# Risk and Self-Respect

## Online Appendix

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## RISK AND SELF-RESPECT IN CROSS-SECTIONAL DATA: THE HEALTH SURVEY FOR ENGLAND

The Health Survey for England is an annual cross-sectional survey with the goal of tracking trends in health. We use the data from the 2011 survey, which was commissioned by the Health and Social Care Information Centre, and implemented by UCL and NatCen Social Research. The survey is representative of the population at both the national and regional level. The full survey includes both adults and children, but we limit our investigation to the adult sample. A total of 8610 adults were interviewed in the survey, and the household response rate was 66%. Though the main focus of the survey was cardiovascular health, it includes a number of questions that are directly implicated in the philosophical idea of self-respect. It also includes sufficient demographic variables to calculate objective economic risks at the level of occupations (as is typical in empirical analyses of risk), as well as subjective perceptions of the risk of job loss, and a question about whether the respondent gets pleasure from taking risks.

In what follows, and in the text, we limit our analyses to those reporting that they are currently in employment.

### AI. OPERATIONALISATION AND MEASUREMENT: SELF-RESPECT

To measure self-respect, we use four survey items from the HSE. The question text is as follows:

> *Below are some statements about feelings and thoughts. Please circle the number that best describes your thoughts and feelings over the last 2 weeks.*

'Feeling good about myself' and 'feeling useful' tap the first dimension of Rawlsian self-respect: having a sense of our own worth and the value of our commitments and life plans. 'Feeling confident' and 'dealing with problems well' speak to the second element of Rawlsian self-respect: having confidence in our ability to hold ourselves to our standards and to pursue our plans.

**Table A1: numerical scores for the four constituent items of self-respect in the HSE.**

| | *None of the time* | *Rarely* | *Some of the time* | *Often* | *All of the time* |
|---|---|---|---|---|---|
| *I've been feeling good about myself* | *1* | *2* | *3* | *4* | *5* |
| *I've been feeling useful* | *1* | *2* | *3* | *4* | *5* |
| *I've been feeling confident* | *1* | *2* | *3* | *4* | *5* |
| *I've been dealing with problems well* | *1* | *2* | *3* | *4* | *5* |

The results in the main paper are based on a binary conceptualisation of self-respect, such that people either have it, or lack it. The analyses in the text are based on a relatively stringent cut-off for attributing self-respect to respondents: respondents who answer 'rarely', 'none of the time' or 'sometimes' to any of the four questions are considered not to have self-respect. Anyone with values above 3 for all four items has self-respect. This measurement strategy results in 35.5 per cent of respondents having self-respect.

However, we can also adopt a more generous cut-off. Lowering the level required to have self-respect to above 2 – so requiring responses of 'sometimes', 'often' or 'all the time' on all four items – yields 79.6 per cent of respondents with self-respect, but leads to substantively similar conclusions for all of our models (see table A6 below).

We can also construct a continuous measure from our data. A simple additive index of self-respect that weights each of these survey questions equally provides such a measure. This gives a maximum score for self-respect is 20, which corresponds to feeling good about oneself, useful, confident, and dealing with problems well 'all of the time.' By contrast, the lowest score on each of the items would lead to a self-respect score of 4. Results using this operationalisation of self-respect are shown in Table A7 below. As we discuss further later, they are substantively unchanged.

## AII. OPERATIONALISATION AND MEASUREMENT: ECONOMIC RISKS

### Subjective Unemployment Risk

The subjective assessment of job loss risk is measured straightforwardly by the survey question: *How likely is it that you will lose your job and become unemployed in the next twelve months? Please estimate the probability of such a change on a scale from 0 to 100.*

*- 0 means that such a change will definitely not take place*

*- 100 means that such a change definitely will take place*

There are 11 possible responses from 0 to 100 in ten point increments. The mean value is 30; and the full distribution shown in Figure A1.

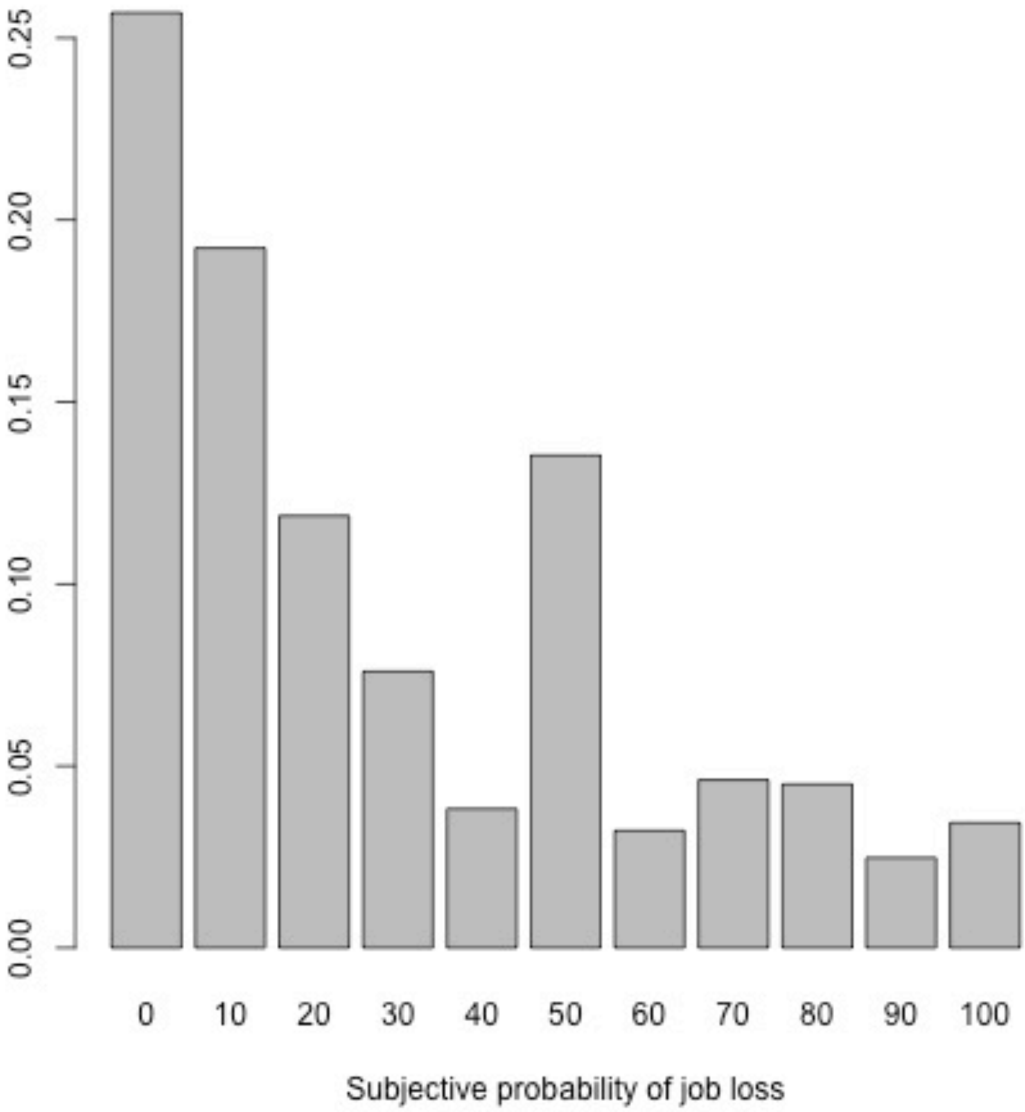
Clearly, these probabilities cannot be taken as cardinal probabilities – or if they are, they indicate a much higher level of pessimism than actual unemployment rates warrant. However, they do indicate that there is considerable variation in individuals' assessments of their job security. This variation allows us to identify the relationship with self-respect.

There is some question as to which probability of job loss represents the most risky condition. In the political economy literature, higher chances of unemployment are straightforwardly assumed to represent higher levels of risk. However, the highest level of uncertainty is not when job loss is a near-certainty, but rather when it is a 50-50 proposition.[1] In our data, however, only 18 per cent of people give responses above 50 percent. Thus in the bulk of the sample, higher subjective probabilities reflect higher risk regardless of whether we think that risk peaks at 50 per cent, or continues to increase for higher probabilities of job loss. That is, for 82 per cent of our respondents, increases in risk-as-uncertainty (moving towards the 50-50 proposition) and increases in risk-as-chance-of loss (increases in subjective probability of job loss) are the same. The

[1] We thank Michael Bennett for drawing our attention to this ambiguity about what counts as the most risky situation.

models below, which treat the ten-point probability levels as if they were categorical variables, also allow us to consider the implications of each of these types of change separately.

**Figure A1. The distribution of subjective job loss assessments.**



The two objective measures of risk are somewhat more complicated to construct. Both are created using individual reports of their occupation, combined with the actual rates of unemployment or skill specificity for that occupation.

### Occupational Unemployment Rates (Objective Unemployment Risk)

To calculate occupational unemployment rates, we use unemployment rates by occupation and gender from the Office for National Statistics.[2] We match the HSE respondents to the occupational categories in the national statistics data as follows:

**Table A2. Occupational category matching between the HSE and ISCO codes.**

| HSE `SOC2010B' response category | ISCO / National Statistics category |
|---|---|
| Corporate managers and directors | Managers and senior officials |
| Other managers and proprietors | |
| Science, research, engineering and technology professionals | Professionals |
| Health professionals | |
| Teaching and educational professionals | |
| Business, media and public service professionals | |
| Science, engineering and technology associate professionals | Associate and technical professionals |
| Health and social care associate professionals | |
| Culture, media and sports occupations | |

2 Data are from the Office for National Statistics, series UNEM02, November 2013 release, accessed 13 Jan 2014. The ONS site has been updated but the same data are archived at: http://webarchive.nationalarchives.gov.uk/20160114101732/http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/november-2013/table-unem02.xls

| | |
|---|---|
| Business and public service associate professionals | |
| Administrative occupations | Administrative and secretarial occupations |
| Secretarial and related occupations | |
| Skilled agricultural and related trades | Skilled trades |
| Skilled metal, electrical and electronic trades | |
| Skilled construction and building trades | |
| Textiles, printing and other skilled trades | |
| Caring personal service occupations | Personal service occupations |
| Leisure, travel and related personal service occupations | |
| Protective service occupations | |
| Sales occupations | Sales and customer service |
| Customer service occupations | |
| Process, plant and machine operatives | Process, plant and machine operators |
| Transport and mobile machine drivers and operatives | |
| Elementary trades and related occupations | Elementary occupations |
| Elementary administration and service occupations | |

The unemployment data provide us with gender-occupation specific unemployment rates which we can then match back to respondents according to their reported gender and occupation in the survey. This gives us the objective unemployment risk for that individual. The variable is continuous with a range from 2.1 (per cent unemployed) to 14.9; the mean value is 5.75, and the standard deviation 3.2.

### Specific Skill Investment

Investment in risky, occupation-specific skills is also based on the occupational categories reported by the respondents. We follow the literature in this area by using Iversen and Soskice's measure of specific skills. Details of how these are calculated can be found in their online material.[3] We use the relative, rather than the absolute level of skill specificity, which takes into account variation in the level of general (and therefore non-risky) skills used in each occupation. This gives us a continuous variable indicating the ratio of specific skills to general, transferable skills. The data range from 0.79 to 25, with an average of 5.6 and a standard deviation of 6.6.

## AIII. STATISTICAL MODELS & RESULTS

The graphical results in the main paper show the effect of increasing risk as identified by statistical models that take other possible causes of self-respect into account. These models are constructed similarly for all three measures of risk.

Since our outcome is a binary measure, we use logistic regression models. This ensures that we estimate predicted values for each individual that are probabilities of having self-respect, bounded between 0 and 1. It incorporates the assumption that the effect of each of our predictors on self-respect is additive, unless otherwise specified through (multiplicative) interaction terms.

What predictors do we include, in order to isolate the relationship of risk in itself, rather than as a consequence of other differences in individual situations? We need to include those characteristics which could confound the relationship between risk and self-respect – that is, characteristics which are theoretically likely to be related to both outcome and cause. Table A3 below lists the control variables we include in the models reported, along with the theoretical justification for inclusion, and how they are measured.

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[3] Available at http://www.people.fas.harvard.edu/~iversen/SkillSpecificity.htm

**Table A3: Control variables: links to self-respect and measurement.**

| Variable | Link to risk and self-respect | Measurement |
|---|---|---|
| Education | Higher education and skills may be both a source of self-respect and may lower economic risks, for example by providing better job search skills | Top educational qualification as dummy variable with categories:<br>NVQ4/NVQ5/Degree;<br>Higher ed below degree;<br>NVQ3/GCE A Level;<br>NVQ2/GCE O Level;<br>NVQ1/CSE other grade;<br>Foreign/other;<br>No qualification;<br>FT Student |
| Income | Higher income may also be a source of self-respect, particularly in the confidence to pursue one's plans. Higher income may also change perceptions of risk: the same objective situation may feel less risky because of savings or private insurance, for example. This effect on measurement should be absent from the objective measures of risk. But for both types of measure, to the extent that those exposed to lower risks also tend to have higher incomes, we must include income as a control to separate out the effect of the two. | Household income from all sources, in £1000s. Equivalised for household size using the square root of the number in the household. |
| Occupation | Different occupations may come with different economic risks, but the occupation itself may lead to self-respect, for example through the status it confers, or through its content as vocation. | Measured using the SOC2010B categories as outlined in Table A2. Given the construction of the occupational unemployment rate and skill specificity measures, however, this can only be included in the model with subjective risk. |
| Gender | Gender may not directly affect economic risk or self-respect, but there are known gender differences in assessing and reporting these. | Indicator variable for female |

**Table A3: Control variables: links to self-respect and measurement (continued)**

| Variable | Link to risk and self-respect | Measurement |
|---|---|---|
| Age and age squared | Self-respect may well follow a distinctive path with regard to age (it is well known that indicators of well-being, for example, follow a U-shape with age). Equally, the economic risks that individuals are exposed to change over the life-course | Age in years, and to allow for the non-linear effect, age in years squared. |
| Marital status | Marital status may be associated with risk exposure for many reasons – for example, if more risk averse people are more likely to get married and also to avoid risks (in ways we cannot observe through our risk measures). Marital status is also likely to have an effect on self-respect, particularly with regard to life-plans beyond the realm of work. | Dummy variable with the following categories:<br>Single;<br>Married, cohabiting, civil partnership;<br>Separated or divorced;<br>Widowed |

## Statistical Models for Main Results

The results of the models used to generate the figures in the main text are shown below in table A5, with the exception of the results differentiating those who like risk from those who do not, which are from model 18 in table A13. Specifically, the figures in the main text come from the models below as follows:

**Table A4: Main text table references**

| Figure in main text | Generated from model |
|---|---|
| Figure 1 | Model 1, table A5 |
| Figure 2 | Model 3, table A5 |
| Figure 3 | Model 5, table A5 |
| Figure 4 | Model 1, table A13 |

As the variables of interest – the economic risk variables – are discussed in the main text, and the interpretation of the control variables is not relevant for our investigation, we do not discuss these further here, but present the table for the interested reader.

**Table A5. Full results of logistic regression models of self-respect. The figures in the main text are created from models 1, 3, and 5, respectively. Standard errors in parentheses.**

| | **Outcome: binary self-respect** | | | | | |
|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| Subjective likelihood of job loss | -0.74*** | -0.70*** | | | | |
| | (0.13) | (0.13) | | | | |
| Occupational unemployment | | | -0.06*** | -0.05*** | | |
| | | | (0.01) | (0.01) | | |
| Skill specificity | | | | | -0.02*** | -0.01* |
| | | | | | (0.01) | (0.01) |
| Equivalised income (000s) | 0.01*** | 0.004*** | 0.01*** | 0.004*** | 0.01*** | 0.005*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Self-employed | -0.06 | -0.09 | 0.02 | 0.03 | 0.05 | 0.06 |
| | (0.12) | (0.13) | (0.11) | (0.11) | (0.11) | (0.11) |
| Female | -0.25*** | -0.23*** | -0.34*** | -0.28*** | -0.29*** | -0.24*** |
| | (0.07) | (0.09) | (0.07) | (0.07) | (0.07) | (0.07) |
| Age | -0.0001 | -0.01 | -0.01 | -0.01 | 0.01 | -0.01 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Age 2 | 0.0001 | 0.0002 | 0.0002 | 0.0002 | -0.0000 | 0.0001 |
| | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0002) |
| Controls: education, marital status | No | Yes | No | Yes | No | Yes |
| Controls: occupation | No | Yes | No | No | No | No |
| N | 3446 | 3446 | 3677 | 3677 | 3677 | 3677 |
| Log Likelihood | -2271.45 | -2239.70 | -2421.64 | -2408.47 | -2430.69 | -2412.59 |
| AIC | 4556.90 | 4559.40 | 4857.28 | 4850.94 | 4875.39 | 4859.18 |

***p < .01; **p < .05; *p < .1

## Robustness: Less demanding self-respect measure

Table A6 below contains the results of models analogous to those in table A5, but using a less demanding criterion for identifying someone as having self-respect. In table A6 the outcome also takes a value of 1 if respondents report all four elements of self-respect 'Sometimes', as well as 'All of the time' or 'Most of the time.'

**Table A6. Full results of logistic regression models of self-respect using a less demanding cutoff for the measurement of self-respect. Standard errors in parentheses.**

| | Outcome: binary self-respect (less demanding) | | | | | |
|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| Subjective likelihood of job loss | -0.55*** | -0.52*** | | | | |
| | (0.16) | (0.17) | | | | |
| Occupational unemployment | | | -0.10*** | -0.06*** | | |
| | | | (0.02) | (0.02) | | |
| Skill specificity | | | | | -0.02*** | -0.01 |
| | | | | | (0.01) | (0.01) |
| Equivalised income (000s) | 0.01*** | 0.0002 | 0.005*** | 0.002 | 0.01*** | 0.003* |
| | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) |
| Self-employed | 0.13 | 0.11 | 0.19 | 0.22 | 0.25 | 0.26 |
| | (0.18) | (0.19) | (0.16) | (0.16) | (0.16) | (0.16) |
| Female | -0.34*** | -0.35*** | -0.50*** | -0.45*** | -0.38*** | -0.36*** |
| | (0.10) | (0.12) | (0.10) | (0.10) | (0.10) | (0.10) |
| Age | 0.03 | 0.004 | -0.003 | 0.003 | 0.03 | 0.01 |
| | (0.02) | (0.03) | (0.02) | (0.03) | (0.02) | (0.03) |
| Age 2 | -0.0002 | 0.0002 | 0.0002 | 0.0002 | -0.0002 | 0.0001 |
| | (0.0003) | (0.0003) | (0.0003) | (0.0003) | (0.0003) | (0.0003) |
| Controls: education, marital status | No | Yes | No | Yes | No | Yes |
| Controls: occupation | No | Yes | No | No | No | No |
| N | 3421 | 3421 | 3651 | 3651 | 3651 | 3651 |
| Log Likelihood | -1415.34 | -1357.40 | -1509.71 | -1488.08 | -1523.60 | -1493.80 |
| AIC | 2844.67 | 2794.80 | 3033.42 | 3010.16 | 3061.20 | 3021.59 |

***p < .01; **p < .05; *p < .1

## Robustness: Continuous self-respect measure

Table A7 displays the regression results for models using the continuous index of self-respect that is constructed by adding the numerical scores assigned to each of the four responses as described in section AI. The index ranges from 1 to 20, and a one-point change corresponds to a shift up one category on one of the four constituent variables. The models are ordinary least squares models, so can be interpreted straightforwardly: a one-point increase in the subjective likelihood of losing one's job is associated with almost this magnitude of a change in self-respect: for example, feeling useful 'all of the time' instead of 'most of the time.'

While the coefficient estimates for the variables of interest confirm our prior results, the linear specification provides a more straightforward interpretation of the importance of our variables in explaining overall variation in outcomes, via the $R^2$ measures. The values here are quite small (as are those in the later panel data analyses). There are two reasons why this makes sense, one substantive and one methodological. Substantively, the low $R^2$ indicates that even knowing the details in terms of the included covariates, there still remains a good deal of unexplained variation in the self-respect outcome. Considered like this, the low values are unsurprising: intuitively there is a lot of variation in self-respect that is explained by factors outside our model, or that is 'fundamental variability' in the outcome. Since we have a large number of observations, we are nevertheless able to detect systematic variation with our independent variables of interest.[4] This feature is common to analyses of individual preference and attitude data, particularly if we are disciplined in excluding other attitudinal measures (which are just as plausibly consequences as causes of risk) from the model. In this context, the $R^2$ values here are low, but are not out of line with similar analyses.[5] The second, methodological reason for the low $R^2$ measure here is that the linear specification does not provide a very good fit to the data, a feature which underpins our preference for the non-linear specifications we rely on in our main analyses.

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[4] King, Keohane and Verba 1994: 214.

[5] E.g. Rehm 2009; Finseraas 2010.

**Table A7. Linear models of a continuous measure of self-respect. Standard errors in parentheses. Outcome is the sum of the numeric values listed in Table A1 for all four items.**

| | **Outcome: linear self-respect** | | | | | |
|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| Subjective likelihood of job loss | -0.07*** | -0.06*** | | | | |
| | (0.02) | (0.02) | | | | |
| Occupational unemployment | | | -0.01*** | -0.01*** | | |
| | | | (0.002) | (0.002) | | |
| Skill specificity | | | | | -0.003*** | -0.001 |
| | | | | | (0.001) | (0.001) |
| Equivalised income (000s) | 0.001*** | 0.0000 | 0.0005** | 0.0002 | 0.001*** | 0.0004* |
| | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0002) |
| Self-employed | 0.01 | 0.01 | 0.02 | 0.02 | 0.03 | 0.03 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Female | -0.04*** | -0.04*** | -0.06*** | -0.05*** | -0.05*** | -0.04*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Age | 0.01 | 0.002 | 0.001 | 0.002 | 0.005 | 0.003 |
| | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) |
| Age 2 | -0.0000 | 0.0000 | 0.0000 | 0.0000 | -0.0000 | -0.0000 |
| | (0.0000) | (0.0000) | (0.0000) | (0.0000) | (0.0000) | (0.0000) |
| Controls: education, marital status | No | Yes | No | Yes | No | Yes |
| Controls: occupation | No | Yes | No | No | No | No |
| N | 3421 | 3421 | 3651 | 3651 | 3651 | 3651 |
| R-squared | 0.02 | 0.05 | 0.03 | 0.04 | 0.02 | 0.03 |
| Adj. R-squared | 0.02 | 0.04 | 0.02 | 0.03 | 0.02 | 0.03 |

***p < .01; **p < .05; *p < .1

### Robustness: Excluding the 'feeling confident' measure

There is an apparent tension between subjective economic risk (expecting things to go badly in economic terms) and feeling confident (or expecting one's plans to be fulfilled). This raises the concern that the 'feeling confident' component of our measure of self-respect alone might account for the negative correlation documented in the main analyses (at least when it comes to subjective job insecurity). Alternatively, we may think that the survey item 'I've been feeling confident' logically implies confidence in remaining in one's job. Whilst we think that respondents are unlikely to be focussing closely on economic outcomes when answering the questions that form our self-respect measure, we can also consider the relationship between risk and the first dimension of Rawlsian self-respect only (belief in one's worth). Alternatively, we can measure self-confidence using the 'dealing with problems well' item only and exclude the explicit 'feeling confident' item. To the extent that the same (negative) associations are observed with these measures, we can be more confident that our results are not driven by the potential tension between subjective job insecurity and 'feeling confident.'

In order to compare the 'worth' results to the original analysis, we create a new binary variable for self-worth, which takes the value 1 if respondents report 'feeling good about myself' and 'feeling useful' often or all of the time. Thus it excludes information about the potentially problematic idea of confidence in one's plans from the outcome. 46 per cent of respondents are categorised as having self-worth defined in this way. Similarly, the 'binary: exclude feeling confident' measure is analogous to the original, but ignores all responses on the 'feeling confident' item.

Table A8 presents the coefficient summarizing the relationship between subjective risk and these variables, alongside that for the original self-respect outcome. The two are statistically indistinguishable: risk has equally adverse effects on worth, and on the feeling confident-excluded measure, as it does on self-respect overall.

**Table A8: The relationship between risk and the first prong of self-worth. Standard errors in parentheses.**

| | **Binary self-respect** | **Worth** | **Excluding 'feeling confident'** |
|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** |
| Subjective likelihood of job loss | $-0.74^{***}$ | $-0.70^{***}$ | $-0.70^{***}$ |
| | (0.13) | (0.12) | (0.12) |
| N | 3446 | 3446 | 3445 |
| Log Likelihood | -2271.45 | -2344.58 | -2326.53 |
| AIC | 4556.90 | 4703.16 | 4667.06 |

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$

All models include controls for income, self-employment, gender, age, age squared

### Robustness: Skill specificity conditional on unemployment risk

The skill-specificity measure is not concerned with the probability of unemployment, but rather with the likely cost to income that would follow any job loss. But if those occupations with specific skills are systematically different in terms of the chance of unemployment, then the estimated association between skill-specificity and self-respect may be biased.

We can consider this possibility empirically by including both of the objective risk measures in the same model simultaneously. Because they are both based on people's categorisations into occupations, however, there is collinearity in the measures and the independent effects of each may be hard to disentangle.

Table A9 shows the results of these simultaneous estimations for both the demanding and less-demanding measure of self-respect.

**Table A9: Skill specificity and unemployment risk modelled simultaneously**

| | Binary self-respect | Binary, less demanding |
|---|---|---|
| | **Model 1** | **Model 2** |
| Occupational unemployment | $-0.06^{***}$ | $-0.09^{***}$ |
| | (0.01) | (0.02) |
| Skill specificity | -0.01 | $-0.01^{*}$ |
| | (0.01) | (0.01) |
| N | 3677 | 3651 |
| Log Likelihood | -2420.44 | -1508.29 |
| AIC | 4856.87 | 3032.57 |

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$

All models include controls for income, self-employment, gender, age, age squared

For comparison, in models 3 and 5 in table A5, in which unemployment risk and skill specificity are entered separately, the coefficients (for the strict measure of self-respect) are -0.06 and -0.02, respectively. The estimates in model 7a here are statistically indistinguishable from these estimates, even if the slightly smaller estimate for skill specificity here is no longer significant at conventional levels (the *p*-value associated with the skill specificity estimate is 0.12). Model 7b should be compared to models 3b and 5b in table A6.

## Discussion: Endogeneity and causation in the cross-sectional data

Interpreting the relationships in the cross-sectional data as causal is only valid if we think that, conditional on the included covariates, those with high levels of risk are good counterfactual observations for those with low levels of risk. As noted in the main text, both reverse causation and the potential for confounding omitted variables undermine this idea.

In terms of reverse causation, the concern is that a low level of self-respect may in fact lead to greater risk, so any observed relationship captures this mechanism rather than the link from risk *to* self-respect. This is a particular concern for the subjective measure of the likelihood of job loss: those with lower self-respect may report higher probabilities of job loss even under the same objective conditions, precisely because they have low levels of confidence in their life plans, and a low sense of their self-worth. For the objective measures of unemployment risk, there is not the same chance of this 'reporting' endogeneity, but it may still be the case that having low levels of self-respect leads to higher risk rather than the other way around. The mechanism here (which could also operate under the subjective measure) is likely to be one of selection: because of different levels of self-respect, individuals sort into situations where they are exposed to different levels of risk.

We have two lines of defense against this possibility. The first is the inclusion of the battery of controls, for educational qualifications, income, self-employment, and for the subjective measures, occupation. These mean that the comparison is in terms of individuals who are similar in these regards. For reverse causation we need to tell a story by which low self-respect leads to different exposure to risk even between people at the same level of income, education, and so on. This is a more difficult story to tell. We are also helped here, using the unemployment rate measure, by the differential risks experienced by men and women in the same occupations, as this source of variation is exogenous to individual choices (and we control for the `first order' effects of gender). Nevertheless, this interpretation is theoretical in nature, rather than evidence direct from the data: it is a question of the plausibility of different interpretations of the correlation.

The second line of defence comes from considering the implications of the lack of differential effects according to risk preference (Table A13). Here, while we find that those who enjoy risk have higher levels of self-respect, we find no evidence that liking risk changes the relationship between risk and self-respect. If the underlying causation were to run from self-respect to risk exposure, then we would expect different patterns between those who like risk and those who do not. For example, if the causal selection story is about not achieving your preferred risk exposure due to low self-respect, those with higher self-respect *who liked risk* would sort themselves into more risk-exposed positions while those with low self-respect *who liked risk* would tend to fail to do so; and vice versa for those who dislike risk. There is nothing in the patterns of associations in the data to support this idea.

Beyond reverse causation, we may also be concerned about spurious correlations: that is, that the negative relationship observed between risk and self-respect in fact reflects some other systematic way in which those under risk differ from those not under risk, which itself shapes their self-respect. The inclusion of the control variables in the models addresses some of the most basic of these possible confounding variables, such as income and education. But the use of the skill specificity measure, rather than unemployment rates, is also a step in this direction. That is, the skill specificity measure breaks the association between risk and general labour market disadvantage, which may be an omitted variable problem for the other measures.

Nevertheless, we cannot account for all possible determinants of self-respect, some of which are simply not included in our analyses, others of which are more fundamentally unobservable. We contend that we have identified the most plausible sources of bias in the included controls, and while the possibility of spurious correlation remains, we do not see obvious, *specific* omitted variables which need immediate inclusion.

But, comparing across individuals, we do not have empirical evidence for strong causal claims. Some of the inferential problems can be alleviated by the use of panel data—which allows us to compare within individuals as their experience of risk changes. We use the British Household Panel Survey (section AVI, below) to do this.

## Non-linear effects of risk on self-respect

The specification of the models in the main analyses models a linear relationship between risk and self-respect.[6] That is, any increment of risk is modelled as having the same (it turns out negative) effect on self-respect. But this may not be (a) a good representation of Tomasi's claims; or (b) a realistic representation of how risk is experienced.

Thus we need to investigate whether there are non-linear effects of risk. In particular, we might anticipate an inverted-U shape, such that low levels of risk do increase self-respect, but the relationship reverses after a certain point.

We consider the possibility of non-linear effects using both the subjective measure of risk of job loss, and the objective measures (occupational unemployment rates and skill specificity) below.

### *Non-linearities in the subjective risk of job loss*

It is straightforward to consider whether the subjective probabilities of job loss reported in the HSE have a non-linear relationship with self-respect. Most flexibly, we can consider the ten percentage-point levels of risk reported separately, and estimate individual coefficients for each level, treating the levels as if they were categorical rather than cardinal measurements.

[6] Technically the models are linear between risk and the linear predictor of self-respect, which is then transformed via the logistic specification into a value between zero and one. In what follows we are interested in the shape of this underlying function relating risk to the linear predictor.

Figure A2 shows the results of estimating these separate effects, as well as the prevalence of these estimates in the sample. At low levels of risk, there is no obvious negative effect of risk on self-respect, with the effects of subjective job loss probabilities between 0.1 and 0.2 statistically indistinguishable from zero. In the middle of the ranges of risk, from 0.3 to 0.8, there is a statistically significant negative relationship, while at the top end the estimated coefficient remains negative but is smaller and not statistically significant.

Thus the relationship between risk and self-respect does seem to be non-linear. A quadratic fit (using the subjective probability of job loss as a continuous variable as in the main analysis, but also including its square in the estimation) does better than the linear model at fitting the data. But better still is a model which dichotomises subjective risk, differentiating those who report subjective risk levels of 0.3 or above from those at 0.2 or below. This model, with a step in risk at the subjective probability of 0.3 outperforms the fully flexible factor specification in terms of the Aikake Information Criterion (which penalises overfitting), as can be seen in the full regression results in table A10.

**Figure A2: Subjective probability of job loss as a factor. Number of respondents at each risk level given by the histogram (right-hand axis); marginal effect of this risk level over a subjective risk of zero indicated by the circles. Vertical black bars are 95% confidence intervals.**

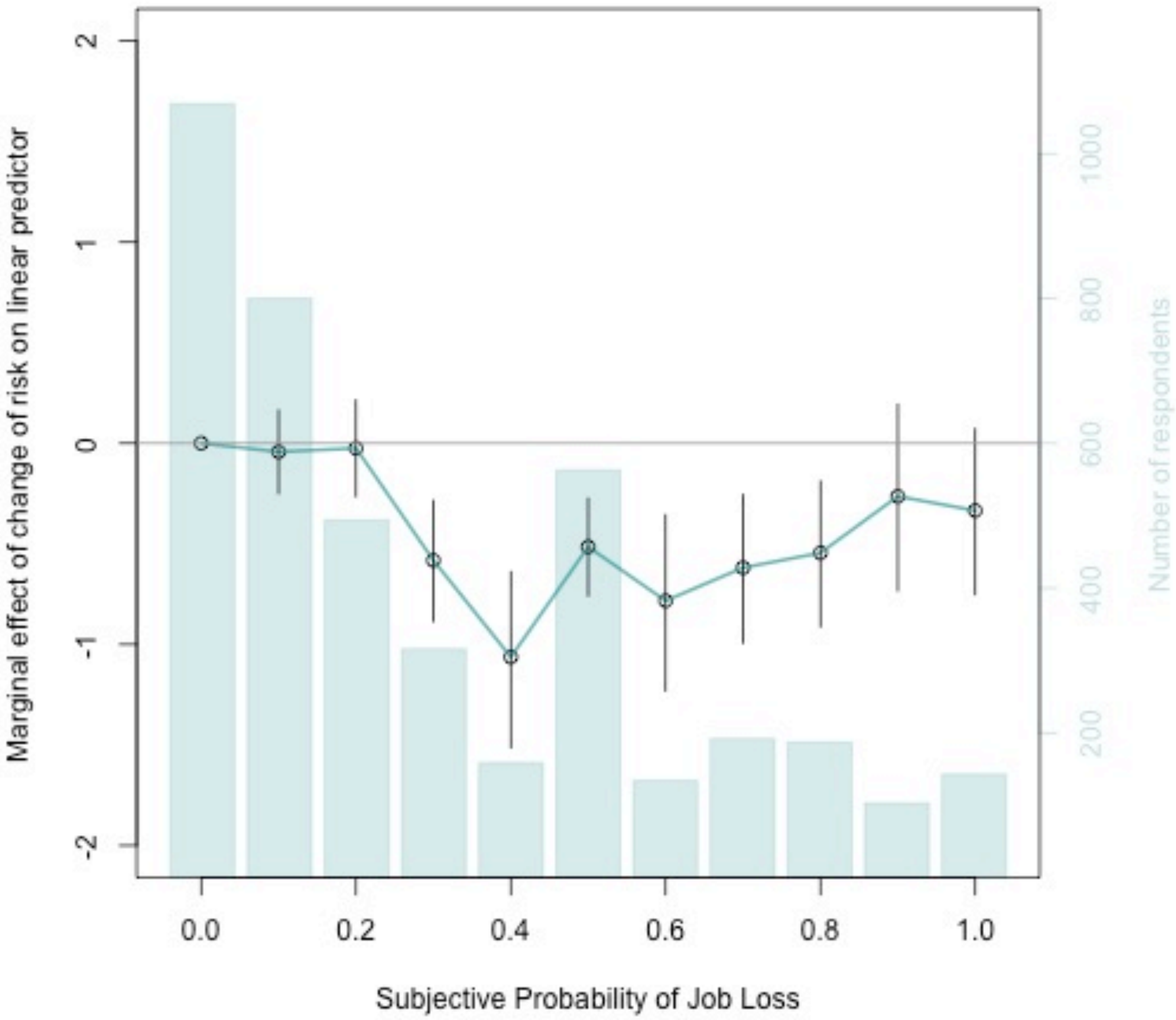


**Table A10: Non-linear functional forms for the relationship between risk and self-respect.**

| | Binary Self-Respect | | | |
|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** |
| Subjective probability of job loss | -0.73*** | -2.18*** | | |
| | (0.13) | (0.40) | | |
| Subjective probability squared | | 1.76*** | | |
| | | (0.45) | | |
| Subjective probability > 0.3 | | | -0.56*** | |
| | | | (0.07) | |
| Subjective probability = 0.1 | | | | -0.04 |
| | | | | (0.11) |
| Subjective probability = 0.2 | | | | -0.02 |
| | | | | (0.12) |
| Subjective probability = 0.3 | | | | -0.58*** |
| | | | | (0.15) |
| Subjective probability = 0.4 | | | | -1.06*** |
| | | | | (0.22) |
| Subjective probability = 0.5 | | | | -0.51*** |
| | | | | (0.12) |
| Subjective probability = 0.6 | | | | -0.78*** |
| | | | | (0.22) |
| Subjective probability = 0.7 | | | | -0.62*** |
| | | | | (0.19) |
| Subjective probability = 0.8 | | | | -0.55*** |
| | | | | (0.18) |
| Subjective probability = 0.9 | | | | -0.26 |
| | | | | (0.24) |
| Subjective probability = 1 | | | | -0.33 |
| | | | | (0.21) |
| N | 3446 | 3446 | 3446 | 3446 |
| Log Likelihood | -2254.23 | -2246.73 | -2242.03 | -2236.67 |
| AIC | 4542.45 | 4529.46 | 4518.05 | 4525.34 |

***p < .01; **p < .05; *p < .1

All models include controls for income, self-employment, marital status, education, gender, age, and age squared.

On the one hand this is good news for risk. At low levels it has no negative effect and this area of the subjective risk scale is where most people rate their exposure: 57% of respondents are in the lowest three categories (0, 0.1, 0.2). Nevertheless, the substantive implications of all the models are the same: there is no evidence of the inverted-U which would imply a benefit to risk at low levels. Moreover, 43% of people remain exposed to levels of risk which appear to be harmful to self-respect.

***Non-linearities with objective risk***

We also consider the possibility of non-linearities in risk using the objective measures derived from labour market position. Table A11 displays the numerical results, and figures A3 and A4 display the results from the quadratic specifications graphically.

The results for occupational unemployment risk mirror those for subjective risk: while there is a non-linear relationship between risk and self-respect, it is of a 'U' shape, rather than the inverted-U which would indicate that small increments of risk have a positive impact. Moreover, in the range of data observed, the upturn of the U-shape never brings the effect of risk above zero. While intermediate levels of risk are the most damaging for self-respect, there is no level of objective occupational unemployment risk observed in the data where its impact is positive. We see a similar U shape with the risks associated with specific skills (figure A4).

**Table A11: Non-linear effects of risk: objective measures. Standard errors in parentheses.**

| | Binary Self-Respect | | | |
|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** |
| Occupational unemployment | -0.05$^{***}$ | -0.11$^{**}$ | | |
| | (0.01) | (0.05) | | |
| Occupational unemployment squared | | 0.00 | | |
| | | (0.00) | | |
| Skill specificity | | | -0.01$^{*}$ | -0.05 |
| | | | (0.01) | (0.03) |
| Skill specificity squared | | | | 0.00 |
| | | | | (0.00) |
| N | 3677 | 3677 | 3677 | 3677 |
| Log Likelihood | -2408.47 | -2407.46 | -2412.59 | -2411.85 |
| AIC | 4850.94 | 4850.93 | 4859.18 | 4859.70 |

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$

All models include controls for education, income, self-employment, marital status, education, gender, age, and age squared.

**Figure A3: The effect of objective unemployment risk on self-respect. Marginal effects estimated from model 2, table A11.**

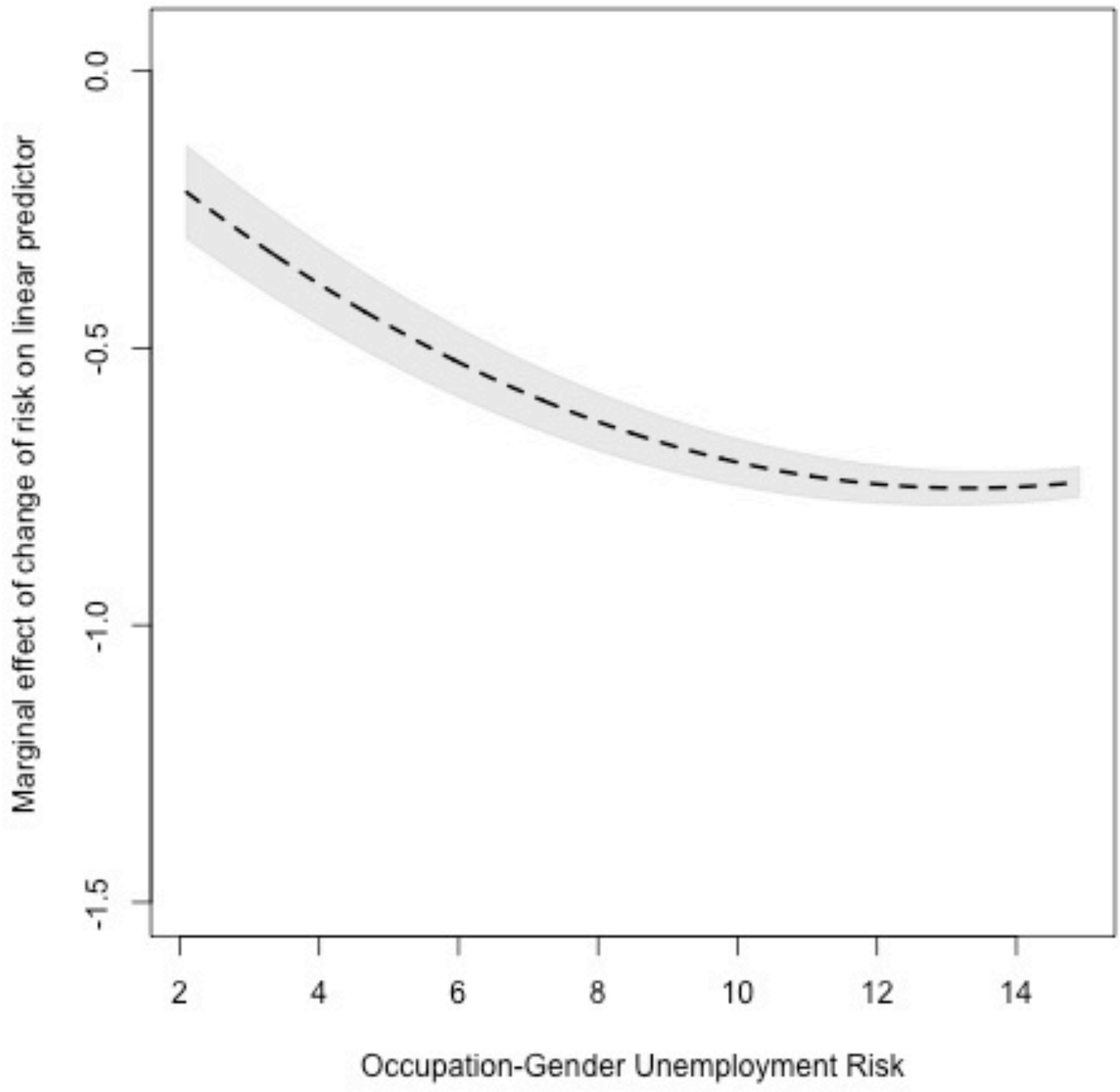
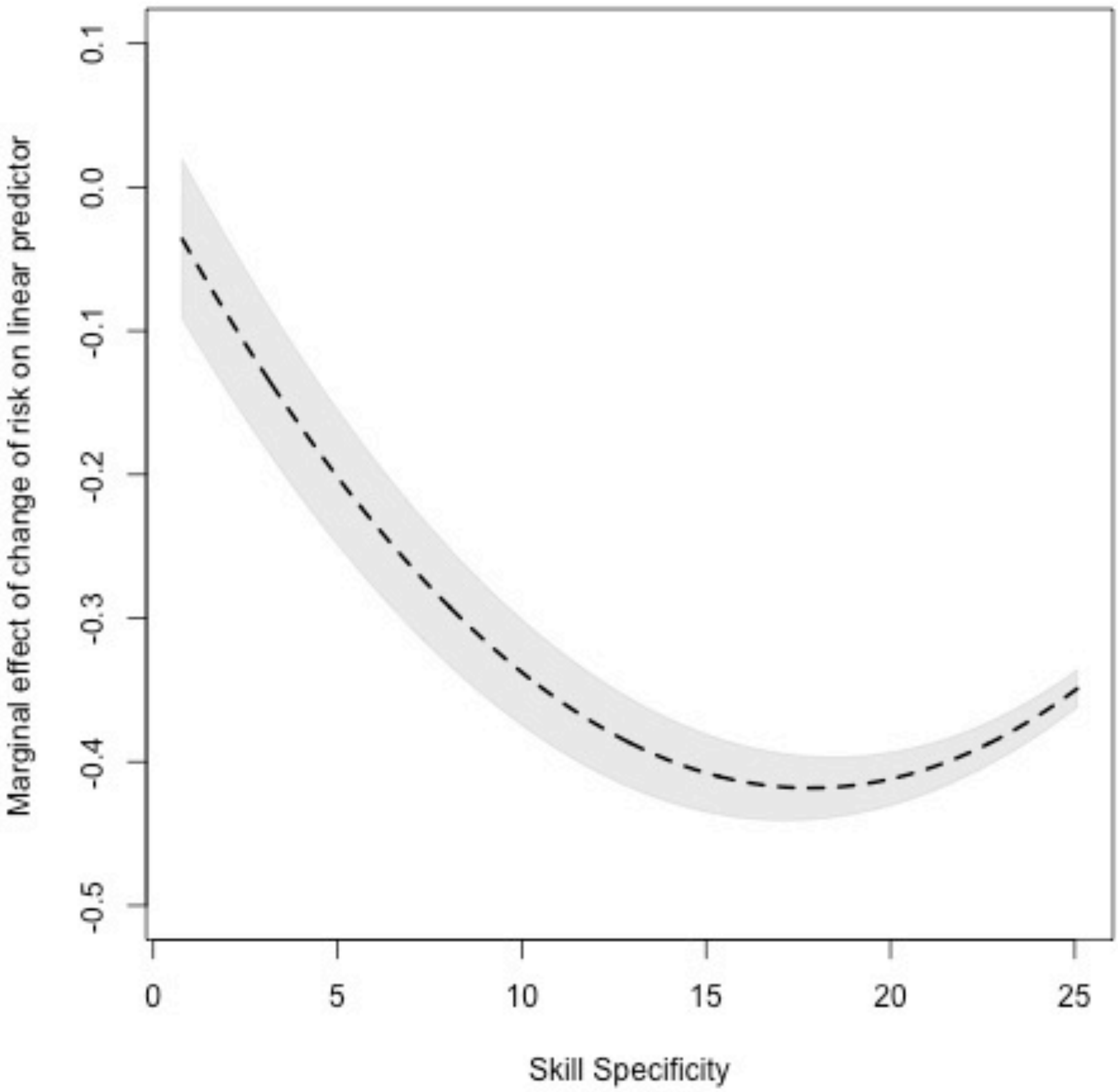


**Figure A4: The effect of skill specificity on self-respect. Marginal effects estimated from model 4, table A11.**



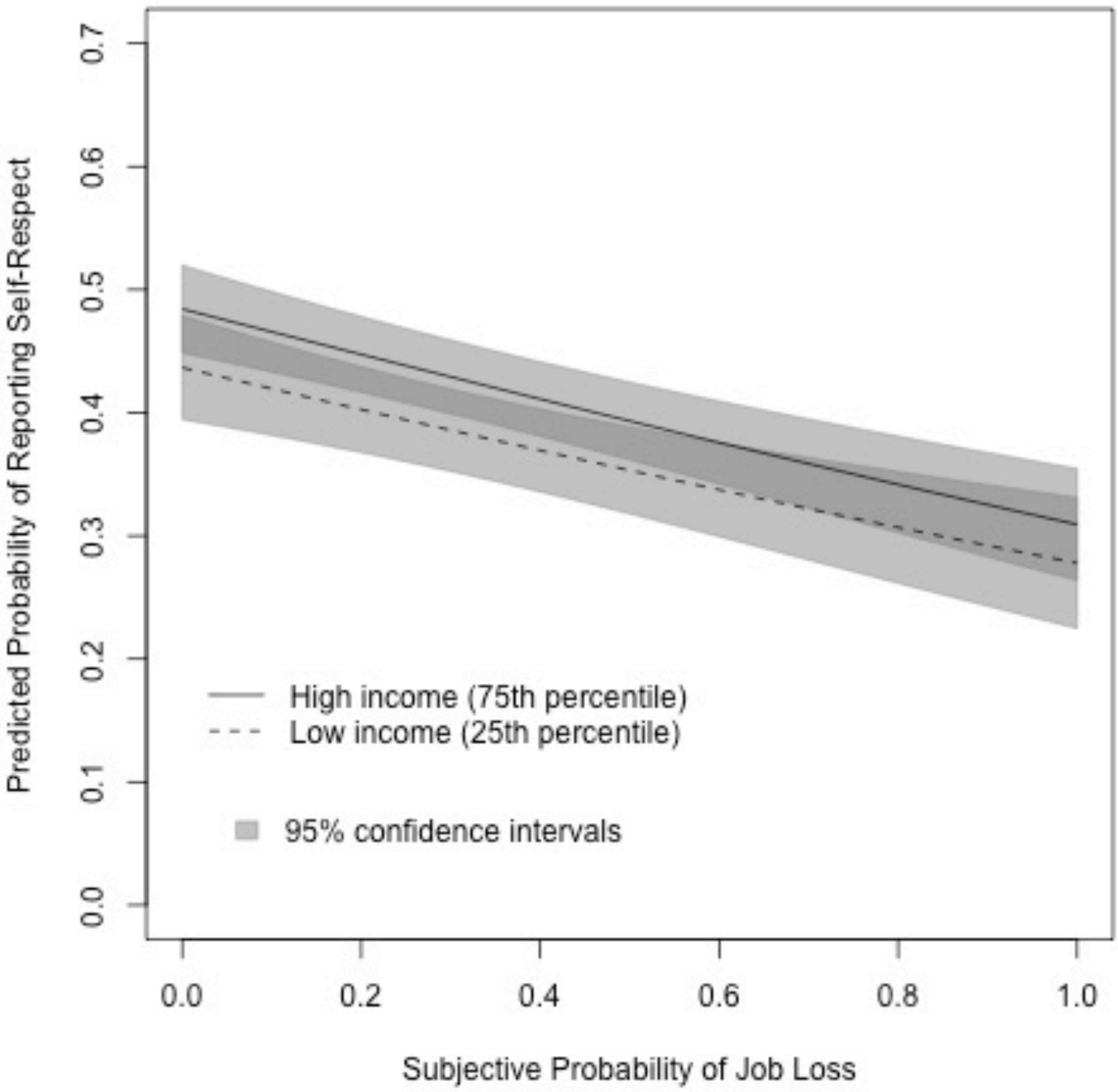
## Non-Linearities: Differential effects

We consider whether exposure to economic risk has differential effects on two types of people who we might think would be better insulated against its adverse effects due to the presence of alternative resources to draw on. Specifically, both higher household income and the presence of an adult partner in the household might make any risk of job loss less adversely linked to self-respect: these characteristics provide a kind of insurance against the economic risk at hand. Hopefully the logic with regard to income is straightforward. Concerning the difference between the married/cohabiting and single-adult households, we are using the idea that the presence of another adult as a partner not only helps as a material buffer (we additionally considered differentiating partners who are in work, with similar null results), but also potentially as a more intangible source of risk pooling via support in terms of time and emotional resources.

Figures A5 and A6 show the impact of subjective probability of job loss on the probability of reporting self-respect (by our usual strict binary measure). Figure A5 separates the predicted probabilities for those at the 25$^{th}$ and 75$^{th}$ income percentiles, while figure A6 differentiates those who are married or cohabiting from those without an adult partner (that we know of in terms of marital status): the divorced, separated, widowed and single. Table A12 provides the full statistical results.

The near-parallel slope of the two lines indicates that regardless of income level, risk of unemployment seems to stand in a very similar relationship to self-respect, with the chances of respondents reporting the latter declining as the former rises.

**Figure A5: the effect of risk on self-respect at different income levels. Estimates generated from model 1, table A12.**




For those with or without another adult present in the household, the slopes do differ somewhat, but the overlapping confidence intervals imply that the difference is not statistically significant. Moreover, to the extent that there is variation here, the link between self-respect and risk is steeper for those who are married or cohabiting than it is for those without another adult present.

**Figure A6: the effect of risk on self-respect for those with and without an adult partner in the household. Estimates generated from model 2, table A12**.

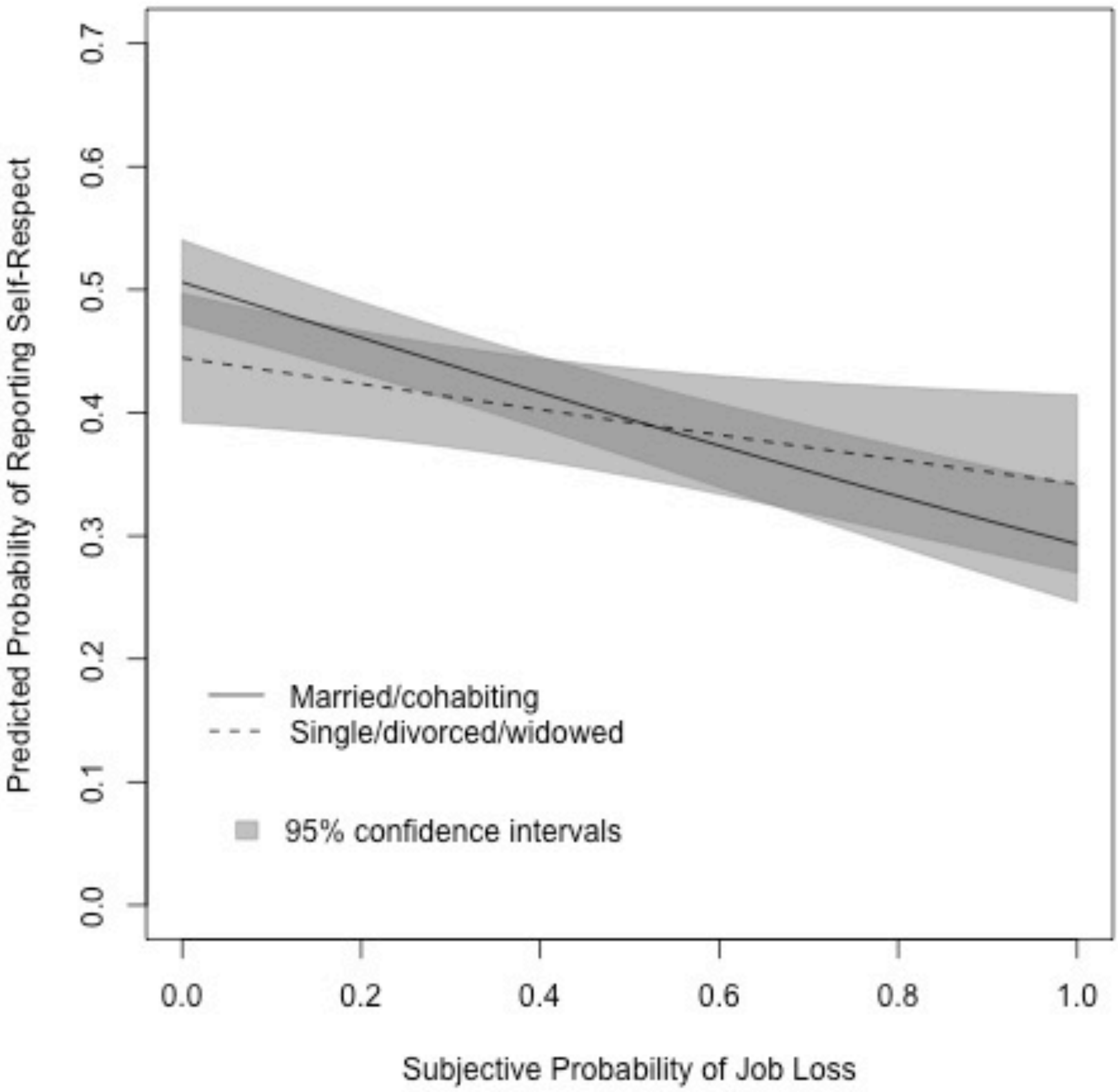


**Table A12: The effect of risk on self-respect for different types of respondent. Standard errors in parentheses.**

| | Binary self-respect | |
|---|---|---|
| | **Model 1** | **Model 2** |
| Job loss probability x income | -0.00 | |
| | (0.00) | |
| Job loss probability x adult partner | | $-0.47^{*}$ |
| | | (0.25) |
| Subjective probability of job loss | $-0.68^{***}$ | $-0.43^{**}$ |
| | (0.20) | (0.20) |
| Income (000s) | $0.01^{***}$ | |
| | (0.00) | |
| Adult partner in household | | $0.25^{**}$ |
| | | (0.10) |
| N | 3446 | 4034 |
| Log Likelihood | -2271.38 | -2687.67 |
| AIC | 4558.75 | 5391.34 |

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$

Models include controls for gender, age, and age squared.

## Statistical Models: Risk enjoyment, risk exposure and self-respect

Table A13 below contains the results of interacting risk exposure (as measured by subjective probabilities of job loss, objective unemployment risk, and skill specificity) with whether the respondent reports enjoying risk. That is, we can investigate whether economic risks act differently on those who like risk, as well as considering the impact that enjoying risks has on self-respect itself. Figure 4 in the main paper summarises the results from model 7 in the table here.

We measure the enjoyment of risk using a seven-point scale, giving responses to the statement 'I get a lot of pleasure from taking risks' numerical values as follows:

| | |
|---|---|
| Disagree strongly | 0 |
| Disagree | 1 |
| Disagree slightly | 2 |
| Neither agree nor disagree | 3 |
| Agree slightly | 4 |
| Agree | 5 |
| Agree strongly | 6 |

The average score on this measure is 2.37, which corresponds to slight disagreement with the statement.

**Table A13: The effect of risk exposure on self-respect, for varying levels of liking risk. Standard errors in parentheses.**

| | Binary self-respect | | |
|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** |
| Liking risk | 0.15*** | 0.15*** | 0.17*** |
| | (0.03) | (0.05) | (0.03) |
| Likelihood of job loss x liking risk | 0.10 | | |
| | (0.08) | | |
| Occupational unemployment x liking risk | | 0.00 | |
| | | (0.01) | |
| Skill specificity x liking risk | | | 0.00 |
| | | | (0.00) |
| Subjective probability of job loss | -0.97*** | | |
| | (0.25) | | |
| Occupational unemployment rate | | -0.06** | |
| | | (0.02) | |
| Skill specificity | | | -0.01 |
| | | | (0.01) |
| Equivalised income (000s) | 0.00*** | 0.00*** | 0.00*** |
| | (0.00) | (0.00) | (0.00) |
| Self-employed | -0.06 | 0.02 | 0.04 |
| | (0.12) | (0.11) | (0.11) |
| Female | -0.09 | -0.16** | -0.12 |
| | (0.08) | (0.08) | (0.07) |
| Age | 0.01 | 0.00 | 0.01 |
| | (0.02) | (0.02) | (0.02) |
| Age 2 | -0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) |
| N | 3408 | 3637 | 3637 |
| Log Likelihood | -2199.35 | -2352.71 | -2356.83 |
| AIC | 4436.69 | 4743.41 | 4751.66 |

***p < .01; **p < .05; *p < .1

Models include controls for education, income, gender, marital status, age, and age squared.

The figure in the main paper provides the most straightforward presentation of these results, in terms of predicted probabilities. The figure captures both of the core lessons from these analyses. First, enjoying risk is associated with higher levels of self-respect. This is clear from the figure in that the expected levels of self-respect are always higher for those at the ‘slightly agree’ level of risk enjoyment (that line is higher). This is reflected across the three ways of measuring economic risk in the positive coefficient in the table. The second element that is clear from the figure is that the slopes of the two lines – those for respondents who enjoy risk and those who disagree with the statement – are essentially identical. Greater exposure to economic risk reduces self-respect even for the risk-liking respondents, and at approximately the same rate as for their more risk-averse counterparts. This result is reflected in the table by coefficients on the interaction term which are statistically indistinguishable from zero in all cases.

## PANEL DATA EVIDENCE: THE BHPS

Panel data allow us to address the question of causality by considering only within-individual variation in risk and self-respect. That is, rather than asking 'do those people who are exposed to risk have higher self-respect than those who are not exposed?' we can ask of a single person over time, 'when this person is exposed to risk, does their self-respect increase?' The answer to the second question is, by construction, unconfounded by any individual trait that is stable over time: it is not because you are female that you have higher self-respect when at risk, if your gender doesn't change. The within-individual panel estimates, then, may represent a more plausible causal estimate, such that if individual risk exposure changes, the associated difference in self-respect is more readily attributable to that change.

There does exist some panel data that allows us to investigate this relationship. Specifically, the British Household Panel Survey tracks the same individuals through time, and includes measures of their labour market position from which we can generate indicators of risk exposure. It also asks questions about how respondents have recently been feeling, with reference to concepts relevant to self-respect (see section 1 below).

One significant disadvantage of the BHPS data is that it does not include any subjective measures of risk. As discussed in the main paper, the core theoretical arguments that Tomasi makes linking risk to self-respect hinge on individual *experience* of risk, and as such we prefer a measure of this independent variable which does come from subjective accounts of how people feel.

This section presents the analysis of the BHPS (1991-2008) with this caveat in mind. The BHPS 'proper' ended in 2008, and was replaced by the 'Understanding Society' panel, which includes resampling of some BHPS households. However, linking the data across the two waves is somewhat complex, and the 18 years of the original panel is longer than the more recent series. The BHPS waves are sufficient to investigate a good deal of variation, in particular as a complement to the (more recent) cross-sectional data in the main analyses.

## AIV. MEASURES

Our ability to contrast a credible measurement of the `self-respect' outcome is also more limited in the BHPS than in the HSE, given the precise wording of the relevant questions. Specifically, questions about feeling useful, feeling confident, making decisions, and feelings of worth are asked in the BHPS *relative to some 'normal' baseline*. For example, 'Have you recently felt that you were playing a useful part in things?', with the response options 'Much less than usual', 'Less so than usual', 'Same as usual', 'More so than usual' (whereas in the HSE the responses are simply 'Most of the time', 'some of the time', and so on). This is less of a problem in the panel data than it would otherwise be, as we use within-individual variation; but it is only unproblematic if the baseline that respondents imagine for themselves remains constant over time. For example, if an individual in the sample undergoes several periods of high risk, and feel less like they are playing a useful part than before when they were not so risk exposed, they may (in consequence) revise their idea of 'usual' downwards, skewing the measurement of later periods.

Nevertheless, a measure of self-respect *compared to normal* can be derived from four survey items from the general health questionnaire section of the BHPS. Respondents are asked a battery of questions prefaced:

*Here are some questions regarding the way you have been feeling over the last few weeks. For each question please tick the box next to the answer that best describes the way you have felt. Have you recently…*

For each item, respondents can tick a box corresponding to their recent experience. We use responses to the following four prompts to generate the self-respect measures, assigning numerical values to each response so that higher values correspond to higher self-respect:

a) *felt that you were playing a useful part in things?*
b) *felt capable of making decisions about things?*

With the response options:

0. *Much less than usual*
1. *Less so than usual*
2. *Same as usual*

3. *More so than usual;*

and:

c) *been thinking of yourself as a worthless person?*

d) *been losing confidence in yourself?*

With the responses:

0. *Much more than usual*
1. *Rather more than usual*
2. *No more than usual*
3. *Not at all.*

Items a and c correspond to the evaluation of self-worth, as a component of Rawlsian self-respect; while items b and d are intended to capture plan confidence.

Brief univariate summaries of each of these items are shown in Table A14 below.

***Table A14: Univariate summaries of self-respect component variables.***

| | % respondents in category (of non-missing) | | | | Numeric mean | % missing |
|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | | |
| Playing a useful part | 2.4 | 10.5 | 73.9 | 13.2 | 1.98 | 6.5 |
| Capable of making decisions | 1.2 | 8.4 | 77.3 | 13.1 | 2.02 | 6.4 |
| Thinking of self as worthless | 1.6 | 6.2 | 26.0 | 66.3 | 2.57 | 6.4 |
| Losing confidence | 2.2 | 11.9 | 38.5 | 47.5 | 2.31 | 6.4 |

From these component variables, we create a binary indicator calibrated at a level of 'strictness' to generate a similar share of respondents with self-respect as we observed in the HSE.

The binary measure considers individuals to have self-respect if they report feeling useful and making decisions the same as or more than usual. However, respondents must respond 'not at all' when asked about feeling worthless or losing confidence in order to be considered to have self-respect. According to this measure, the respondent is coded as having self-respect in 42.6% of person-wave observations.

### Measure of Risk

Although there is no subjective risk data available in the BHPS, we can again use occupation-gender specific unemployment rates as an indicator of labour market risk for individuals. For each occupational group, gender-specific unemployment rates are available at the ISCO one digit level (differentiating 10 occupational groups), for each year after 2000. Thus we can assign the relevant unemployment rate facing each individual in a given wave. This measure varies within individuals over time both when they change occupations and as the relevant occupational unemployment rates change. At least this latter change through time is plausibly exogenous to individual decisions. Combining these two sources of data thus leaves us with eight waves of data to analyse, from 2001 to 2008.

The gender-occupation unemployment rate is a continuous variable, with considerable variation within the sample, from 1.11% for female professionals in 2007, to 13.9% for men in elementary occupations in 2008.

## AV. METHODOLOGICAL ISSUES

The primary benefit of the panel data is that it allows us to consider the impact of risk exposure on the same individuals at multiple times. The panel allows us to control directly for any time-invariant heterogeneity across individuals – even that which is unobserved – by the incorporation of individual fixed effects.

However, the structure of our data, and our preferred operationalisation of self-respect, raise some issues for this kind of estimation. We have 32380 individuals, each observed between 1 and 18 times over the 18 waves of the panel, over the period between 1991 and 2009. The average number of appearances is 7.33, although this overstates the sample size available for analysis—some person-waves are lost due to item non-response. In practice, about 7 per cent of observations are missing self-respect data; 19 per cent of these missing observations are accounted for by the four percent of respondents who never provide self-respect data in any wave. Thus we have a short, wide panel; and the asymptotic properties of any statistical inference are based on the number of individuals in each wave (N) rather than the number of observations for each individual.

This is problematic when we want to estimate individual fixed effects: the so-called 'incidental parameters' problem.[7] The general intuition is straightforward: the number of intercepts to be estimated goes to infinity as the number of observations goes to infinity. The technical implications are that the typical properties for standard maximum estimators do not hold; and indeed they are likely to be inconsistent.[8]

With a linear model, the fixed-effects specification is equivalent to modelling deviations from the individual mean outcome as the dependent variable.[9] However, as discussed in the paper and above, from a substantive philosophical point of view we think a binary measure of self-respect is closer to the theoretical concept. The equivalence of the demeaned-outcome regression and the fixed effects specification does not hold for the non-linear models typically used to capture the binary nature of the outcomes. In these cases, the incidental parameters problem is relatively intractable.

One solution in such cases is to specify conditional logit models[10], maximising the conditional likelihood. The intuition here is to estimate the model by conditioning on the number of successes

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[7] Neyman and Scott 1948.

[8] Beck 2015.

[9] Angrist and Pischke 2009: 222.

[10] Chamberlain 1980.

(in our application, the presence of self-respect) for each individual. Given an individual with k successes, β is estimated by finding the value that best predicts which of the individuals' appearances in the data are cases where they do have self-respect. What is lost by this process is the possibility of creating unconditional predicted probabilities: while the conditional logit conditions on the number of successes for an individual, it does not estimate the (individual) fixed effects.

Alternatively, we can just model the binary outcomes with a linear model: a 'linear probability model' or LPM.[11] The residuals will necessarily be heteroskedastic, but this may or may not be strongly consequential for the inferences and interpretations we draw. Estimating the LPM with fixed effects is a common practice in recent political science applications.[12] In fact, the size of our dataset makes the estimation of even these linear model fixed effects computationally intensive, so we use the mathematically equivalent approach of demeaning the outcome by individual. In what follows we present results from both conditional logit and linear probability specifications.

A more general caveat to the panel estimates is that while the within-individual identification allows us to strip out differences across individuals that are constant over time, it is not necessarily the case that this is *the* causal estimate we are interested in. This is discussed further below, but intuitively, if some as-if-random mechanism sorts individuals into being, or not being at risk, this subsequently doesn't change, and it is associated with a difference in self-respect, this kind of between-individual variation is legitimately `causal', but will not be captured by the within-individual panel estimates.

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[11] Angrist and Pischke 2009: 47.

[12] See, for example, Hainmueller and Hangartner 2013: 159-187.

## AVI. STATISTICAL MODELS & RESULTS

Table A15 thus presents the results of the two different approaches to estimating the within-person relationship between risk and self-respect. Model 21 treats the individual-demeaned value of the binary indicator as a continuous outcome, while model 22 uses the conditional logit specification. Individuals currently experiencing bad outcomes are excluded from the analysis.

**Table A15: Occupation-gender unemployment risk and self-respect in the BHPS, 2000-2008**

| | **Demeaned binary SR OLS Model 1** | **Binary SR conditional logistic Model 2** |
|---|---|---|
| Gender-occupation unemployment risk | $-0.002^{**}$ | $-0.011^{**}$ |
| | (0.001) | (0.005) |
| N | 58000 | 58000 |
| R-squared | 0.001 | 0.001 |
| Log Likelihood | | -34833.100 |
| Score (Logrank) Test | | $35.556^{***}$ (df = 9) |

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$

Models include controls for gender, marital status, education, self-employment, income, age, and age squared.

From the table we can see that the sign and significance of the occupational unemployment risk variable is preserved in the panel analysis. But the substantive size of the coefficient estimates is difficult to interpret, given the complicated scales of the outcome variables (model 21) and the conditional logit model (model 22). Thus we can put them into some more concrete context.

First, we need to think about what the model outcome really represents. For each person-period, it is the offset from their observed average of (binary) self-respect outcomes. If we think of any person’s average over time as their individual-specific probability of reporting self-respect, then the demeaned outcome is just how far above or below that baseline probability they are at the given time. The average of the demeaned outcome in the data is 0. From this initial level, a one standard deviation increase in occupational unemployment risk (a 2.37 point change) is associated with a reduction in self-respect of 0.004 points. This change would bring an individual previously at the average outcome value down by 27 percentiles on the outcome distribution (one standard-deviation change in the independent variable up from the median increases the risk variable by 29 percentiles). Thus the small coefficient on unemployment risk reflects the low level of variation in the measure, rather than a small substantive effect.

The conditional logit model also attests to a negative, though modest, effect of risk. Here, odds ratios are the easiest way to interpret the results: each additional percentage point of unemployment risk multiplies the odds of reporting self-respect by 0.99.

Thus to the extent that the panel data provide a more credible estimate of the causal link between risk and self-respect, they reinforce the findings from the cross-sectional evidence: there is a negative relationship between risk and self-respect.

We can also conceive of models of skill specificity within the analysis of the BHPS. However, they do not provide good data to investigate the idea at hand due to a lack of variation (or at least, a lack of data about variation) in the skill specificity measures for each individual. That is, measures for skill specificity are only readily available as occupation-specific measures invariant over time. Thus, the only variation in skill specificity that we can observe within individuals is when they change occupations. While the skill specificity data are available at a more disaggregated level than the occupational unemployment rates (at the ISCO two-digit level), we see this kind of occupational change only very rarely in the BHPS: over half of the respondents have no variation in their skill specificity measure throughout the survey. This is not enough variation in terms of risk to be able to identify effects on self-respect.

## AVII. OVERCOMING ADVERSITY

Beyond providing more credible causal inferences, the BHPS also allows us to ask different kinds of questions of the data, which may be germane to arguments about how people experience labour market risk. In particular, we can construct empirical models of a more generous interpretation of Tomasi's original claim, as concerned with the self-respect benefits of successfully navigating risky situations. Understood in this way, Tomasi's claim is less about the benefits of the experience of risk itself and more about the sense of resilience or confidence that stems from having faced unfavourable outcomes in the past and overcome them. (However, assuming that the instantaneous effect of 'bad outcomes' is negative, the overall evaluation of whether risk is good or bad for self-respect depends both on the relative sizes of these two effects, and the chances of coming out of things well).

To investigate this in the BHPS we use job market status to code good and bad outcomes.[13]

First, each survey period is categorised as a good or bad outcome state. These categorisations capture the realisation of risk in the form of bad outcomes, rather than living under risk.

Secondly, we code a variable for the successful resolution of a past bad outcome. Individual-wave observations have come out well from a prior bad outcome if they have both a bad period (as above), and a subsequent period in employment or self-employment.[14]

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[13] In principle, we could construct analogous models using prior experience of high occupational unemployment rates, or skill specificity. But in the former case, considering positive changes as things turning out well as a consequence of individual effort (and thus in a way relevant to self-respect) is difficult given that changes to occupational unemployment rates are driven by macroeconomic conditions rather than individual action. For the latter, we are again hampered by the lack of within-individual variation.

[14] Those with other labour market outcomes are coded as not having this previous, positively resolved period of risk—that is, they are coded with zeros, not missing values.

**Table A16: Classification of labour market outcomes and descriptive statistics.**

| | Bad state | Good state | Not classified |
|---|---|---|---|
| Reporting employment status as: | Unemployed<br>Long-term sick, disabled<br>Government training scheme | Employed<br>Self-employed | Maternity leave<br>Retired<br>Student<br>Family care |
| % of observations | 8.5 | 57.4 | 34.7 |

Models 23 and 24, the first two columns of table A17, show the results of within-person models including both the previous resolution of a bad outcome, and currently being in that bad state. Both models confirm the contemporaneous negative impact of the bad state; the conditional logit model estimates no effect of resolving a prior bad episode, while the linear probability model does estimate a positive effect.

However, the empirical investigation is complicated by the relationship between the previous 'bad state' variable and individuals' average self-respect, from which the within-person deviations for the linear probability model are calculated. There is a negative association between being in the bad outcome state now, and self-respect. Thus, time in the bad state brings down the average self-respect score. So, in any specification where within-individual variation identifies the effect we are looking for relative to the individual's average, the coefficient on coming out of a bad state well will be biased upwards.[15]

To deal with this problem, instead of using the overall average self-respect outcome for any individual to capture individual-specific, time-invariant features that change self-respect, we use

[15] This issue also applies to the analyses above for contemporaneous risk exposure, but given that we recover negative associations there, these represent more conservative estimates in light of this artefactual feature of the data.

the individual average only for periods when they are in the good state, or the individual average only for periods under bad outcomes. This eliminates the distribution of periods across these two categories from the calculation of the individual average. However, it does mean that for each measure, the sample is reduced, and different: using average ‘good state’ self-respect, we lose those who never have ‘good state’ observations from the sample. Using the ‘bad state’ version, we lose those who never have ‘bad state’ observations. Those who have both kinds of risk-status positions at different times appear in both samples.

Models 25 and 26 show the results of using these good/bad state contingent demeaned outcomes, and incorporating the indicator for previous prior successful resolution of risk as well as current labour market state. The coefficient estimate for ‘successful resolution’ should be interpreted as the self-respect premium in person-periods subsequent to the successful resolution of a period of bad outcomes.

In these models, individuals currently experiencing bad outcomes are not excluded. Moreover, since these do not rely on the objective unemployment data we can use all available waves of the BHPS, extending the panel back before 2001. thus the number of observations in these models is higher than in table A15 and A18.

**Table A17: The effect of overcoming adversity on self-respect.**

| | | | | | | |
|---|---|---|---|---|---|---|
| Outcome: | **Binary semi-strict** | | | | | |
| Model: | **Conditional logistic** | **OLS** | **OLS** | **OLS** | **OLS** | **OLS** |
| Sample: | **All** | **All** | **Good state** | **Bad state** | **Good state** | **Bad state** |
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| Current bad state | $-0.491^{***}$ | $-0.050^{***}$ | $-0.126^{***}$ | $-0.139^{***}$ | $-0.125^{***}$ | $-0.138^{***}$ |
| | (0.028) | (0.003) | (0.004) | (0.005) | (0.005) | (0.006) |
| Successful resolution | 0.0001 | $0.014^{***}$ | 0.001 | -0.009 | 0.001 | -0.008 |
| | (0.028) | (0.003) | (0.003) | (0.006) | (0.003) | (0.006) |
| Successful resolution x current bad state | | | | | -0.008 | -0.004 |
| | | | | | (0.010) | (0.013) |
| R-squared | 0.004 | 0.004 | 0.009 | 0.024 | 0.009 | 0.024 |
| Log Likelihood | -112793.000 | | | | | |
| Score (Logrank) Test | $579.939^{***}$ (df = 31) | | | | | |

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$

All models include controls for educational achievement, income, marital status, self-employment, age, age squared.

The results are not encouraging for a positive role for risk, even under these generous conditions. In none of the models do we recover a positive relationship between adverse outcomes successfully resolved, and self-respect.

Models 27 and 28 in table 17 consider whether the positive effect of prior successful resolution is really only important during subsequent periods of difficulty. That is, we might think that yes, after an experience of adversity we might have lower self-respect even if things turned out well, but knowing that one has successfully navigated the bad times previously should make self-respect more resilient in any subsequent episodes.

There is no evidence of any non-linear effects of the combination of past and current outcomes. And the interaction terms are negatively signed, rather than positively: so if anything, those who are exposed to bad outcomes *again*, after having successfully resolved them in the past, see a more negative effect on their self-respect than those who are in the bad state for the first, or ongoing, time. More importantly, though, these results preserve the overall conclusions from the simpler models: there is no evidence that even successfully resolved experiences of bad labour market outcomes in the past improve self-respect.

### Unemployment Risk and Overcoming Adversity

We may also want to use this information about people's experience of bad outcomes over time to provide a richer set of controls for occupational unemployment risk. For example, occupations with high risks of unemployment today are also more likely to contain a disproportionate share of those with prior experience of bad outcomes. Although the within-individual model means that we capture the effects only of changes in risk, considering respondents' past experiences of bad outcomes may help efficiency in our estimates.

As such, table 18 presents the results of models analogous to model 21 and 22 in table A15 above, but with the addition of our indicator for the successful resolution of a previous bad outcome. Since we are again looking for negative associations (with unemployment risk) the upward bias in the simple demeaned outcome variable represents an offsetting effect, and we return to the simpler outcome measure.

**Table A18: Occupation-gender unemployment risk , overcoming adversity and self-respect in the BHPS, 2000-2008**

| | **Demeaned binary SR OLS**<br><br>**Model 1** | **Binary SR conditional logistic**<br>**Model 2** |
|---|---|---|
| Gender-occupation unemployment risk | -0.002$^{**}$ | -0.010$^{**}$ |
| | (0.001) | (0.005) |
| Successful resolution | 0.015$^{***}$ | -0.056 |
| | (0.004) | (0.074) |
| N | 58000 | 58000 |
| R-squared | 0.001 | 0.001 |
| Log Likelihood | | -34832.820 |
| Score (Logrank) Test | | 36.128$^{***}$ (df = 10) |

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$

Models include controls for gender, marital status, education, self-employment, income, age, and age squared.

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