychological distress in population surveys.[21 22] The K-10 used in this survey asks about mental health over the past 4 weeks prior to the interview, so the current estimates are likely to underestimate the prevalence of psychological distress in the population. However, the prevalence of low psychological distress and the distribution across a number of demographic and socioeconomic measures were similar to those found in the recent NZ Health Survey.[46] High and very high scores on the K-10 are strongly associated with clinical diagnoses of depression and anxiety.[23 47]

Future analyses of these data may examine the differential effects of financial wealth (savings) compared with household wealth (home ownership) on health status and mental health. Also, once additional waves of the SoFIE data are collected, we can investigate in more detail the causal pathway between wealth and mental health, eg, by looking at the effects of simultaneous changes in wealth on changes in mental health status (reciprocal effects), and by better controlling for unmeasured confounders. Should these future analyses support our proposed hypothesis, it will be important for policy developers to broaden their focus from income to include wealth and its many facets.

What is already known on this subject

Socioeconomic disparities in mental health have been shown in a number of populations. However, there is limited information on the effects of wealth on mental health status due to the difficulties in collecting detailed information on assets and liabilities. Wealth (accumulated economic resources) may have a stronger association with mental health than more time-varying variables such as current income.

What this study adds

Inequalities in wealth have a strong association with psychological distress, over and above other confounding demographic or socioeconomic variables. Given large and growing inequalities in wealth in many countries, the association of asset wealth is of increasing policy salience to reducing inequalities in health.

CONCLUSION

This large NZ study has shown a strong association of asset wealth with mental health status. This association is partly explained by confounding demographic and socioeconomic factors. Further adjustment for prior self-rated health (ie, trying to minimise any health selection) further reduces the association, although not to the null. Our results are supportive of a true and substantial causal association of wealth with mental health. In the absence of randomised controlled trials of asset wealth, thorough longitudinal data with enough time for asset wealth to change are required to more accurately and precisely estimate the "true" association of wealth with mental health status.

Statistics New Zealand Security Statement: Access to the data used in this study was provided by Statistics New Zealand in a secure environment designed to give effect to the confidentiality provisions of the Statistics Act 1975. The results in this study and any errors contained therein are those of the author, not Statistics New Zealand.

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Competing interests: None.

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