

Who can afford to look to the future? The relationship between socio-economic status and proactive coping

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Background: The aim of this article was to examine, whether middle-aged and older adults spontaneously engage in proactive coping to prevent future problems associated with ageing and whether differences in proactive coping were associated with socio-economic status (SES). **Methods:** As part of the cross-sectional Second Dutch National Survey of General Practice (DNSGP-2, 2001), a representative sample of 3189 adults aged 50–70 years filled in a questionnaire measuring proactive coping. In addition, data were collected regarding the three main components of SES, namely educational level, income and occupational status, as well as participants' health status. **Results:** We found that higher SES, especially with respect to income and education, was positively associated with proactive coping. This relationship was not moderated, but was partially mediated by physical health problems. **Conclusion:** People with higher income and higher educational level used more proactive coping strategies in their daily life to offset potential problems associated with ageing. Physical health status partially explained the SES-differences in proactive coping. It seems that people with lower SES undertake less future-oriented activities as a result of the fact that present health problems require attention and drain resources.

Keywords: ageing, health, proactive coping, socio-economic status.

Introduction

The ability to cope effectively with stressful changes is considered to be an important ingredient for subjective well-being.¹ Coping strategies have mainly been researched from a reactive point of view, through studies which examine the way people respond to problems once they have occurred. It is equally important, however, to study individuals' ability to recognize future threats and to use strategies that may offset these problems at an early stage, that is, whether they engage in proactive coping.^{2,3} Previous research has shown that through minimal intervention programmes people are able to learn proactive coping strategies to offset potential problems associated with ageing,⁴ type 2 diabetes⁵ and asthma⁶ resulting in better health and higher quality of life. So far, few empirical studies have been conducted relating to the spontaneous use of proactive coping strategies. The aim of this population-based study is to examine the socio-economic selectivity of proactive coping and to what extent current stressors play a role in this relationship in people aged 50–70 years. This seems to be a suitable population in which to examine proactive coping, since it may face many future problems, such as declining health.

Proactive coping is practically impossible without internal and external resources.^{2,3} Resources are those elements an individual can draw on when needed. They can be of a physical, psychological or social nature and may be already available or may exist in the form of skills for obtaining resources.⁷ Socio-economic status (SES) may be an indication of the amount of resources available or the likelihood that an individual is able to accumulate resources. For instance,

researchers have suggested that people develop communication, analytic and problem-solving skills through education.⁸ Furthermore, being in a low-SES environment on a daily basis may inhibit the development of efficient information processing and emotion-regulation skills because of, for example, the repeated experience of intense negative emotions arising from chronic exposure to difficult circumstances characterized by, for example, poverty, violent conflicts and physical health hazards.⁹

People low in SES may also experience more current problems and psychological distress,¹⁰ as they are more often exposed to chronically stressful living conditions, such as overcrowding, crime and noise,^{9,11} and because they face more life events,^{12,13} and have a lower reserve capacity to effectively cope with these events and circumstances. These problems may hinder proactive coping, since they occupy the mind and are likely to drain valuable resources that are necessary for reflection and future-oriented activities.³

As a result of entailing more problems and less accessible resources, low SES may provoke reactive responding, characterized, for example, by people only having the time and energy to concentrate on the present.¹¹ Consequently, recognition and anticipation of future problems are inhibited. People low in SES may be, therefore, more occupied with present problems; in contrast, people high in SES may be better able to engage in proactive coping. Previous research has indeed shown that higher SES was positively associated with active coping and planning,¹⁴ the prevention of threats¹⁵ and the engagement in behaviours that will prevent adverse (health) outcomes in the long term.^{16–18} Nevertheless, relatively little research relating to this topic has been conducted and our study's aim is, therefore, to explicitly test the assumption that lower SES is associated with lower likelihood of people focusing on the future and preventing potential problems.

To sum up, we hypothesize that individuals with lower SES will use less proactive coping. This study will include multiple SES indicators to determine the relative strength of the relationship between income, education and occupational

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status and proactive coping. Since lower SES is associated with more current stressors, which may in turn be negatively related to the use of proactive coping, we will examine whether current stressors play a role in the relationship between SES and proactive coping. In this study, we will test two competing hypotheses regarding their role. On the one hand, stressors may mediate the relationship between SES and proactive coping, because lower SES is often associated with the experience of more stressors, which in turn leads to less proactive coping as a result of fewer resources being available. An alternative hypothesis, however, may be that stressors play a moderating role. People who are lower in SES may use less proactive coping, but only when they are overwhelmed by current problems requiring their immediate attention.

As people age, the likelihood of experiencing a decline in health increases and poor health becomes a source of stress for a greater number of those people. We will, therefore, concentrate on poor physical health as a current stressor. In addition, we will examine the role of poor mental health, since this may be an indication that people are currently experiencing problems that are consuming attention and resources, which are then no longer available for future-oriented activities.

Methods

Procedure and sample

This study employed data from a large cross-sectional survey study, the Second National Study of Morbidity and Interventions in General Practice,¹⁹ which was conducted by the Netherlands Institute of Health Services Research (NIVEL). Via a representative group of 104 general practices, a random sample of individuals ($n=12\,699$) was recruited and interviewed (response rate was 65%). The sample was representative for the Dutch population with respect to gender and age.¹⁹ Since nearly all Dutch citizens are registered at a GP and the non-response was shown not to be selective,¹⁹ the sample was also representative with regard to health status.

For the aim of this study, individuals aged 50–70 years were selected ($n=3189$). The sample included nearly as many men (48%) as women (52%) and the average age was 58.7 years ($SD=6.0$). With respect to participants' marital status, 79% were married, 8% were divorced, 7% were widowed and 6% had never been married. Furthermore, 36% of the participants were in paid employment, 26% were retired and 10% were declared unfit for work. The remaining 28% reported housekeeping as their main activity.

Measures

Proactive coping

Proactive coping was measured with a 16-item questionnaire.^{20,21} The instrument assesses the extent to which adults take a future-oriented viewpoint, set feasible goals and make plans with respect to these goals (Cronbach's $\alpha=0.82$). Sample items include 'Do you have an image of the things you want, 10 years from now?' and 'At this moment, have you taken any measures to achieve your goals?'. All items were assessed with a Visual Analogue Scale (VAS) with possible scores ranging from 0 (=no, not at all) to 10 (=yes, very much).

Socio-economic status

SES is generally indicated by educational level, income and occupational status.²² To measure occupational status, participants were asked to report their current or most recent occupation including information about grade, main activities

and job responsibilities. According to the International Socio-Economic Index of Occupational Status²³ an ISEI-score was computed, which is a continuous scale measure with possible scores ranging from 10 to 90.²³ With regard to educational level, 17% had finished primary education and 21% reported secondary education as their highest level of education. A further 25% had finished lower vocational education, whereas 17% had finished intermediate vocational training and 20% had a college or university degree. Net household income was coded in Euros per month using six categories: less than 900 (8%), between 900 and 1150 (12%), between 1150 and 1400 (14%), between 1400 and 1750 (21%), between 1750 and 2450 (21%) and more than 2450 (24%).

Physical and mental health

General health was measured using the Dutch translation of the SF-36,^{24,25} which estimates the relative burden of different diseases and can be summarized through a physical health component (range = 0–100; mean = 22.9, $SD=20.8$) and a mental health component (range = 0–100; mean = 15.3, $SD=16.9$). Sum scores on these two scales were computed in such a way that higher scores represent poorer physical and mental health. Cronbach's $\alpha=0.91$ for physical health and 0.89 for mental health.

Neuroticism

Previous research has shown that some people are more inclined to report health problems than others, especially those who have a high score on neuroticism.^{26,27} We measured neuroticism with the Neuroticism scale of the EPQ-R,²⁸ which is the revised version of the Eysenck Personality Questionnaire.²⁹ The Neuroticism scale consists of 12 questions, which can be answered with Yes (=1) or No (=0) (range = 0–12; mean = 2.2, $SD=2.5$) (Cronbach's $\alpha=0.81$).

Statistical analyses

We employed hierarchical regression analysis to test the moderator hypothesis. Gender, age and neuroticism were included as control variables into the regression equation as they were significantly correlated with key variables (table 1). Income, education and occupational status as well as the main effects of physical and mental health were entered first, followed by the interaction effects of SES with physical and mental health in the second step to determine the moderating effect of health problems in the relationship between SES and proactive coping. To avoid multicollinearity, variables were centered.^{30–32} Because of the large sample size, the probability level was set at 0.01 to avoid significance-relevance issues.

In addition, we used Maximum Likelihood (ML) estimation in Structural Equation Modelling (SEM) with AMOS 4³³ to test the mediation hypothesis. In SEM, it is possible to test the relationships between variables simultaneously while adjusting for measurement errors. The univariate skewness of the distributions of all variables ranged between –0.26 (proactive coping) and 1.48 (mental health). The multivariate kurtosis, measured by Mardia's coefficient, was 5.24 for the overall model. Both were sufficiently normal to allow parametric statistics.³⁴

To test the hypothesized mediation effect, we followed the procedure advised by Holmbeck.³¹ The direct model without potential mediators was tested first. Since the number of observations in this path model is almost equal to the number of free model parameters (i.e. the model is almost just identified), the model will fit the data perfectly.³⁵ In this sense, this first step is not strictly a model test, but a test to examine whether the associations were significant and in the

Table 1 Zero-order correlations between the variables ($n = 3189$)

	1	2	3	4	5	6	7	8	9
1. Proactive coping	–								
2. Income	0.28	–							
3. Education	0.22	0.43	–						
4. Occupational status	0.09	0.28	0.38	–					
5. Physical health	–0.20	–0.21	–0.17	–0.12	–				
6. Mental health	–0.17	–0.17	–0.12	–0.06	0.63	–			
7. Neuroticism	–0.16	–0.08	–0.13	–0.02 ^b	0.31	0.53	–		
8. Age	–0.26	–0.24	–0.16	–0.01 ^b	0.05 ^b	–0.02 ^b	0.04 ^b	–	
9. Gender ^a	–0.12	–0.12	–0.19	–0.02 ^b	0.10	0.13	0.15	0.03 ^b	–
Mean (SD)	78.5 (28.9)	4.1 (1.6)	5.2 (2.8)	44.3 (20.4)	22.9 (20.8)	15.3 (16.9)	2.2 (2.5)	58.7 (6.0)	1.5 (0.5)

a: Gender: 1 = male, 2 = female

b: For these correlations: $P > 0.05$. All other P -values were < 0.01

predicted direction. Subsequently, we examined a partially mediated model in which all variables are included and all paths should be significant in predicted directions. Finally, to examine whether full mediation was present, a chi-square difference test was conducted to see whether this model's fit significantly improved if direct paths from independent variables (i.e. the three SES-indicators) to dependent variable (i.e. proactive coping) were constrained to zero. In addition to chi-square statistics, which is sensitive for large sample sizes,³⁴ we also inspected four fit indices recommended for ML-estimation.³⁶ If the model fits the data well, RMSEA is small (< 0.05) and AGFI, TLI and CFI are high (> 0.95). An advantage of the current study is that the sample size was large, which gave us the opportunity to randomly split the sample in two. Thus, results were cross-validated in the second half of the sample.

Results

Descriptives

Table 1 shows that income and education demonstrated small to moderate, positive correlations with proactive coping, whereas occupational level showed only a very small significant association with proactive coping. Furthermore, significant, negative correlations were found between the three SES-indicators and physical and mental health. Both physical and mental health problems negatively related to proactive coping. Their moderate to high correlations with neuroticism confirmed that neuroticism is an important variable to control for in subsequent analyses.

Moderator hypothesis

Table 2 shows the results of the hierarchical regression analysis conducted to test the hypothesis that SES is positively associated with proactive coping and that physical and mental health serve as moderators in this relationship. After controlling for age, gender and neuroticism, both income and education demonstrated significant, positive associations with proactive coping, whereas occupational status did not. In addition, physical health was slightly related to proactive coping, while mental health was not. All interaction effects were insignificant, which means that in this study the hypothesis that health problems moderate the association between SES and proactive coping is rejected. Entering the interaction terms separately as well as correcting income for household composition did not change these results.

Mediator hypothesis

In the second analysis, we again controlled for age, gender and neuroticism. The model can be found in figure 1. First, the

Table 2 Hierarchical regression analysis testing the moderator hypothesis

Predictors	β^a	P	R^2	P (F-change)
Step 1			0.16	0.00
Age	–0.24	0.00		
Gender ^b	–0.08	0.00		
Neuroticism	–0.14	0.00		
Income	0.19	0.00		
Education	0.10	0.00		
Occupational status	–0.02	0.55		
Physical health problems	–0.09	0.00		
Mental health problems	0.01	0.91		
Step 2			0.16	0.57
Income \times Physical	0.04	0.68		
Income \times Mental	0.02	0.85		
Education \times Physical	0.06	0.41		
Education \times Mental	–0.01	0.95		
Occupation \times Physical	–0.12	0.14		
Occupation \times Mental	0.11	0.15		

a: Values are standardized

b: Gender: 1 = male, 2 = female

direct-effect model tested the associations of the three SES indicators with proactive coping in the absence of potential mediators. It became again clear that income as well as education showed significant, positive associations with proactive coping, while occupational status did not (figure 1).

The second step was to add the paths from SES to physical and mental health and from physical and mental health to proactive coping. This model fitted well (table 3) and results showed that only income had a significant, negative relation with physical and mental health problems. The association between education and proactive coping became insignificant (figure 1). Furthermore, physical health problems were negatively associated with proactive coping, but mental health was not significantly related to proactive coping (figure 1).

Finally, the existence of full mediation was tested. Results demonstrated that the fit indices were not sufficient for this third model (table 3). In addition, the model did not significantly improve in fit when the paths from SES to proactive coping were constrained to zero ($\Delta\chi^2 = 29.49$, $\Delta df = 3$). The partially mediated model was a better fit for the data. Thus, the relationship between SES, particularly with respect to income, and proactive coping is not fully, but only partially mediated by physical health problems. Again, these results remained when correcting income for household income. Together, SES and health explained 17% of the variance in proactive coping.

The results were validated in the second half of the sample. The partially mediated model fitted very well and even slightly better than in the first half of the sample (table 3).

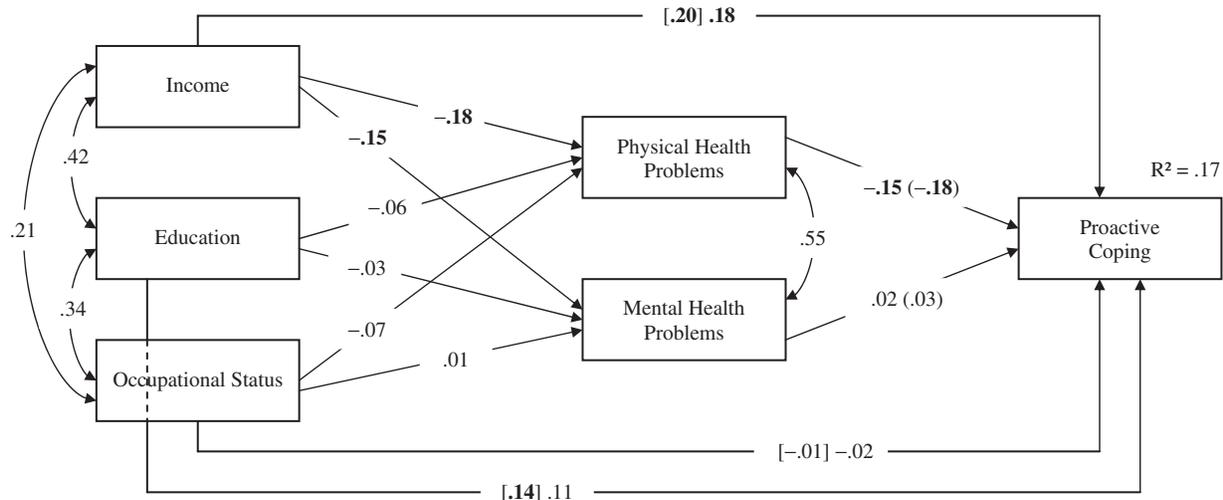


Figure 1 The partially mediated model is shown including the standardized regression weights and the correlations between the error variances of the variables. The direct effects of the three SES indicators on proactive coping in the absence of the mediators are presented between brackets while the effects of physical and mental health on proactive coping when the direct effects of SES were constrained to zero are presented between parentheses. Significant coefficients are indicated with bold

Table 3 Chi-square statistics and fit indices for the different models

	χ^2	df	P	AGFI	TLI	CFI	RMSEA
Model 1 ^a	0.05	1	0.81	0.99	0.99	1.00	0.00
Model 2 ^b	5.22	2	0.07	0.95	0.93	0.99	0.05
Model 3 ^c	34.71	5	0.00	0.87	0.73	0.96	0.11
Model V ^d	3.41	2	0.18	0.97	0.96	0.99	0.04

a: Model 1 = direct-effect model in absence of mediators

b: Model 2 = partially mediated model

c: Model 3 = fully mediated model

d: Model V = partially mediated model tested in validation sample

Furthermore, associations between variables were in the same direction and had the same significance level.

To sum up, analyses showed that higher SES, particularly higher income and higher educational level, were positively associated with proactive coping. This relationship was not moderated, but was partially mediated by present health problems.

Discussion

The purpose of this article was to examine the association between SES and proactive coping. We hypothesized that SES is positively associated with proactive coping, because higher SES may be a sign that more resources are available to an individual, which are critical for dealing successfully with future problems. This study examined the relative influence of the three SES indicators net household income, educational level and occupational status on proactive coping.

The results demonstrated that income and education were positively related to proactive coping, whereas occupational status was not. People with a higher income and/or more education were more likely to engage in proactive coping. These results are consistent with the few studies that have researched the association between SES and proactive, future-oriented activities.^{17,18,37} Note that income appeared to have the most important relationship with proactive coping. Especially money seems to make it easier to engage in proactive coping. However, education also had a significant association with proactive coping. Education is probably

an indication that an individual has important resources, such as organizational skills, or may be able to accumulate resources. Proactive coping may be partly learned through education or be highly associated with skills that are learned through education. From an intervention perspective, these results may indicate that a special focus on people low in SES might be useful, since they seem to be less likely to have the resources to engage in proactive coping.

The finding that proactive coping was more associated with income than with education may be explained by the fact that education is the most invariable indicator of SES across lifetime^{22,38} and may, therefore, not be an ideal predictor of proactive coping in an older sample. The present cohort of middle-aged and older adults may have consisted of people who have a lower average educational level than younger generations, but who may have worked their way up, which has generated a higher income and more skills. Furthermore, women in this cohort may have had less education, but may have been able to profit from their husbands' SES, which is reflected in the household income variable.

The present study also examined the role of current health problems in the relationship between SES and proactive coping. We found that physical and mental health problems did not moderate the relationship; people lower in SES did not use less proactive coping only or especially when current stressors were present. There was some evidence, however, that physical health plays a mediating role between SES and proactive coping. It seems that people lower in SES may not always be able to use proactive coping strategies as a result

of their facing present problems that require immediate attention, which makes it difficult to engage in future-oriented, preventive activities.

However, both the association between SES and physical health and between physical health and proactive coping were rather small. A possible explanation is that the middle-aged and older adults in our study, who were consistent in age, had on average good health and did not yet experience many physical problems, which may have made them a rather homogeneous sample. Other types of problems, such as chronic financial problems, may be a greater source of stress. In addition, the amount of resources that are available for coping with present stressors may have had a moderating effect in the relationship between SES and health problems; for example, Lachman and Weaver³⁹ found that control beliefs played a moderating role in the association between income and well-being. Future research may consider testing a model in which coping resources play an explicit role.

A limitation of the present study is its cross-sectional nature. Although the model in which SES and health predict proactive coping fitted well, causal interpretation of the data is not possible and results should be validated in longitudinal studies. It is possible, for example, that proactive coping contributes to fewer stressors, since individuals who use proactive coping strategies may be able to actively create an environment with fewer obstacles and more opportunities. Conversely, SES may be negatively affected by health, with poor health leading to, for example, a decrease in income.²² Future research is needed to provide more information about the causal relationship between SES, current stressors and proactive coping. It would be then interesting to also examine other aspects of proactive coping using different measurement instruments than the one in this study. Although our measure was valid in the sense that it focused on an important aspect of proactive coping, namely the cognitive activities necessary for effectively dealing with future stressors, and that it was found to be sufficiently independent from other measures assessing related constructs, such as temporal orientation and goal orientation,²⁰ it provides not the complete picture. Future research may unravel more information about the actual behavioural strategies employed to offset a specific potential threat, an aspect of proactive coping underexposed in this study, and the factors that influence them.

Conflicts of interest: None declared.

Key points

- Intervention studies have shown that people are able to learn proactive coping strategies to offset potential problems associated with ageing and disease, resulting in better health and higher quality of life.
- Knowledge on what types of people spontaneously engage in proactive coping is limited.
- SES-differences in proactive coping were found. Middle-aged and older people higher in SES use more proactive coping in their daily life.
- People lower in SES use less proactive coping, perhaps partially through more current health problems requiring immediate attention in these people.

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