

Table S1. Location, Period, and Sample Size of the Survey

	Place	Period	Total (Valid)
Eastern China	Fangshan District of Beijing	2016.01	202 (202)
Northeast China	Chaoyang City, Liaoning Province	2014.06	238 (238)
Central China	Shiyan City, Hubei Province	2015.09-2016.01	178 (178)
	Jiujiang City, Jiangxi Province	2015.01	185 (185)
	Lu'an City, Anhui Province	2015.07	182 (126)
Western China	Wuwei City, Gansu Province	2014.08	52 (52)
	Ankang City, Shanxi Province	2014.08	153 (153)
Total			1190 (1134)

Table S2. List of Variables

Variable	Description	Values
Endogenous variables		
Psychological well-being	Measured by the composite score of twelve items:	Composite score: 12~60
	(1) How do you evaluate your mental status?	(1) 1= Very bad, 2= Quite bad, 3= Neither good nor bad, 4= Quite good, 5= Very good
	(2) How often do you have negative feelings such as blue mood or anxiety?	(2) 1= Always, 2= Very often, 3= Sometimes, 4= Seldom, 5= Never
	(3) How often do you have insomnia?	(3) 1= Always, 2= Very often, 3= Sometimes, 4= Seldom, 5= Never
	(4) How much do you enjoy life?	(4) 1= Not at all, 2= A little, 3= A moderate amount, 4= Very much, 5= An extreme amount
	(5) To what extent do you feel your life to be meaningful?	(5) 1= Not at all, 2= A little, 3= A moderate amount, 4= Very much, 5= An extreme amount
	(6) How well are you able to concentrate?	(6) 1= Not at all, 2= A little, 3= A moderate amount, 4= Very much, 5= An extreme amount
	(7) Do you have enough energy for everyday life?	(7) 1= Not at all, 2= A little, 3= A moderate amount, 4= Very much, 5= An extreme amount
	(8) How often do you worry about future life?	(8) 1= Always, 2= Very often, 3= Sometimes, 4= Seldom, 5= Never
	(9) How often do you feel scared?	(9) 1= Always, 2= Very often, 3= Sometimes, 4= Seldom, 5= Never
	(10) How much confidence do you have in your treatment?	(10) 1= Not at all, 2= A little, 3= A moderate amount, 4= Very much, 5= An extreme amount
	(11) How much hope do you have in your future life?	(11) 1= Hopeless, 2= Not quite hopeful, 3= Moderately hopeful, 4= Quite hopeful, 5= Full of hope
	(12) Are you satisfied with your current situation?	(12) 1= Very dissatisfied, 2= Dissatisfied, 3= Neither satisfied nor dissatisfied, 4= Satisfied, 5= Very satisfied
Dusty work	Years of engaging in dusty work; recorded as intervals from the five categorical options in the questionnaire	2.5~22.5

Stage of pneumoconiosis	The pneumoconiosis is at which stage.	0= Pneumoconiosis stage I, 1= Pneumoconiosis stage II, 2= Pneumoconiosis stage III, 3= Not sure about the stage
Complications	Whether have complications	0= No complications, 1= At least one complication, 2= Not sure whether there are complications
Progression of pneumoconiosis stage	Whether the pneumoconiosis stage increases	0= No aggravation of pneumoconiosis stage, 1= Aggravation of pneumoconiosis stage, 2= Not sure whether pneumoconiosis stage aggravated
Treatment expenditure	Expenditure on treatment of pneumoconiosis per year; recoded as intervals from the five categorical options in the questionnaire; naturally log-transformed	1800~ 21600.5; ln value: 7.496~9.980
Current employment status	Participants' current employment status	0= Work inability, 1= Have work ability but unemployed, 2= Agricultural work, 3= Non-agricultural work, 4= Retired or other situations
Household monthly income	Objective socioeconomic status; recoded as intervals from the four categorical options in the questionnaire; naturally log-transformed	750~ 3750.5; ln value: 6.620~ 8.230
Self-rated family economic conditions	Subjective socioeconomic status	0= Very poor, often in debt, 1= Quite poor, needs careful calculation and strict budgeting, 2= Average, but meets basic expenses, 3= Quite good
Money from social security programs	The amount of money obtained from social security programs; recoded as intervals from the six categorical options in the questionnaire; naturally log-transformed	150~ 2250.5; ln value: 5.011~7.719
Exogenous variables		
Age	The age of the participants	28~94
Male	The gender of the participants	0= Female, 1= Male
Married	The marital status of the participants	0= Single, divorced, or widowed, 1= Married
Han ethnicity	The ethnicity of the participants	0= Minority, 1= Han
Education level	The education level of the participants	0= Primary school and below, 1= Middle school, 2= High school and above
Urban hukou	Household registration (<i>hukou</i> in Chinese) type	0= Rural hukou, 1= Urban hukou
Mining occupation	Occupational type	0= Other relevant occupation, 1= Mining
Urban area	Residence area	0= Rural area, 1= Urban area

Robust Test Results

The Akaike's Information Criteria (AIC) and Bayesian Information Criteria (BIC) of GSEM analysis without missing values were 28797.22 and 29631.36 respectively, while the AIC and BIC of GSEM analysis with missing values and different number of respondents in different paths were 29990.46 and 30836.09, respectively. Hence, the original models without missing values performed better. Models and without missing values (see Table 2) and with missing values (see Appendix Table S3) have similar results, proving that the results are generally robust.

Table S3. Results of the GSEM Analysis (with missing values in different paths)

	(1) Dusty work ^a	(2) Stage of pneumoconiosis ^b	(3) Complications ^b	(4) Progression of pneumoconiosis stage ^b	(5) Treatment expenditure ^a	(6) Current employment status ^b	(7) Household monthly income ^a	(8) Self-rated family economic conditions ^b	(9) Psychological well-being ^a
Age	0.012	0.986*	1.006	0.987 [!]	−0.013***	1.003	0.008***	1.047***	−0.011
Male	2.185	0.668	0.471	0.196**	−0.366	0.228*	0.301 [!]	0.442	1.071
Married	1.770*	0.571*	1.171	0.760	−0.124	1.433	0.191*	0.918	0.348
Han Ethnicity	−1.562	0.283**	0.716	0.243***	−0.039	0.743	−0.125	1.257	−0.176
Education level									
Middle	−0.780*	0.924	1.057	1.237 [!]	−0.049	0.871	0.046	0.937	0.814*
High and above	−0.859	0.670	0.876	1.048	0.074	0.513*	0.230**	2.200**	0.808
Urban hukou	7.602***	0.867	0.726	1.198	−0.416*	6.572***	0.070	1.031	1.242
Mining work	3.004***	1.421 [!]	1.196	2.570***	−0.176 [!]	0.879	−0.104 [!]	0.661 [!]	−1.376*
Urban area	3.188**	0.269***	0.990	0.584	−0.212	13.329***	0.187	1.009	−0.401
Stage of pneumoconiosis									
Stage II					0.035	0.850	−0.002	0.711*	0.514
Stage III					0.399***	0.275***	0.010	0.627*	−0.992
Not sure					0.113	0.690 [!]	0.044	0.557**	1.399*
Complications									
At least one					0.243***	0.515***	−0.051	0.994	−1.270**
Not sure					0.183*	0.827	−0.067	0.820	−0.750
Progression of pneumoconiosis stage									
Aggravation					0.109	1.134	0.052	1.379 [!]	−1.466**
Not sure					−0.037	1.154	−0.081 [!]	1.019	−2.351***
Dusty work		1.090***	1.032**	1.024*	0.033***	1.049***	0.000 ^c	0.942***	−0.017
Treatment expenditure (ln value)							−0.063**	0.636***	−0.444 [!]
Current employment status									
Have work ability but unemployed							−0.203 [!]	1.692	−2.599*
Agricultural							0.131**	1.596**	1.154*
Non-agricultural							0.354***	2.758***	2.333***
Retired or other							0.343***	3.448***	0.918

Money from social security programs (ln value)					0.083***	1.350***	0.195
Household monthly income (ln value)							0.398
Self-rated family economic conditions							
Quite poor, needs careful calculation							2.205***
Average, but meets basic expenses							5.436***
Quite good							8.333***
_cons	4.426 [†]				9.328***	6.476***	30.434***
N	1134	1134	1134	1134	1059	1134	1059

Note: ^a For Paths (1), (5), (7), and (9), the effect measure is b.

^b For Paths (2), (3), (4), (6) and (8), the effect measure is OR.

^c 0.0003876

[†] p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

GSEM results reported unstandardized coefficients.