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Pathways from emotional intelligence to well-being and health outcomes among unemployed: Mediation by health-promoting behaviours

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Abstract

This study investigated whether health-promoting behaviours mediate the relationship between emotional intelligence (EI) and well-being and health outcomes in the unemployed population. Spanish unemployed (N = 530) completed questionnaires of EI, health-promoting lifestyles, subjective well-being and perceived health. Path-analytic results showed that EI predicted well-being and self-reported health. Health-promoting behaviours: spiritual growth, stress management and physical activity, partially mediated the link between EI and well-being and health outcomes. Findings are discussed in terms of the role that promoting health behaviours might play regarding to well-being and health outcomes after job-loss, and in developing of EI and health-promotion programmes for unemployed populations.

Keywords

emotional intelligence, health-promoting behaviours, perceived health, Unemployed, well-being

Introduction

Unemployment has increased markedly in southern European countries in the last two decades, reaching a high prevalence in Greece (18.3%), Spain (16.2%), Italy (9.7%) and Portugal (8.1%) (Eurostat, August 2020). Focusing on the sociodemographic characteristics of the unemployment rate in the South of Spain, data from the Spanish Institute of Statistics have revealed that 52% of the unemployed population are females; with the largest group (27.2% of total population) corresponding to those between 25 and 34 years old. Regarding the length of unemployment, the largest group (24.3%) corresponds to those exceeding 24 months (INE, 2020). In this context, Spain is one of the countries in the European Union where the unemployment rate has significantly increased among young people during the recession period in Europe.

In general terms, unemployment is a psychosocial stressor that has typically been associated

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with an increase in physical and mental health problems, low subjective well-being and quality of life (Norström et al., 2019) and reduced life satisfaction (Buffel et al., 2015), even in countries with generous unemployment protection schemes (Stauder, 2019). Health risk problems might be explained, in part, by a broad range of distressing psychological symptoms associated with unemployment, such as depression, anxiety, suicide (Cable et al., 2008) and harmful behaviours such as smoking or alcohol abuse (Al-Sudani et al., 2016), unhealthy dietary choices (Boden et al., 2017) and reduced physical activity (Gough, 2017). These health risk behaviours may be part of the repertoire of regulation strategies for managing stress, which in turn might lead to the development of subsequent mental disorders and physical pathologies (Rosenthal et al., 2012). Therefore, it is important for social researchers and career advisors to prevent this scenario by detecting protective factors that help people to cope with job loss, lessen the distress and increase psychological well-being during unemployment (Paul and Moser, 2009).

One of these potential protective factors is emotional intelligence (EI), a psychological construct consistently linked to higher physical, mental and psychosomatic health (Schutte et al., 2007; Zeidner et al., 2012), subjective well-being, and interpersonal performance (Mayer et al., 2008; Zeidner et al., 2012). From an ability approach, EI comprises four basic emotional skills: the ability to perceive emotions; to access and generate emotions to facilitate different types of reasoning; to understand emotions and emotional insight; and to regulate emotions (Mayer and Salovey, 1997). EI research has focused on the role of these emotional abilities as key predictors of health correlates among diverse educational and occupational settings (Keefer et al., 2009) and evolving behavioural, cognitive and affective approaches that help individuals to cope with distress, which contributes to enhancing psychological health and well-being (Hodzic et al., 2017). In addition, over the last few years, there has been an increase in research interested in examining the effects of EI on different health, well-being and employability outcomes during unemployment (Hodzic et al., 2015a, 2015b). Most notably, EI might be crucial in explaining individual differences in managing negative emotions related to chronic unemployment. For example, recent research indicates that EI plays a key role in reducing psychological symptoms associated with unemployment, such as depression and anxiety, and boosts well-being (Extremera and Rey, 2016; Hodzic et al., 2015a; Knopp, 2016; Peláez-Fernández et al., 2019).

Considerable empirical meta-analytic research supports a positive association between EI and physical and mental health and social-emotional well-being (Martins et al., 2010; Sánchez-Álvarez et al., 2016; Schutte et al., 2007). Specifically, higher EI correlates with higher somatic health (Schutte et al., 2007), lower emotional distress (Kong et al., 2012b), better perceived physical health (Keefer et al., 2009), higher life satisfaction (Kong and Zhao, 2013; Kong et al., 2019; Rey et al., 2011; Sun et al., 2014), greater self-esteem (Rey et al., 2011), higher social support (Berrios et al., 2016; Kong et al., 2019), better subjective well-being and fewer psychological symptoms (Martins et al., 2010) and greater positive affect and lower negative affect (Kong and Zhao, 2013; Kong et al., 2012b, 2019) across various samples and using diverse EI measurement approaches. Apart from these established direct associations, the underlying mechanisms in this link are not yet fully known. Unravelling this question is key to understanding the various beneficial effects associated with high EI, as well as to the effective implementation of health-promoting behaviours, which capitalise on the EI–well-being link. Accordingly, some authors have hypothesised that EI might facilitate health outcomes and well-being through the use of different adaptive coping strategies against stress (Zeidner et al., 2012) as well as proactive task-oriented ways of looking after one's health, including seeking solutions to problems or maintaining regular exercise, balanced diets or supportive social networks (Keefer et al., 2009). Similarly, recent findings

from studies with nationally representative samples have found that health-promoting behaviours are associated with better health outcomes, including fewer hospitalisation days, fewer doctor consultations, fewer defined daily drug doses (an indicator of medication consumption based on the average maintenance dose per day) (Mikolajczak et al., 2015) and higher subjective well-being (Kushlev et al., 2020). In addition, some meta-analyses confirm the link between EI and health-enhancing behaviours (Martins et al., 2010). These findings support the notion that whereas EI is related to well-being, other variables more related to health-promoting lifestyle behaviours may play an important role in the EI–well-being relationship.

Consequently, there are also some empirical and theoretical reasons to consider a multiple mediation model in which emotionally intelligent unemployed tend to engage in more daily health-promoting behaviours and these higher healthy practices might account for, to some degree, their increased level of well-being and health (Zeidner et al., 2012). First, EI has been found to be significantly associated to positive health-promoting behaviours dimensions (Keefer et al., 2009). Second, health-promoting lifestyle behaviours have shown to be significant predictors of health-related quality of life and well-being (Lee and Loke, 2005). Therefore, these findings are in line with the assumption that health-promoting dimensions might be considered potential mediators. Finally, growing meta-analytic research suggests that EI is associated with higher levels of subjective well-being (Sánchez-Álvarez, et al., 2016) and physical and mental health (Martins et al., 2010; Schutte et al., 2007). Therefore, examining this hypothesis is crucial in understanding what leads some unemployed people to maintain subjective well-being while others do not. However, as mentioned above, few studies have tested empirically the potential mediator role of health-promoting behaviours in the link between EI and perceived health and well-being (Keefer et al., 2009; Zeidner et al., 2012) and, to the best of our knowledge, as yet none has studied these mechanisms for the unemployed. Thus, the aim of this study is to bridge this gap in research by testing the mediating role of health-promoting behaviours in the relationship between EI and perceived health and well-being among the unemployed. Such knowledge might be key in developing employment promotion programmes and providing appropriate support to improve overall health and well-being during unemployment.

The purpose of the present study was threefold: Firstly, we sought to examine the relations among EI and health-promoting behaviours in a Spanish unemployed sample. Secondly, we sought to examine whether EI is associated with higher well-being outcomes (life satisfaction and perceived health). Thirdly, we sought to determine whether health-promoting behaviours mediate the relationship between EI and well-being outcomes. Given previous research on the significant associations between EI and both well-being and health indicators, along with the critical role of health-promoting behaviours in these outcomes, we expected that EI would be significantly and positively correlated with life satisfaction and perceived health. Also, it was expected that health-promoting lifestyles would act as mediators in the relationship between EI and these well-being outcomes.

Method

Participants and procedure

The sample consisted of 530 Spanish unemployed individuals (61.1% female) who were approached and asked to volunteer in a study on ‘well-being and unemployment’ in different National Employment agencies in southern Spain. The subjects attending the centres were approached by a qualified career guidance professional who worked in each employment agency and were asked to answer some questionnaires anonymously.

Overall, the mean age was 34.60 years (range 16–64 years). The educational level in the present sample was: 9.2% no studies; 40.6% primary studies; 18.2% uncompleted secondary studies; 15.9% completed secondary studies;

13.8% university studies; 1.9% post-graduate studies. The average duration of unemployment was 22.80 months (SD = 26.92 months). These percentages are comparable to those of the population of the Autonomous Community of Andalucía, Spain (INE, 2020). Common inclusion criteria were being unemployed and actively looking for a job at the time of this survey. Exclusion criteria were illiteracy in Spanish and being unemployed but not actively job searching (i.e. medical condition, homemaker, pregnant. . .). Approximately 70% of those approached were willing to participate. All participants were provided with written informed consent, which indicated that all data would be kept strictly confidential. They received no financial compensation for participation in the study. The study protocol was carried out in accordance with the Declaration of Helsinki and approved by the Research Ethics Committee of the University of Málaga (62-2016-H).

Measures

Emotional intelligence. We used the Spanish version of the Wong and Law Emotional Intelligence Scale (WLEIS) (Wong and Law, 2002) to measure self-reported EI. Participants responded on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). We then calculated a global EI score where higher scores indicated a greater EI. The WLEIS has shown high levels of reliability and validity in Spanish samples (Extremera et al., 2019). In this study the reliability coefficient was .87.

Health-promoting behaviours. We used the Spanish version of the Health-Promoting Lifestyle Profile II (HPLP II; (Walker et al., 1995), which provides a multidimensional assessment of health-promoting behaviours to measure the degree of engagement in a health-promoting lifestyle in six dimensions: spiritual growth; health responsibility; physical activity; nutrition; interpersonal relations and stress management. The HPLP II is composed of 52 items, which are responded to on a 4-point scale ranging from 1 (Never) to 4 (Regularly). For this study, the Cronbach's alpha internal consistency coefficients were satisfactory, ranging from .74 to .83 for subscales.

Satisfaction with life scale. For measuring subjective well-being, we used the well-validated Satisfaction with Life Scale (SWLS; Diener et al., 1985) in its Spanish version (Atienza et al., 2003). The SWLS is a short instrument with five statements on global cognitive judgements of satisfaction with one's life. This scale uses a 7-point scale from 1 (strongly disagree) to 7 (strongly agree), providing a total score on general life satisfaction. Both the English and Spanish versions have shown evidence for discriminant validity and appropriate internal consistency (Atienza et al., 2003; Diener et al., 1985). Cronbach's alpha in this study was 0.92.

Perceived Health. Perceived health was measured using the single item SF-1 from the Health Status Questionnaire Short Form (SF-36) (Ware and Kosinski, 2001). The SF-1 refers to a general rating of health ('In general, would you say your health is. . .') with responses on a 5- point Likert scale of 1 (excellent) to 5 (poor). To be consistent with the directionality, we reversed scoring for the SF-1, so that higher values indicate better perceived health. The SF-1 has been used in different studies and has demonstrated reliability and validity as a measure of self-reported health (Ware et al., 1993) and has been found to be associated with psychosocial functioning and other dimensions of health (Kerr et al., 2003).

Statistical analyses

Statistical analyses were conducted with the Statistical Package for the Social Sciences (SPSS) 24 and the PROCESS macro (version 3.4.1) by Hayes (2018) (https://processmacro.org/index.html). Power analysis determined that for mediation analysis with seven predictors, a sample size of at least 450 cases is required. With our sample size of 530 participants, we achieved actual power = .99 (with $1-\beta = 0.99$ and $\alpha = 0.05$ for a two-tailed test) to

detect an effect size of .2. Harman's single factor test (Podsakoff et al., 2003) was used to test for common-method bias. To assess associations between the measured variables, Pearson correlation analyses were conducted. In order to examine the significance of indirect or mediated effects of health-promoting behaviours in the relationship between EI and well-being outcomes, we used the multiple mediation procedure described by Hayes (2018). This procedure allows for the simultaneous examination of estimates of indirect (i.e. mediated) effects using adjusted percentile confidence intervals, and the direct effect of the predictor variable on the outcome variable. To avoid potential confounders in the hypothesised relationships, we controlled for age and gender as covariates. Bootstrapping with 5000 re-samples was used to obtain parameter estimates for both total and specific indirect effects. The 95% bias-corrected confidence intervals (CIs) were used to determine whether effects were statistically significant: if the 95% bias-corrected CI does not contain zero, then the indirect effect is considered statistically significant and mediation has been demonstrated (Hayes, 2018).

Data sharing statement

- Are de-identified individual participant data available (including data dictionaries)? Yes
- What data in particular are shared? All of the individual participant data collected during the study, after de-identification.
- What other documents are available? Explanatory memo; Sintaxis; Data output; and README document including dictionary of terms and a list of the research files.
- Please note this dataset is available on FigShare.

Results

Descriptive analyses

Means, standard deviations, skewness, kurtosis and Cronbach's alpha coefficients for the study variables are shown in Table 1. Due to the potential threat of common method bias, this study employed Harman's single-factor technique. The Harman's Single Factor analysis identified fifteen factors with eigenvalues >1.00, with the variance explained by each factor accounting for no $>23\%$ of total variances, which is less than 50% of the cut off value (Podsakoff et al., 2003). Therefore, these results suggested that common method bias was not a critical threat to the magnitudes of the hypothesised relationships.

Regarding correlation analysis, EI scores were positively and significantly associated with all health-promoting behaviours and also positively and significantly associated with life satisfaction and perceived health. Thus, health-promoting behaviours were also positively and significantly related to both life satisfaction and perceived health outcomes.

Mediation analysis

With regard to hypotheses proposed for health-promoting behaviours as mediators, multiple mediation analyses were carried out separately on the two criteria variables including age and gender as covariables. Table 2 presents the data for the multiple mediator analysis, indicating the path coefficients and confidence intervals for each effect being tested in the two models. Only age showed significant effects in both models (all $p < 0.01$).

For life satisfaction, bootstrap estimation showed the total effect of EI on this outcome was significant ($c = 0.58$; $p < 0.01$) and the effect was still significant when variance associated with the hypothesised mediators was controlled ($c' = 0.26$; $p < 0.01$). The results show significant indirect mediating effects for spiritual growth (indirect effect = .233; 95% CI = 0.11, 0.35) and stress management (effect indirect = 0.086; 95% CI = 0.00, 0.17). Together, the multiple mediator model was significant, accounting for 31% of the variance in life satisfaction (R^2 adj = 0.31; F (9, 491) = 26.24; $p < 0.01$).

For self-reported health, bootstrap estimation showed that the total effect of EI on this

Table 1. Descriptive statistic, Cronbach's alpha and Intercorrelations among measures.

Variables	1	2	3	4	5	6	7	8	9
Emotional intelligence	–								
Health responsibility	.35**	–							
Physical activity	.27**	.56**	–						
Nutritional habits	.31**	.63**	.59**	–					
Spiritual Growth	.53**	.55**	.53**	.51**	–				
Interpersonal Relations	.42**	.49**	.40**	.54**	.71**	–			
Stress Management	.44**	.59**	.58**	.53**	.73**	.56**	–		
Life Satisfaction	.40**	.27**	.24**	.28**	.51**	.42**	.41**	–	
Perceived Health	.21**	.15**	.29**	.20**	.34**	.27**	.27**	.28**	–
M	5.42	2.13	2.17	2.42	2.66	2.73	2.24	3.94	2.46
SD	.98	.56	.66	.57	.59	.53	.54	1.46	.94
Skewness	−1.08	.32	.35	.19	−.02	.03	.22	−.14	−.01
Kurtosis	1.45	−.11	−.51	−.15	−.41	−.28	−.22	−.70	−.60
Cronbach's α	.92	.80	.82	.77	.83	.78	.74	.87	–

**$p < 0.01$.

Table 2. Path coefficients and confidence intervals of multiple mediational analyses, controlling for age and gender.

Independent variable (IV)	Mediating variable (M)	Dependent variable (DV)	Effect of IV on M	Effect of M on DV	Direct Effect	Indirect effect	95 % CI for indirect effect	Total Effect
Emotional intelligence	Health responsibility	Life satisfaction	.19**	−.13	.26**	−.02	−.09 to .03	.58**
	Physical activity		.19**	−.21		−.04	−.10 to .00	
	Nutritional habits		.17**	.15		.02	−.02 to .08	
	Spiritual growth		.31**	.74**		.23	.11 to .35	
	Interpersonal relations		.22**	.17		.03	−.02 to .11	
	Stress management		.24**	.35*		.08	.00 to .17	
Emotional intelligence	Health responsibility	Perceived health	.19**	−.19	.09*	−.03	−.07 to .00	.23**
	Physical activity		.18**	.17*		.03	.00 to .06	
	Nutritional habits		.17**	.09		.01	−.01 to .05	
	Spiritual growth		.31**	.34**		.10	.03 to .18	
	Interpersonal relations		.22**	.08		.01	−.02 to .06	
	Stress management		.24**	.02		.00	−.05 to .06	

Estimated using bias corrected and accelerated bootstrapping, with 5.000 samples.
CI: confidence interval.
*$p < 0.05$. **$p < 0.01$.

outcome was also significant ($c = 0.233$; $p < 0.01$) and the effect was still significant when variance associated with the hypothesised mediators was controlled ($c' = 0.09$; $p < 0.01$). The results show significant indirect mediating effects for spiritual growth (indirect effect = .107; 95% CI = 0.03, 0.18) and physical activity (effect indirect = 0.03; 95% CI = 0.00, 0.06). Together, the multiple mediator model was significant, accounting for 22% of the variance in perceived health (R^2 adj = 0.22; F (9, 493) = 16.54; $p < 0.01$).

Discussion

The research literature has found EI to be a useful framework for understanding the development of well-being and health. Also, past studies have

examined a number of potential cognitive and socio-affect mediators in the link between EI and health, such as adaptive coping (Chan, 2006; Saklofske et al., 2007); social support (Kong et al., 2012a) and mood affect (Mikolajczak et al., 2008), among others. However, to date, no study has examined empirically whether health-promoting behaviours mediate the relationship between EI and well-being and health outcomes among the unemployed populations. Therefore, the purpose of this study was to determine whether health-promoting behaviours mediate the EI–well-being link in a sample of Spanish unemployed individuals.

Taken together, unemployed people with high emotional abilities were more likely to engage in health-promoting behaviours and also report higher life satisfaction and perceived health. Additionally, those unemployed people who engaged in health-promoting behaviours reported higher levels of life satisfaction and perceived health outcomes. These findings are in line with previous research conducted in diverse academic and professional settings (Keefer et al., 2009; Martins et al., 2010; Zeidner et al., 2012). Also, these results contribute to a somewhat small body of research on unemployment health that documents positive links between EI and well-being, and a negative association with a range of psychological maladjustment variables (Peláez-Fernández et al., 2019; Rey et al., 2016) and suicidal ideation (Extremera and Rey, 2016).

Mediation analysis results indicated that EI had a significant indirect effect on life satisfaction and perceived health through health-promoting behaviours. Specifically, spiritual growth and stress management mediated the relationship between EI and life satisfaction; and physical activity and spiritual growth mediated the relation between EI and perceived health. In other words, EI contributed to well-being in part through spiritual growth and stress management, and it also contributed to perceived health through spiritual growth and physical activity. Unemployed people with high levels of EI were likely to engage in a healthy lifestyle, including activities such as working toward long-term goals in life and making positive changes, maintaining stress-management skills, or participating in regular exercise programmes, which may lead them to experience high levels of subjective well-being and perceived health. It is noteworthy that spiritual growth mediated the relationship of EI with both perceived health and well-being. Spiritual growth focuses on the progress of inner personal resources directed at reaching one's human potential, and attributes associated with self-actualisation, fulfilment and life-appreciation. For the unemployed, EI may be a motivating force facilitating spiritual growth and improvements in general well-being and health. The development of empirical research addressing the positive synergistic relationships between emotional skills, and important health-promoting behaviours, such as spiritual growth and well-being, is necessary to improve the effectiveness of current mental health-promoting interventions, as there is promising evidence that the combination of occupational skills and psychological interventions is effective in increasing well-being and mental health during unemployment (Koopman et al., 2017). Despite past research linking EI and health-promoting dimensions and improved well-being, in our two studies some health-promoting dimensions were not found to be significant mediators. It is plausible that when all health-promoting dimensions are included in a multiple mediators model, the stronger components (spiritual growth for life satisfaction and perceived health, stress management for life satisfaction, and physical activity for perceived health) act as mediators of the EI–well-being link (with the effect of other health-promoting dimensions not being significant), suggesting that when all health-promoting dimensions are included in the model, spiritual growth, stress management and physical activity are most strongly associated to life satisfaction and physical activity among unemployed. Further studies should examine if health-promoting dimensions, when linked to EI as unique mediators, might play independent and distinct roles in explaining positive outcomes during unemployment.

Our findings are in line with previous research that also examined indirect contributions of EI to health through diverse personal and social factors (Chan, 2006; Kong et al., 2012a; Mikolajczak et al., 2008; Saklofske et al., 2007) and contribute to consolidate and enrich the preceding theory on the mechanisms underlying the relationship between EI and health for the unemployed population. In short, these results provide novel and preliminary evidence of promising mediating variables that could potentially serve as the basis for counselling interventions. Thus, our findings suggest that emotional and cognitive competences, including EI, stress management and spiritual growth, may be integrated along with other well-known health-promoting behaviour like physical activity in further face-to-face intervention programmes and online intervention programmes promoting health and well-being among the unemployed. Compared to employed adults, unemployed people are more likely to be worried about financial and family problems and more preoccupied with their future prospects on the labour market, which takes up much of their energy and time and, therefore, reduces the regular development of positive health-promoting behaviours as an integral part of lifestyle (Virtanen et al., 2008). In addition, taking into consideration that individuals who lose their jobs are at increased risk of developing psychological distress and maladjustment behaviours, which can increase their likelihood of becoming long-term unemployed, it is also tentatively suggested that promoting unemployed people's health and well-being, might also increase the likelihood of them searching actively for paid employment and re-entering paid employment (Carlier et al., 2014). Thus far, recent studies have found that an intervention aimed at fostering employability by targeting well-being was more effective than a conventional approach typically based on in-work experience and skills training (Whelan et al., 2018). Our findings also have practical implications for the provision of both mental health and career counselling services to those unemployed individuals at risk of developing mental health problems. Employment counselling programmes might assess potential deficits in EI as a potential health risk factor and also identify the available resources and health-promoting behaviours and lifestyle characteristics of unemployed adults. Similarly, practitioners should teach unemployed people to choose healthy practices, developing comprehensive and structured health and emotional education programmes focused on the promotion of health practices and effective emotion regulation strategies, not only to reduce the health risks associated with unhealthy behaviours but also to foster people's entrepreneurial self-efficacy and encourage a positive approach that favours an active job search and thus generates more future employment outcomes (Hodzic et al., 2015a; Kotsou et al., 2019). Providing such intervention programmes is important not only in directly targeting well-being and health among the unemployed (Norström et al., 2019) but may also indirectly increase a focused job search strategy, employability and reemployment in unemployed subjects (Carlier et al., 2014), to some extent, through decreasing unhealthy lifestyle habits.

The current research has several limitations. First, our study was cross-sectional, which means the assessment of causality remains impossible to determine. Prospective longitudinal studies are thus required to examine the temporal nature of the relationship between emotional competences and health outcomes among the unemployed. Second, as our study comprised a community sample of unemployed adults, the results might not generalise to the clinical population. Indeed, future studies testing this mediation model in clinical samples are needed. Third, our findings rely on unemployed people in the context of Spain, so it would be useful to determine whether the present findings are generalisable to unemployment in other cultural settings. Finally, the study is limited by use of self-reported data, which depend on participants' perceptions and thus may lead to reporting bias such as social desirability.

Prior meta-analytic research has suggested that emotional abilities are key factors in the

development of well-being and health. Further, poor healthy behaviours, and in particular during unemployment, may lead to lower well-being and quality of life that are risk factors contributing to the development of health problems and poor health in later life.

Our findings not only confirm the importance of EI as an individual characteristic that might boost well-being and perceived health among the unemployed, but they also underscore the specific role of healthy lifestyle habits as an important mediating variable in the link between EI and well-being.

Declaration of conflicting interests

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