

## Original Paper

# Sympathy, Blame, and Just Allocation of Health Costs Entailed by Risky Conventional Lifestyles

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### **Abstract**

*How does the general public feel about people suffering from lifestyle related conditions, and what do they see as a socially just division health costs for these conditions? Using data from random, nationwide surveys of Australians, 1989-2001 (n=8031) my structural equation model with multiple-item measurement and corrections for attenuation due to random measurement error predicts respondents' ideal division of medical payment responsibility. The only significant sociodemographic influence is education, which inclines people towards governmental financial responsibility. Cultural and social-psychological factors have large effects. A net time trend favors individual responsibility. Blaming sufferers is strongly associated with favoring individual responsibility. By contrast, people who sympathize with the sufferers tend to favor government payments. Political party preference also matters: Partisans of the main conservative party tend to support individual responsibility. There are clear implications for the current COVID-19 epidemic, especially with regards to "social distancing" behavior.*

### **Keywords**

*medical care, welfare state, risk, responsibility, blame, sympathy, partisanship, education*

## **1. Introduction**

### *1.1 Context*

The Western moral heritage of traditional Christian teachings enjoins people to take good care of ourselves, but individualism, increasingly influential since the Enlightenment, holds that each person

knows what is best for themselves, that risk and self-neglect are matters of taste, rather than matters of duty. Do people in post-Christian societies blame people whose lifestyles (although broadly conventional) involve sensuous pleasures that entail known, serious medical dangers? Do we pity them when they suffer the consequences of those lifestyles?

The expansion of the welfare state, especially the rise of socialized medicine, poses the question of whether people choosing medically risky lifestyles are entitled to ask other citizens to pay the costs. Modern health care systems are at least semi-socialized, with taxes paying at least part of the costs of medical treatment for substantial portions of the populace, but it remains an open question how well this meshes with the values and goals of the citizenry. Should people take full responsibility for their own health care, regardless of how illness came about? Or, for unavoidable illnesses, should the government use taxpayers' money to cover at least part of the costs? Or should government responsibility go further—should taxpayers also pay for illnesses that stem from lifestyle choices that the community at least tolerates? These questions are likely to become even more pointed in the future, with ever more advances in medicine, indisputably abundant information about risks, and possibly growing differentiation of lifestyles.

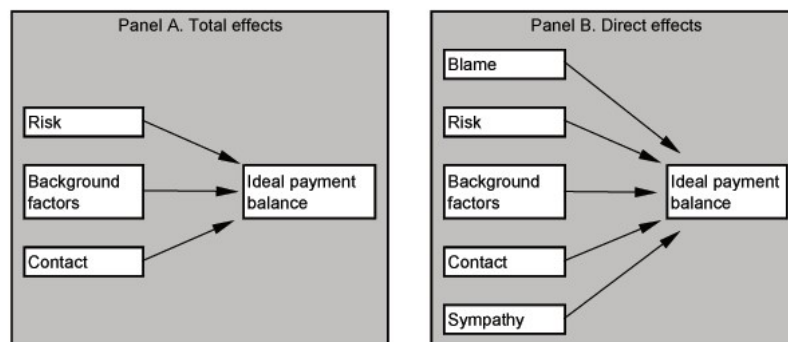
Let us begin with public opinion towards illnesses that stem from conventional, but risky, lifestyles. In a series of cross-sectional surveys, the International Social Science Survey/Australia in 1989-2001 asked random nationwide samples of Australians ( $n=8,031$ ) a series of questions on sympathy, blame, and financial responsibility for lung cancer, cirrhosis of the liver, and obesity-related heart attacks (Evans & McCallum, 1991; Evans, 1995). These are diseases that bear little social stigma (although they may have an aura of self-indulgence), but nonetheless people can substantially reduce their risk of these diseases if they choose. In 2001, these questions were supplemented with parallel batteries of questions about (1) injuries entailed by a very hazardous recreation which does not share the sensuous indulgence aura of overeating, drinking and smoking—hang-gliding, (2) medical care for diabetes, a disease which, focus groups suggested, is seen by ordinary people as less controllable, (and which, objectively, accounts for over 10 percent of health care expenditures in most advanced societies (Hex et al., 2012)) and (3) a risky habit outside the conventional mainstream—drug addiction. These three questions provide points of comparison for the main questions.

*Plan of the paper.* The next section provides a set of hypotheses about public attitudes on who should pay for these conditions. It is followed by sections covering the data, measurement, and methods used here. Next come the empirical results, beginning with descriptive statistics for the key variables—the prevalence of sufferers from these various conditions in people's social networks, perceived personal risk of the condition, the degree to which respondents blame sufferers for their condition, the degree of sympathy they have for people with the condition, and respondents' ideals about the balance of financial responsibilities for medical care between individuals and governments for the various conditions. These descriptive materials help illuminate the popular culture of medical care and set the stage for the analysis of social and cultural differences in ideal about who should pay for the care for

the various conditions. The analytic results are then presented, and their implications form the focus of the concluding discussion section.

### 1.2 Hypotheses

Figure 1 summarizes the hypotheses. The arrows imply a causal relationship, and each labelled paragraph below describes one of them. The left panel of the figure gives the total effects of background factors, contact with the afflicted, and risk perceptions. The right panel of the figure gives the direct effects of these variables, plus the direct effects of two key social psychological variables: sympathy and blame.



**Figure 1. Hypotheses about Sources of Ideals about the Balance of Financial Responsibility between the Individual and the Government**

#### 1.2.1 The Key Hypotheses: Sympathy and Blame

Over the past several decades, sociologists' attention has been increasingly drawn to emotions (Barbalet, 1998; Bourdieu & Wacquant, 1992; Shott, 1979), with recent research documenting important effects in topics ranging from moral judgments (emotive moral reasoning (e.g., Evans & Kelley, 2003)) to the influence of emotions on a variety of attitudes (Sousa, 2007). For present purposes, the key idea is that emotions can enhance or undermine the legitimacy of moral claims (Berger & Webster, 2018; Fernandez & Jaime-Castillo, 2018; Hegtvæd & Parris, 2014; Monroe & Malle, 2019), in this case claims to use of the public purse for medical care for lifestyle-induced diseases/conditions. Prior research has shown that blame and sympathy are separate dimensions rather than opposite ends of the same dimension, so it is reasonable to think that both will have separate influences on attitudes about the just allocation of health care payment responsibilities (Evans, 1999).

The hypothesis that sympathy and empathy are the keys to altruistic behavior can be traced at least to Adam Smith's Theory of Moral Sentiments (Smith, 1759). Research findings are mixed, e.g., some research finds little effect of empathy on willingness to help strangers (Maner & Gailliot, 2007), but other research finds an important effect (Hitlin & Harkness, 2018; van Oorschot, 2000), so the hypothesis remains worth investigating. The key hypothesis here would be that sympathy tends to induce the moral judgment that government should bear a large part of the financial burden for medical

care for lifestyle-related diseases. Extending that line of reasoning suggests that sympathy should also be an important transmitter variable. If, we will find that many total effects of background variables (in the model without sympathy—left panel of Figure 1) will be much larger than their direct effects in a model including sympathy (right panel of Figure 1).

The other emotive response to lifestyle-related diseases that we investigate is blame—a perception of individual responsibility with negative affect attached (Shaver, 1985). Here the hypothesis is that people who blame those afflicted with lifestyle-related diseases will be much less likely to accept collective responsibility (via government) for their health care. There are strong findings in analogous research on welfare spending preferences showing that in the USA individuals who blame blacks for their lower socioeconomic outcomes are strongly opposed to government spending and other actions to equalize the outcomes (Bobo & Kluegel, 1993; Kluegel, 1990). Returning to our medical care example, it seems reasonable to expect that blame will also be an important transmitter variable, that direct effects of background variables in a model including blame will shrink or disappear compared to their total effects in a model without blame, so the effects in the left panel of Figure 1 will be larger than the effects in the right panel.

#### 1.2.2 Potential Sources of Ideal Allocations of Financial Responsibility

SELF-INTEREST could play several roles here. People with high occupational status and those on high incomes are likely to see themselves as the deep pockets likely to be tapped for any expansion of governmental financial responsibilities. That makes it likely that these variables will have negative effects (both total and direct) on seeing it as ideal for government to bear the financial burden for lifestyle-related diseases. By contrast, to the extent that self-interest plays a role, people at high risk of the diseases should be inclined to favor governmental rather than individual responsibility (e.g., Miller, 1999). It is also plausible that elderly people (because they are intensive users of health care) might see it in their interest to promote socialize medicine generally, and hence in these cases as well. Similarly, women, with their more precarious labor market positions might also see it in their interest to promote governmental responsibility for health care. But these anticipated effects could be undermined by the fact that perceptions of personal risk can be quite distorted even among respondents who have veridical perceptions of risk to people like themselves (Kim et al., 2007). One possible explanation is that acceptance of risk may be threatening to identity—may imply accepting an identity with negative connotations (Howard, 2006). Self-interest arguments have an attractive logic, but prior research on other aspects of governmental spending cautions against high hopes here. In particular, prior research on attitudes towards inequality issues, welfare spending and spending on old age programs tends to find weak or absent self-interest effects, with ideology and emotion being much more important (e.g., Bobo & Kluegel, 1993; Evans & Kelley, 2018; Gilens, 1995; Rudolph & Evans, 2005; Swank, 2005). More generally, the role of simple self-interest in shaping attitudes and motivating behavior has been hotly debated in social psychology in recent decades (Cialdini et al., 1997; Holmes, Miller, & Lerner, 2002). An important hypothesis in the sociology of ethnic relations is the CONTACT HYPOTHESIS holding

that, in general, interpersonal interactions in a neutral or positive context should reduce prejudice. The evidence is somewhat mixed, but the bulk of the evidence in the domain of ethnic relations favors the hypothesis (Evans & Kelley, 2019; Pettigrew & Tropp, 2006; Zagefka, Noor, & Brown, 2012). For our application, the hypothesis is that contact should increase sympathy and, indirectly, willingness to share the costs of medical care. Empirical research has not tested our exact issue, but there are indications that familiarity does not always foster charitable feelings, indeed, sometimes the reverse. For example, one study found that hospital staff who had more contact with AIDS patients had less sympathetic attitudes towards them (Pleck, 1988), so the issue remains open.

Even without knowing afflicted individuals personally, URBAN residents are likely to be exposed to images and stories about afflicted individuals (Ridgeway, 2018). Urban cosmopolitanism tends to increase tolerance and universalism without attachment (Chernilo, 2007) which in our case would mean a direct positive effect of urban residence on preference for collective responsibility (net of sympathy and blame). In addition to that, cities are rich in linking and bridging networks—exactly the kinds of networks that are especially important for health (Ferlander, 2007).

RELIGION is expected to have ambivalent effects. Australia is largely a Christian and post-Christian society, so this paper focuses on the potential effects of Christianity. (a) Christian belief because of its emphasis on the body as a temple is expected to lead people to be more censorious of lifestyle related diseases so there should be a negative total effect and a nil direct effect on support for governmental financial responsibility (Evans & Kelley, 2011). (b) Church attendance is strongly associated with fellowship (Cohen & Johnson, 2017; Evans & Kelley, 2004; Green & Elliott, 2010; Holmes & McKenzie, 2018; Stark & Maier, 2008), so it seems likely to draw churchgoers towards collective solutions (Kelley, 2015), such as governmental responsibility for medical care for diseases/ conditions induced by risky conventional lifestyles. (c) Because Catholicism is a more communitarian religion, it should be more inclusive of straying sheep (Houtman, Pons, & Laermans, 2020; Sikora, 2009), and hence Catholics should be more inclined to share the burden of financial responsibility across the whole community

Another cultural hypothesis is that even net of self-interest, a generalized preference for individual rather than government financial responsibility, as indicated by favoring Australia's main conservative party, will incline people to think that sufferers from lifestyle-induced medical conditions should pay the costs whereas those who tend to prefer collective solutions in general, as indicated by opposition to the main conservative party (Australians call this the "Liberal Party", where "liberal" is used in the sense, common outside the US, of favoring free markets and, more generally, a society with relatively little governmental engagement. To avoid confusion, I will refer to the "Liberals" as "the main conservative party", using "conservative" in the US sense).

In sum, the basic theory proposed here is that the desire to pay for others' medical treatment depends on the legitimacy of the claim those others have. That legitimacy is a contested matter between different social groups and adherents of different cultural values.

### 1.2.3 The Australian Health Care System

There had been some prior moves towards and away from a socialized medical system in the 1970s and early 1980s in Australia (Sax, 1984), but the introduction of “Medicare” by Robert J. Hawke’s government in 1984 marked a strong shift towards governmental responsibility for medical care, with many, in the early days, expecting that the end of private medical care was in sight. Instead, a mixed system has evolved with the continued shifting between more governmental responsibility or more private responsibility depending on whether the left-wing Labor party or the main conservative party holds power (Collyer, 1998; Collyer, McMaster, & Wettenhall, 2001). In recent years something over 40% of Australian adults have private health insurance coverage, some at all income levels because they seek timeliness and perceive the quality as better, many on high incomes because they face a surcharge (and no gain in service) if they do not hold private insurance. Throughout these changing currents, universal access to a basic standard of medical care has been maintained. In practice, the Australian government has financial responsibility for all the conditions considered in this survey, although some Australians with these conditions would be paying for their own care through the private sector (Duckett, 2007; Grbich, 2004; Willis, 2006). Thus, to the degree that public opinion is influenced by current practice, the availability of governmentally funded care for all these conditions should tilt attitudes in favor of governmental provision.

## 2. Data, Measurement, and Methods

### 2.1 Data

The data used here are from the IsssA-Pool (the pooled cross-sections of the International Social Science Surveys/Australia). Here I use the simple pooled cross-sections of primary respondents selected at random from the electoral rolls. The population sampled by the IsssA consists of citizens of Australia who reside at the address which they have provided to the Electoral Office, who can read English sufficiently well to answer a self-completion questionnaire, and who are not too cognitively impaired to answer a self-completion questionnaire. For simplicity, I refer to this population as “Australians”. The IsssA is based on a simple random sample from its target population, so its standard errors do not require corrections for clustering.

The IsssA surveys are sent by mail, individually addressed by name, to simple random samples of Australian citizens drawn by the Electoral Commission from the electoral rolls (which are public documents) using a minor modification of Dillman’s Total Response Method (Dillman, 1993). Voting is compulsory in Australia, so the electoral rolls approximate a complete enumeration of citizens. Details on the survey’s fieldwork and data preparation procedures are in (Kelley & Evans, 1999). The representativeness of IsssA achieved samples has been clearly established in prior research, although there is an underrepresentation of young adults because many people only register at the first election after their 18th birthday rather than on the birthday itself and there is also an underrepresentation of frequent movers (Bean, 1991; Sikora, 1997).

## 2.2 Measurement

**SOCIODEMOGRAPHIC BACKGROUND VARIABLES.** Age is measured in years, divided by 10 to reduce random measurement error by keeping the range more similar to the other variables (Mosteller & Tukey, 1977). Male is a dummy variable with female being the reference category scored zero, and male being the deviation category scored 1. Education is measured in equivalent full-time years of study based on a detailed series of questions about primary and secondary schooling and post-school qualifications. Income is the natural log of family income from all sources. Urbanicity is the natural log of the size of place where respondent lives.

**CULTURAL BACKGROUND VARIABLES.** Catholic denomination is a dichotomous variable with Catholics scored 1 and others zero. Christian belief is a 4-item scale measuring adherence to traditional Christian doctrine that has been validated in prior research (Kelley & de Graaf, 1997). Church attendance is the natural log of number of days attended per year, because for many behaviors and attitudes, the effects of church attendance are not linear, but rather are relatively larger towards the low end and relatively smaller towards the high end (Kelley & Graaf, 2004). Politically conservative is the difference between a respondent's feeling thermometer ratings for the main conservative party and for the Labor party.

The scales measuring blame, sympathy, and payment attitudes were conceptualized in advance, subjected to an analytic pretest, and then validated on a full national sample using confirmatory factor analysis (Evans & McCallum, 1991). These attitudes scales have since been repeated episodically in the IcssA. Their measurement characteristics and item wording are given in the tables in the descriptive results section, below. The factor loadings given in the tables are from confirmatory factor analysis which is justified by the invention process (Bollen, 1989). The maximum likelihood estimates of standardized confirmatory factor loadings and MLEs of full information factor loadings suggest clear and strong factors, except that the number of contacts with heart disease has a deviantly low correlation, so the contact factor is just measured with the observed variables for liver disease and lung cancer. The measurement model fits the data very well with chi-square being reduced to just 4% of its value in the baseline independence model and the average discrepancy between observed correlations and those implied by the model is a low 0.022. The Bentler-Bonett normed goodness of fit index, 0.953, is satisfactorily high.

## 2.3 Methods

To assess the effects of the sociodemographic, cultural, and affective forces on ideals about the just allocation of financial responsibility for medical care for these conditions, I used full information maximum likelihood procedures to estimate a structural equation model. These procedures correct for attenuation due to random measurement error, which is often a major problem in attitudinal data. However, the scales in this analysis are, in fact, highly reliable so these corrections are not large here. The parameters of interest in the structural model are to be understood like standardised regression coefficients. The full information maximum likelihood procedures provide consistent and

asymptotically efficient estimates. Not all variables in the model are normally distributed; gender is a dichotomy and church attendance is somewhat skewed. Even though assumptions of normality are not met, full information maximum likelihood procedures are still justified because they are equivalent to the method of full information least generalized residual variance, although standard errors and the chi-square measure of fit are no longer strictly correct.

### 3. Descriptive Results

#### 3.1 Contact with the Afflicted

How much contact do Australians have with people suffering from lung cancer, cirrhosis, or heart attacks? Knowing that will help us to see how many respondents were making abstract judgments, and how many may have had their judgments shaped by personal contact.

Table 1. Description of number of acquaintances who have had diseases related to risky conventional lifestyles, diabetes, been injured hang-gliding, or become drug addicts. Percentage distributions, means, and factor loadings. Australia, 1989-2001.<sup>[1]</sup>

1. How many people have you ever known who have ...						
	a. Had a heart attack?					
	b. Got lung cancer?					
	c. Got liver disease? (cirrhosis)					
	d. Got diabetes?					
	e. Injured themselves while hang-gliding?					
	f. Have been drug addicts?					
	Heart Attack	Lung Cancer	Liver disease	Diabetes	Hang gliding	Drugs
None	5	30	49	12	91	55
One	10	23	25	17	6	14
Two	15	17	12	22	2	10
Three	14	10	5	15	0	6
Four or more	56	21	8	34	0	15
Total = 100%	100%	100%	100%	100%	100%	100%
Average number known	3.3	1.8	1.0	2.6	0.1	1.2
Factor loading <sup>[2]</sup>	--	.89	.62	--	--	--
(Cases)	6,287	7,763	7,729	1,501	1,501	7,724

[1] International Social Science Survey/Australia, various years. Diabetes and hang-gliding questions asked in 2001 only, heart attack questions in all years except 2001.

[2] Standardized item-to-true-score loadings from the structural equation analysis of Table 6, column 2. For items related to risky conventional life-styles only, and excluding heart attacks which did not scale as well as the others.

Heart disease, of course, is a very prominent cause of death in modern times, so it is not surprising that nearly everybody knows several people who have had heart attacks. Only 4% report that they have never known anyone who suffered a heart attack, and another 8% have known only one heart attack victim (Table 1). 13% have known 2 and 14% have known 3. Fully 61% report that they have known 4 or more. The mean number of heart attack victims known is 3.3.



Contact with people who have lung cancer is rarer: the average Australian knows just under 2 victims. 23% of Australians include no one with lung cancer among their acquaintances. Another 21% have known one lung cancer victim, 18% have known 2, 12% have known 3, and 26% have known 4 or more. Thus, many more people will be making more abstract judgments on the issue of lung cancer than on the issue of heart attacks.

Australians have even less contact with cirrhosis, knowing only one victim, on average. About half the population have had no acquaintances with cirrhosis: 43% say that they have never known anyone who suffered from cirrhosis of the liver. 25% have only known one such person, 15% have known 2, 6% have known 3 and 8% have known 4 or more.

These are not unrelated circles of acquaintances. People who know heart attack victims tend also to know cirrhosis sufferers and also lung cancer patients. This is shown by the factor loadings (Table 1) which reveal the degree to which several items measure one underlying dimension. In this case the underlying dimension is acquaintance with those suffering from diseases stemming from conventional but risky lifestyles. The loadings here range from fairly strong (.62 for knowing cirrhosis victims) to very strong (.89 for knowing people with lung cancer), all acceptable under conventional statistical criteria. In this dataset, the number of people that respondent knows who have had heart attacks had somewhat deviant correlations, so it is omitted from the multiple-item measure.

In terms of the conditions that were only asked about in the 2001 survey, on average, Australians have 2.6 acquaintances with diabetes—that is fewer than heart attack victims, but more than lung cancer sufferers. They know 1.2 people who have been drug addicts, and just 0.01 person who has been injured while hang-gliding.

### *3.2 At risk Themselves?*

Do respondents feel that these diseases are a danger to themselves? Feeling vulnerable to a disease might lead to more benign feelings towards sufferers by increasing sympathy through feelings of “being in the same boat”, of mechanical solidarity (Durkheim, 1902, esp. pp. 70-110), i.e., an amalgam of particularism and ascription (Parsons, 1951). Moreover, perceived risk for one’s self might lead directly through self-interest to desire to place the expense of medical treatment with the government.

Table 2. Personal perception of risk.. Percentage distributions, means, and factor loadings. Australia, 1989-2001.<sup>[1]</sup>

And do you think it is likely that you will ...						
a. Have a heart attack?						
b. Get lung cancer?						
c. Become a heavy drinker?						
d. Get diabetes -- likely?						
e. Go hang-gliding regularly?						
f. Get addicted to drugs?						
	Heart Attack	Lung Cancer	Heavy drinker	Diabetes	Hang gliding	Drugs
Definitely not [0 points]	8	24	36	16	71	70
Probably not [25 points]	20	41	38	37	25	27
Maybe yes, maybe no [50 points]	49	29	23	33	3	3
Probably yes [75 points]	19	5	2	10	1	1
Definitely yes [100 points]	4	1	0	4	0	0
Total = 100%	100%	100%	100%	100%	100%	100%
Average (points out of 100)	48	30	23	37	9	9
Factor loading <sup>[2]</sup>	.71	.51	.41	--	--	--
(Cases)	6,251	7,749	6,252	1,501	1,507	1,506

[1] International Social Science Survey/Australia, various years. Diabetes, drug, and hang-gliding questions asked in 2001 only, heart attack questions in all years except 2001.

[2] Standardized item-to-true-score loadings from the structural equation analysis of Table 6, column 2. For items related to risky conventional life-styles only (first three columns)

Heart attacks are most widely perceived as a risk to one's self, with only 8% feeling that they definitely will not suffer one. Another 20% say that they will "probably not" have one, 49% think "maybe yes and maybe no", 19% think "probably yes", and 4% say "definitely yes" (Table 2). The average perceived risk score, 49, is very near the neutral point "maybe yes and maybe no" of 50.

The average perceived risk score for lung cancer is substantially lower, at 30 points out of 100. And the perceived risk of cirrhosis is even lower, only 24 points out of 100, about half the level of the perceived risk of heart attack.

The underlying dimension of perceived personal risk of experiencing a risky lifestyle-related disease is measured by using these three items in a multiple item scale. Perceived personal risk of a heart attack has a factor loading of 0.71, with 0.51 for lung cancer, and 0.41 for becoming a heavy drinker. These loadings indicate that the available items are only moderately good measures of a single underlying dimension, so future research will need to explore this zone more thoroughly.

In terms of perceived personal risk for the items that were only asked in 2001, getting diabetes has a perceived risk level of 37 points out of 100, about midway between heart attack and lung cancer, but the personal risk of becoming a hang-glider or a drug addict is seen as very small, about 9 points out of 100, very close to the "definitely not" zero point.

### 3.3 Responsibility for the Illness

Do ordinary Australians hold people responsible for everything that happens to them? Or hold them responsible only for illnesses related to life-style choices? Or absolve everyone from responsibility for

their medical condition? This is basically an issue of perceived agency vs structure. That makes it important first to learn which medical conditions Australians hold their fellow citizens responsible for, and then to assess whether such attribution of responsibility diminishes their willingness to pay for treatment of it. We asked a strongly worded question about responsibility for the condition (Table 3).

Table 3. Blame: Are individuals responsible for their difficulties? Percentage distributions, means, and factor loadings. Australia, 1989-2001.<sup>[1]</sup>

Would you say that they have only themselves to blame...						
a. Big eaters who get heart attacks?						
b. What about smokers who get lung cancer – only themselves to blame?						
c. Heavy drinkers who get liver disease?						
d. People who get diabetes – only themselves to blame?						
e. What about people who get seriously injured while hang-gliding?						
f. Drug addicts – only themselves to blame?						
	Heart Attack	Lung Cancer	Heavy drinker	Diabetes	Hang gliding	Drugs
Definitely not [0 points]	2	1	1	39	2	1
Probably not [25 points]	10	5	4	45	13	7
Maybe yes, maybe no [50 points]	25	11	12	13	18	12
Probably yes [75 points]	43	45	51	3	39	33
Definitely yes [100 points]	20	37	32	1	27	47
Total = 100%	100%	100%	100%	100%	100%	100%
Average (points out of 100)	67	78	77	20	69	79
Factor loading <sup>[2]</sup>	.72	.79	.87	--	--	--
(Cases)	6,292	7,803	7,807	1,505	1,508	1,511
[1] International Social Science Survey/Australia, various years. Diabetes, drug, and hang-gliding questions asked in 2001 only, heart attack questions in all years except 2001.						
[2] Standardized item-to-true-score loadings from the structural equation analysis of Table 6, column 2. For items related to risky conventional life-styles only (first three columns)						

In fact, the Australian public places a great deal of responsibility for their medical condition on those choosing the risky lifestyles. The average “blame scores” are highest for smokers and drinkers: 78 points out of 100 for “smokers who get lung cancer”, 77 points for “heavy drinkers who get liver disease”, and 67 points for “big eaters who get heart attacks”. In short, according to the citizenry, people who experience lifestyle-related diseases are responsible for their own fate.

Australians tend to blame all those experiencing life-style related diseases, or to absolve all from blame, rather than treating each disease separately. This underlying unity of response to the three separate conditions is shown by the fact that the three items all load strongly on one factor, with loadings between .72 (big eaters) and .87 (heavy drinkers).

Blame for the conditions only asked about in 2001 shows that respondents do differentiate strongly among different conditions: the average blame score for diabetes is just 20 points out of 100, while hang-gliding injuries elicit a blame score of 69 and drug-addiction 79. The latter two are very similar to the blame levels for the conventional life-style related diseases discussed above, but views on diabetes are very different.

### 3.4 Sympathy

However, the attribution of personal responsibility does not mean that Australians lack sympathy for those suffering from lifestyle-related diseases (Table 4). Twelve percent of the population say that they definitely do not have sympathy for smokers who get lung cancer, and another 21% say “probably not.” 17% take a neutral stance. 42% feel that they “probably” have sympathy for smokers who get lung cancer, and another 8% “definitely” feel sympathy for them. Thus, 50% “probably” or “definitely” feel sympathy for smokers who get lung cancer, an average sympathy rating of 53 points out of 100, near neutral. The average sympathy score for “Big eaters who get heart attacks” is 57, a tad warmer. But Australians are a bit cooler towards “heavy drinkers who get liver disease”, with a score of 48, very near the neutral point.

Table 4. Sympathy for sufferers. Percentage distributions, means, and factor loadings. Australia, 1989-2001<sup>[1]</sup>

Do you have sympathy ...						
a. For big eaters who get heart attacks?						
b. Have sympathy for smokers who get lung cancer?						
c. Sympathy for heavy drinkers who get liver disease?						
d. Sympathy for people who get diabetes?						
e. Sympathy for someone seriously injured hang-gliding?						
f. Sympathy for drug addicts?						
	Heart Attack	Lung Cancer	Heavy drinker	Diabetes	Hang gliding	Drugs
Definitely not [0 points]	6	12	13	1	10	29
Probably not [25 points]	19	21	30	2	15	25
Maybe yes, maybe no [50 points]	24	17	18	5	18	14
Probably yes [75 points]	43	42	33	59	46	27
Definitely yes [100 points]	7	8	6	34	11	6
Total = 100%	100%	100%	100%	100%	100%	100%
Average (points out of 100)	57	53	48	81	58	39
Factor loading <sup>[2]</sup>	.92	.88	.82	--	--	--
(Cases)	6,298	7,808	7,808	1,508	1,504	1,509

[1] International Social Science Survey/Australia, various years. Diabetes, drug, and hang-gliding questions asked in 2001 only, heart attack questions in all years except 2001.

[2] Standardized item-to-true-score loadings from the structural equation analysis of Table 6, column 2. For items related to risky conventional life-styles only (first three columns)

Thus, some portion of the populace who blame those who lead risky lifestyles nonetheless feel sympathy for the sufferers. The average “blame” scores are much closer to the “only themselves to blame” end than to the neutral point, whereas the sympathy scores are closer to the neutral point than towards the “definitely not sympathetic” end.

A generalized tenderheartedness towards those with lifestyle-related diseases underlies responses to these three diseases. In a factor analysis, they all load strongly on one factor: .92 for heart attack victims, .88 for lung cancer patients, and .82 for cirrhosis sufferers.

Sympathy is not always near the neutral point. Australians are much more sympathetic towards diabetes sufferers (average sympathy score of 81 points out of 100), and are much less sympathetic

towards drug addicts (average sympathy score of 39). Sympathy for those injured while hang-gliding comes in at 58, very near the level for big eaters who get heart attacks.

### 3.5 Who Should Pay?

Given these mixtures of blame and sympathy, who do Australians think should be responsible for paying for the health care of those afflicted with diseases involving high-risk conventional lifestyles? Are views polarized or tending towards a mixed model drawing on both sources? The data show that a just allocation of financial responsibility, according to public opinion, would include contributions from both the government and the individual, with the individual putting in slightly more (Table 5).

Table 5. Ideals about financial responsibility. Percentage distributions, means, and factor loadings. Australia, 1989-2001.<sup>[1]</sup>

And who should pay for their medical treatment – how much should they pay, and how much should the government and taxpayers pay...						
a. Big eaters who get heart attacks?						
b. What about smokers who get lung cancer?						
c. Heavy drinkers who get liver disease – who should pay for their treatment?						
d. People with diabetes?						
e. Treatment for someone seriously injured hang-gliding?						
f. Rehabilitation treatment for drug addicts?						
	Heart Attack	Lung Cancer	Heavy drinker	Diabetes	Hang gliding	Drugs
They should pay for all of it themselves [0 points]	12	18	18	1	15	16
They should pay for most of it [25 points]	24	29	30	3	32	18
They should pay half, and the government pay half [50 points]	36	30	29	23	31	25
The government should pay most of it [75 points]	21	17	16	43	17	30
The government should pay all of it [100 points]	7	6	6	31	5	11
Total = 100%	100%	100%	100%	100%	100%	100%
Average (points out of 100)	46	41	40	75	41	50
Factor loading <sup>[2]</sup>	.92	.91	.92	--	--	--
(Cases)	6,225	7,722	7,709	1,494	1,493	1,490

[1] International Social Science Survey/Australia, various years. Diabetes, drug, and hang-gliding questions asked in 2001 only, heart attack questions in all years except 2001.

[2] Standardized item-to-true-score loadings from the structural equation analysis of Table 6, column 2. For items related to risky conventional life-styles only (first three columns)

First, as to smokers who get lung cancer, only 6% of Australians think that the government should pay all the health costs. Another 17% think that the government should pay most of the health costs; 30% think that the government should pay half and the sick individual should pay half; 29% think that the sick individual should pay most of the health costs; and 18% think that the sick individual should pay all the health costs. Scoring these answers from zero (payment entirely the individual's responsibility) to 100 (payment entirely the government's responsibility), gives an average of 41 points out of 100. Thus, the balance of opinion is a long way (41 points) from allocating full responsibility to the individual (which would be a score of zero), but an even longer way (59 points) from allocating full financial responsibility to the government. Rather, it is a bit below the halfway mark, indicating shared public and private financial responsibility, with the balance slightly tipped toward private responsibility. Rather than polarization towards a free market solution or a welfare state solution, the general public is

expressing a preference for mixed responsibility in paying for health consequences of choosing to smoke.

Public opinion on who should pay for cirrhosis treatment for heavy drinkers is similar, with a payment responsibility score of 40 out of 100. The average payment-responsibility score on big eaters who get heart attacks is 46, very near the halfway point where the government should pay half and the individual half.

Opinions on financial responsibility for these three life-style related diseases clearly reflect one underlying attitude: the factor loadings are all over 0.9.

Public views on the just allocation of the costs of treatment for diabetes are tilted much more towards the government, with a payment responsibility score of 75 out of 100. Financial responsibility for rehabilitation treatment for drug addicts should be equally shared between the government and the individual, according to public opinion (mean score of 50), but the community thinks that hang gliders need to take somewhat more financial responsibility (score of 41).

For all these health conditions that are substantially attributable to lifestyle choices, the general public is expressing a preference for mixed payment responsibility, rather than polarization towards a free market solution or a welfare state solution. The ideal balance of responsibility in the public mind varies a good deal according to the condition. The public would allocate somewhat over half the cost of the medical expenses for all these conditions to the individual, except for diabetes, where the financial responsibility is strongly tilted towards the government.

#### **4. Analytical Result: Social Differences**

##### *4.1 The Model*

To what degree do blame and sympathy actually shape benevolence and what social differences shape attitudes towards illness that stem from risky conventional lifestyles? To find out, I estimated a full-information maximum likelihood structural equation model that combines a psychometric model of attitudinal dimensions with a structural equation model of the causal relationships among variables (Table 6). The key dependent variable is a three-item scale measuring the balance of preferences for individual or governmental payment responsibility for three lifestyle related diseases (Table 5, above gives details on the scale). The causal model is derived from a moral-issues model developed in prior research (Kelley, Evans, & Headey, 1993), adapted to this health-and-public-policy context. Table 6 presents the key results.

Table 6. Who believes the government should pay for medical expenses arising from conventional risky behavior (over eating, heavy drinking, smoking), diabetes, hang-gliding, and drug use? Standardized structural equation estimates . Australia, 1989-2001. <sup>[1]</sup>

	Conventional risky behavior		Diabetes		Hang-gliding		Drug addiction	
	Total	Direct	Total	Direct	Total	Direct	Total	Direct
Year of survey	-.06	-.06	--	--	--	--	--	--
Age	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Male	-.04	<i>ns</i>	<i>ns</i>	<i>ns</i>	-.09	<i>ns</i>	-.07	<i>ns</i>
Urban resident (ln)	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Catholic	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Church going (ln)	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.20	<i>ns</i>
Christian belief	-.06	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	-.15	<i>ns</i>
Education	.10	<i>ns</i>	<i>ns</i>	<i>ns</i>	.14	<i>ns</i>	.17	<i>ns</i>
Occupational status	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Family income (ln)	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Liberal Party	-.12	-.08	<i>ns</i>	-.10	-.13	-.09	-.09	<i>ns</i>
# known with condition	<i>ns</i>	<i>ns</i>	.13	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Feel self at risk of condition	.15	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.11	<i>ns</i>
Blame sufferers	--	-.27	--	-.40	--	-.33	--	-.17
Sympathy with sufferers	--	.32	--	.20	--	.34	--	.37
R-squared	.05	.27	.04	.30	.06	.37	.09	.26
Fit: RMSEA	.065	.056	.071	.068	.070	.065	.071	.068
(Cases)	8,031		1,545		1,545		1,545	

[1] International Social Science Survey/Australia, various years. Diabetes, drug, and hang-gliding questions asked in 2001 only. Multiple item measurement for risky conventional behavior, with measurement coefficients shown in Tables 1 to 5.

The most striking features of the table are that most of the social differences are rather weak and that blame and sympathy play very prominent roles in people's moral judgments about the just allocation of financial responsibility for all these health conditions. Let us investigate the impacts of all these influences more closely, beginning with the total effects.

#### 4.2 Total Effects of Background Variables

The deepest causes, the background variables, in our model are sociodemographic characteristics, cultural elements, and social networks generating personal contact with the afflicted.

Looking first at the effects on public attitudes towards the just allocation of health care costs for conditions associated with risky conventional lifestyles (Table 6, column 1), few of the sociodemographic variable have significant total effects. Compared to women, men see just payment balances as tilted a little more towards the individual (standardized coefficient of -.04). Highly educated people favor a little more governmental responsibility for payment than do their less educated peers (standardized coefficient of .10). There is a moderately large effect (standardized coefficient of .15) of perceiving oneself at risk of life-style related diseases on preferring government to bear more financial responsibility for healthcare for these conditions. All three effects operate entirely indirectly through sympathy and blame: they become non-significant when sympathy and blame enter the model

(Table 6, column 2).

It is interesting that income has no effect. Theories positing the declining marginal utility of income might suggest that those on high incomes could be expected to be more supportive of all government expenditures than their less prosperous peers, because the dollars at risk of being taxed bring them less joy. Alternatively, one might have expected those on higher incomes to be less favorable towards governmental responsibility, because they will expect a very large part of that responsibility to be passed on to themselves through taxes. But neither of these possibilities matches the facts. Openhanded and tight-fisted folk are to be found equally among the rich and the poor, at least with respect to responsibility for medical payments for lifestyle-related diseases.

There are also several cultural total effects (Table 6, column 1). The stronger the adherence to traditional Christian beliefs, the more a person tends to prefer individual responsibility, although the effect is not large (standardized coefficient of -.06). Political preferences play a larger role: the more one prefers the main conservative party over the Labor party, the more one tends to favor individual responsibility. This is a moderately large effect (standardized regression coefficient of -.15).

There is a weak but statistically significant time trend away from governmental responsibility towards individual responsibility.

The patterns for the three additional lifestyle-related conditions that were asked about in 2001 are broadly similar (although no time trend is available for them).

#### *4.3 Adding in the Social-Psychological Influences*

The social psychological influences, sympathy and blame, both add substantially to the explained variance in just allocation of financial responsibility for these health conditions. This means that the influence they exert is largely independent of the background variables discussed above. Thus the  $R^2$  for financial responsibility for medical conditions stemming from conventional risky lifestyles is only 5% for the model of just the background variables, but augmenting this model with blame and sympathy lifts the  $R^2$  to 27% (Table 6, compare columns 1 and 2). Similarly, the  $R^2$  rises from 4% to 30% when we include blame and sympathy into the model for financial responsibility for diabetes (Table 6, compare columns 3 and 4). The same thing happens with the models of hang-gliding (6% to 37%) and, to a slightly lesser extent, drug addiction (9% to 26%).

Moreover, the connections are strong.

Blame's effects on financial responsibility, as indicated by their standardized regression coefficients, range from moderately strong for drug addiction (-0.17) to strong for conventional risky lifestyles (-0.27) to very strong for hang-gliding (-0.33) and diabetes (-0.40). The negative signs on these effects indicate that they all tilt a person's moral feelings about financial responsibility away from the government and towards the individual.

Sympathy's effects are also pervasive, but less varied. The strength of the effects of sympathy on the just allocation of financial responsibility ranges from strong for diabetes (0.20) to strong for conventional risky lifestyles (0.32), hang gliding (0.34), and drug addiction (0.37). These effects are all



positive, showing that they tilt people's moral judgments about who should pay in the direction of the government rather than the individual. Note that sympathy and blame are two distinct influences, not opposite ends of a single spectrum. Of course, the obvious polarities are present: There are people who blame and do not sympathize, and there are people who sympathize and do not blame. But all possible other combinations are present too: There are people who both strongly blame and strongly sympathize, people who feel some of each in varying combinations and people who feel neither. Blame and sympathy both need to be taken into account as separate influences.

Turning to indirect influences, the Christian belief effect and gender effect on conventional risky life styles and drug addiction work entirely indirectly through sympathy and blame, but political preference does not (Table 6, compare column 1 to column 2 and compare column 7 to column 8).

## 5. Discussion

For all three lifestyle-induced diseases, the citizenry would prefer a mix of governmental and individual financial responsibility. Australians both pity and blame people suffering from diseases that stem from risky conventional lifestyles, but they pity them less than they blame them. These feelings of sympathy and blame pull them in somewhat different directions in forming ideals about financial responsibility. These mixed feelings lead to a mixed ideal which is neither socialism nor individualism, but combines elements of both. The strong effects of both sympathy and blame are consistent with this article's key hypotheses about the importance of affective moral reasoning in shaping policy preferences: Emotions play an important role here, as was expected from analogies to other kindred areas of research (e.g., Evans & Kelley, 2003; Sousa, 2007). It could also be that perceptions of the social and financial costs of care related to risky-lifestyle related disease vary greatly. Meta analyses show that even experts' estimates vary widely, depending on just what aspects they include (Verhaeghe et al., 2017).

One finding contrary to expectations was that the prevalence of sufferers in one's network does not affect willingness to pay. Perhaps the reason that is that we have so many ties in modern societies that few of them influence us deeply (Smith-Lovin, 2007), or it is also possible that "familiarity breeds contempt" as often as it breeds sympathy, that observing the lifestyles of actual persons afflicted with these conditions moves the observer to repugnance about as often as it elicits sympathy (Pleck et al., 1988).

All in all, naked self-interest plays a prominent role in some realms of social life, but very little role in people's ideals about financial responsibility for medical care for diseases that stem from risky lifestyles. The most direct indicator of self-interest, feeling at risk one's self of these diseases, has no direct effect at all (Table 6). At most, self-interest has some small indirect effects. A tiny increase in desire for governments rather than individuals to pay arises through these indirect channels. As anticipated in the hypotheses, this is consistent with much prior research on attitudes towards inequality issues, welfare spending and spending on old age programs which tends to find weak or absent

self-interest effects, with ideology and affect being much more important (e.g., Bobo & Kluegel, 1993; Gilens, 1995; Rudolph & Evans, 2005; Swank, 2005).

Reviewing all the findings, it is striking how small a role social structural effects play in generating policy preferences about financial responsibility for life-style related diseases. By comparison, the cultural influences are more important, and most important of all is affective moral reasoning—positive and negative emotions shaping policy preferences. This is perhaps especially striking because all of the risky lifestyles we asked about are at least mildly socially disapproved, except possibly hand-gliding. An issue for future research should be the degree to which acceptance of public responsibility for medical care associated with risky lifestyles depends on the status or glamour of the lifestyle. For example, does the prestige of extreme sports increase feelings of public responsibility (Shephard, 2013)?

It will be interesting to see whether the general public's feelings about people who knowingly take risks with COVID-19 follow the same pattern. Theory suggests very mixed feelings (Evans, Kelley, & Kelley, 2020), involving both blame and deference to those who have acquired immunity, regardless of whether they took a non-normative path. Of particular interest will be public attitudes toward those who acquired immunity through vaccination and those who acquired immunity by getting the disease.

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