Optimism on quality of life in Portuguese chronic patients: moderator/mediator?

Estela Vilhena[1,5,8*], José Pais-Ribeiro[2,7], Isabel Silva[3], Luísa Pedro[4,7], Rute F. Meneses[3], Helena Cardoso[6], António Martins da Silva[6], Denisa Mendonça[5,8]

[1]Polytechnic Institute of Cavado and Ave, Portugal.
[2]Faculty of Psychology and Educational Sciences, University of Porto, Portugal.
[3]University of Fernando Pessoa, Portugal.
[4]ESTeSL Polytechnic Institute of Lisbon, Portugal.
[5]ICBAS, University of Porto, Portugal.
[6]UMIB/ICBAS and Hospital Santo António/CHP, Portugal.
[7]UIPES, Portugal.
[8]ISPUP, Institute of Public Health, University of Porto, Portugal.

Summary

Objective: optimism is an important variable that has consistently been shown to affect adjustment to quality of life in chronic diseases. This study aims to clarify if dispositional optimism exerts a moderating or a mediating influence on the personality traits-quality of life association, in Portuguese chronic patients.
Methods: multiple regression models were used to test the moderation and mediation effects of dispositional optimism in quality of life. A sample of 729 patients was recruited in Portugal's main hospitals and completed self-reported questionnaires assessing socio-demographic and clinical variables, personality, dispositional optimism, quality of life (QoL) and subjective well-being (SWB).
Results: the results of the regression models showed that dispositional optimism did not moderate the relationships between personality traits and quality of life. After controlling for gender, age, education level and severity of disease perception, the effects of personality traits on QoL and in SWB were mediated by dispositional optimism (partially and completely), except for the links between neuroticism/openness to experience and physical health.
Conclusion: dispositional optimism is more likely to play a mediating, rather than a moderating role in personality traits-quality of life pathway in Portuguese chronic patients, suggesting that "the expectation that good things will happen" contributes to a better quality of life and subjective well-being.

Keywords: chronic disease, dispositional optimism, mediator, moderator, personality traits, quality of life.

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***Correspondence:**
Escola Superior de Tecnologia
Instituto Politécnico do Cávado e do Ave
Campus do IPCA
Address: Lugar do Aldão
4750-810 - Vila Frescainha S. Martinho
Barcelos - Portugal
Tel: + 351 253 80 22 60
Fax: + 351 253 82 31 27
evilhena@ipca.ptr

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Introduction

Optimism is a variable that has been shown to affect quality of life of people with chronic disease. The Center for Diseases Control and Prevention[1] defines chronic diseases as non-communicable illnesses that are prolonged in duration, do not resolve spontaneously, and are rarely cured completely; they induce profound changes in a person's life, resulting in negative effects on the quality of life (QoL). QoL is characterized as a subjective and a multidimensional concept that depends on the theoretical perspective and the context in which it is used.[2] Adjustment to illness has also been categorized as good QoL, subjective well-being (SWB), vitality, positive effect, life satisfaction, and global self-esteem.[3,4] SWB refers to people's emotional and cognitive evaluations of their lives, and includes what is usually called happiness, peace, fulfillment, and life satisfaction.[5]

Optimism is associated with better physical and mental well-being, decreased perceived disease severity, better functional ability and better emotional well-being.[6,7] It is defined as "general expectations that good things will

happen;[8] and optimists are people who expect good things to happen to them.[9] It predicts positive attitudes and tendencies to plan for recovery, seek information, and reframe bad situations.[10] Scheier and Carver[8] explain that expectation judgments, in many stressful encounters, can range from very general to very specific – dispositional optimism and situational optimism. In this study we are interested in dispositional optimism.[9] It is characterized as stable preferences that may derive from personality or may develop for other reasons.[11]

In this study we assess the association between personality and QoL. Personality is considered a dynamic system living inside the person, responsible for the individual's characteristic patterns of behavior, thoughts, and feelings.[10] Personality factors can impact on the way in which people approach life circumstances or on the kind of outcomes people achieve, which, in turn, can impact favorably or unfavorably on the QoL. However, there is not an exact definition about personality[10] and we opted to use the consensus that the basic structure of personality may consist of five superordinate factors (dimensions), which are referred as the five-factor model or big-five: extraversion, agreeableness, conscientiousness, neuroticism and openness to experience. Because SWB is considered a stable trait, certain personality dimensions are related with happiness,[12] and some people tend to be happier than others because of their personality.[13] Costa and McCrae[14] refer that satisfaction with life is related to a high level of extraversion and a low level of neuroticism and these two personality traits can account for a significant amount of the variance of SWB.

Various studies have demonstrated that optimism plays a significant role in adaptation to a chronic disease. According with some researchers[15,16] it was believed that optimism would serve as protective factor when facing difficulties in life such as an illness. Dispositional optimism contributes to better indices of psychological health[17] and it is a significant predictor of positive physical health outcomes.[6] Schou, Ekeberg, and Ruland[18] found that in women with breast cancer, optimism was associated with better global health, QoL and functioning.

Studies on optimism show its role either as a moderator or mediator variable. Chang[19] found that optimism partially moderated the relations between stress and measures of psychological adjustment. Others researchers did not find, in cancer patients,[20] a statistically significant interaction (moderator) between optimism and partner support in predicting QoL. Eisenberg and colleagues,[21] in heart failure patients, found a significant interaction between avoidant coping and anxiety, indicating that coping play like a moderate factor. The dispositional optimism completely mediated the effects of coping responses on pre-surgical distress levels in breast cancer patients.[22]

Dispositional optimism is not the only and primary factor that contributes for better QoL and SWB. The question of how optimism affects adaptation to a chronic disease is still a matter of debate, and deeper exploration is necessary to determine how it exerts greater influence on QoL, and especially if the dimensions of personality and QoL overlap each other.

Because a mediator variable accounts for the relation between the predictor (personality and demographic variables) and the criterion (outcome variables), it is important to identify these variables to optimize the comprehension about the relationships between variables, and to design better intervention programs.[23]

The objective of this study is to examine the relationship between personality traits and both, QoL and SWB, and to analyze whether dispositional optimism is a moderator or a mediator of this relationship, in a group of different chronic diseases, having in common that they have returned to everyday life.

Methods

Participants

Cross-sectional study used a sequential sample of 729 volunteer chronic patients,[24] recruited from Portuguese main Hospitals. These patients were approached by their physicians in outpatient departments, following the inclusion criteria: 1) diagnosis of epilepsy, diabetes, multiple sclerosis, obesity, myasthenia gravis or cancer disease diagnosed at least 3 years prior the study; 2) age ≥ 17 years at the time of the interview; 3) educational level higher than 6 years; 4) return to usual daily life with disease under control; 5) no cognitive disturbances. The approval by the institution ethical committees was obtained in all participating hospitals, and all participants provided informed consent.

A self-report questionnaire was used to evaluate socio-demographic, clinical, personality, dispositional optimism and outcome (QoL and SWB) variables. The data were collected by psychologists, after each medical appointment consultation.

Measures

Socio-demographic and clinical variables

Data regarding age, sex, education and severity of disease perception ("generally, how do you classify your illness?" with an increasing scale from 1-nothing serious to 11-very serious) were used to describe the sample.

Personality

A short version of the Revised NEO Personality Inventory (NEO-PI-R)[25], the NEO Five-Factor Inventory (NEO-FFI), was used. Composed of 60 items (12 items per domain), that assess the five domains of personality (neuroticism, extraversion, openness to experience, conscientiousness and agreeableness), allows to obtain a quick assessment of general personality in adults and adolescents, using 5-point ratings (1 = strongly disagree to 5 = strongly agree). Administration takes as little as 10 - 15 minutes; scores for each dimension results from summation of individual items of the dimension designed to take 10-15 minutes to administer. The internal consistency of the all dimensions with a Cronbach α ranging between 0.79 and 0.86.[26]

Dispositional optimism

Dispositional optimism was evaluated with the Life Orientation Test-Revised (LOT-R).[27] The LOT-R developed to assess individual differences in generalized optimism (e.g. "in uncertain times, I usually expect the best") by pessimism (e.g. "if something can go wrong for me, it will"). It consists of ten statements, were three items reflect expectations for positive outcomes, three items reflect expectations for negative outcomes and four are filter items. Each rated on a 5-point scale ranging from 0 (strongly disagree) to 4 (strongly agree). To calculate dispositional optimism scores, the 3 negatively worded items were reversed scored and averaged together with the 3 positively worded items to create a summary optimism score. Substantial research supports the reliability and validity of the LOT-R instrument,[27] and the internal consistency of the LOT-R in study was good (α=0.80). Higher scores indicate greater optimism, means an optimistic disposition, and the lower scores mean a pessimistic disposition.

Quality of life

The MOS 36-item short-form health survey (SF-36) was used;[28] a 36-item questionnaire, divided into eight dimensions grouped in the components identified in the IQOLA project,[29] in which a second-order factor was found, with three components of SF-36 (general well-being - GWB, physical health - PH and mental health - MH). Survey response codes are re-coded according to standardized procedures. Generally, scores for each scale are calculated for respondents completing 50% or more of the items within a scale. Among these respondents, the value for any missing item is imputed as the mean value for non-missing items. Raw scores are calculated as the sum of (re-coded) scale items and transformed into 0 to 100. All scales and the component scores are positively scored so that higher scores represent better health-related QoL.

Subjective well-being

SWB was measured using the Portuguese version of the personal well-being scale, which includes 7 items/areas (satisfaction with level of life, health, personal achievement, personal relationships, sense of safety, community connection and future security), which seek to represent a first level of "satisfaction with life in general". The score is the average of items, varying from 0 to 100, where higher values represent better subjective well-being. Cronbach α was 0.81.[30]

Data analysis

Standard descriptive analyses were used to assess the sample characteristics. Linear associations between dispositional optimism, personality traits, QoL components and SWB were examined using Pearson correlation.

Regression models were used to conduct moderator and mediator analyses, to predict outcomes (QoL components and SWB) according to the most widely used methods outlined in the classic work of Baron and Kenny.[31] Moderator and mediator relations were tested separately for the QoL components and for SWB. Multiple linear regression analyses were conducted, to test if dispositional optimism moderated the relationships between personality traits and QoL components and SWB, expressed by a statistically significant interaction term between personality traits and dispositional optimism. In the moderator models, each regression model included: 1) socio-demographic and clinical control variables, 2) personality traits, 3) dispositional optimism and 4) the personality traits by dispositional optimism interaction terms, which were centered for this analysis. Multiple linear regressions were also conducted to explore the mediating role of dispositional optimism on the relationships between personality traits and QoL components and SWB. A variable was considered a mediator if: the independent variable (personality traits) and the mediator (dispositional optimism) are related to the outcome (QoL components and SWB); the independent variable is related to mediator; and the relation between the independent variable and the outcome is significantly reduced when the mediator is included in the model.[31] There are four steps, performed with three regression models to test mediation for each measure of QoL

components and SWB: 1) personality traits should significantly predict QoL components and SWB; 2) dispositional optimism should significantly predict QoL components and SWB, controlling for personality traits; 3) personality traits should significantly predict dispositional optimism and 4) controlling for dispositional optimism, the relationship between personality traits, QoL components and SWB should be reduced, or no longer significant. If dispositional optimism is a complete mediator, the relation between personality traits and QoL is reduced to zero, when controlling for dispositional optimism. The Sobel test was used to test the mediating effect.[23, 32, 33] In the case of partial mediation, the Sobel test is conducted, by comparing the strength of the indirect effect of predictor on the outcome after controlling for dispositional optimism.

Another way to describe the amount of mediation is in terms of the proportion of the total effect that is mediated, defined as *ab*/*c* where "*a*" and "*b*" are unstandardized regression coefficients, between the independent and the mediator variables and, between the mediator and the outcome variables, respectively. The "*c*" coefficient is the total effect of an independent variable on the outcome, not controlling for the mediator. Also, it is important to note that this is just a way of describing the amount of mediation, rather than a test of the significance of the mediated effect.[23]

Regression assumptions were evaluated and results were considered statistically significant when $p < 0.05$. All analysis was carried out using the SPSS statistical package, version 19.0.

Results

Participants

A total of 729 chronic patients participated in the study: 179 with cancer, 126 with diabetes, 89 with epilepsy, 20 with myasthenia gravis, 100 with multiple sclerosis and 215 with obesity. Of this group, 28.8% were male; 54.3% had an education level ≥ 9 years. Their mean age was 42.13 years (*SD* = 11.65), mean time since the diagnosis was 11.74 years (*SD* = 9.51) and mean severity of disease perception was 6.58 (*SD* = 2.77).

Linear association between socio-demographic/clinical variables, QoL components and SWB, showed that age was negatively associated with GWB ($r = -0.17$, $p < 0.01$), PH ($r = -0.32$, $p < 0.01$) and MH ($r = -0.096$, $p < 0.01$). The severity of disease perception was negatively associated with GWB ($r = -0.31$, $p < 0.01$), PH ($r = -0.21$, $p < 0.01$), MH ($r = -0.19$, $p < 0.01$) and SWB ($r = -0.14$, $p < 0.01$). Time since diagnosis was negatively associated only with GWB ($r = -0.08$, $p < 0.05$).

Descriptive statistics and correlation analysis

Table 1 displays the descriptive statistics and correlations for dispositional optimism, PT, QoL components and SWB. Dispositional optimism and neuroticism and extraversion were moderately associated with scores on the dimensions of QoL components and SWB; neuroticism shows an inverse relation with the QoL components and SWB. The other personality dimensions show a low association with QoL components dimensions and SWB.

TABLE 1 Descriptive statistics and correlations for optimism, personality traits and QoL

	Mean	SD	DOp	N	E	O	C	A	GWB	PH	MH	SWB
1. Dispositional optimism (DOp)	20.63	4.2	-	-0.51*	0.46*	0.18*	0.32*	0.23*	0.42*	0.23*	0.41*	0.43*
2. Neuroticism (N)	25.63	7.58		-	-0.32*	-0.11*	-0.2*	-0.16*	-0.49*	-0.36*	-0.56*	-0.44*
3. Extraversion (E)	29.8	6.39			-	0.32*	0.37*	0.18*	0.4*	0.24*	0.31*	0.42*
4. Openness to experience (O)	25.83	6.07				-	0.07	0.13*	0.14*	0.09*	0.12*	0.12*
5. Conscientiousness (C)	34.56	5.84					-	0.16*	0.2*	0.14*	0.2*	0.27*
6. Agreeableness (A)	31.85	5.41						-	0.13*	0.58	0.14*	0.2*
7. General well-being (GWB)	49.41	18.77							-	0.7*	0.66*	0.57*
8. Physical health (PH)	63.77	26.44								-	0.64*	0.43*
9. Mental health (MH)	65.88	25.42									-	0.52*
10. Subjective well-being (SWB)	62.91	17.11										-

* p<0.05

Moderation analysis

In all models tested, considering QoL components and SWB as outcome variables and controlling for socio-demographic and clinical variables, no statistically significant interaction between dispositional optimism and personality traits were found, revealing that the effect of personality traits, in QoL components and in SWB is not moderated by dispositional optimism.

Mediation analysis

Tables 2 and 3 display the multiple linear regression results for mediation analysis, controlling for socio-demographic and clinical variables. Unstandardized regression coefficients, standard errors and p-value are provided.

Relatively to the models reflecting the role of dispositional optimism as a mediator between openness to experience, agreeableness, conscientiousness, and both QoL components and SWB, we opted to describe only the final results.

Table 2 shows the results of the regression models testing the personality traits - dispositional optimism – QoL components mediation chain.

General well-being (GWB)

The results of Model 2.1 showed a significant inversely relationship, between neuroticism and GWB ($b = -1.07$, $p<0.001$), and dispositional optimism ($b = -0.28$, $p < 0.001$), revealing that, patients with higher level of neuroticism feel less satisfied with GWB and are less optimistic. Optimist patients tended to be more pleased with general well-being ($b = 1.02$, $p < 0.001$), even after controlling for neuroticism. After controlling for dispositional optimism, neuroticism remained inversely associated with GWB ($b = -0.78$, $p < 0.001$), but the strength of the association between these variables was significantly reduced, demonstrating a partial mediation effect of dispositional optimism between neuroticism and GWB. The Sobel test results indicate that dispositional optimism acts as a mediator between the neuroticism and GWB ($z = -5.99$, $p < 0.001$), and about 27% of the total effect of neuroticism on GWB is mediated by it.

In Model 2.2 extravert patients tend to have a better GWB ($b = 1.01$, $p < 0.001$) and to be more optimistic ($b = 0.3$, $p < 0.001$). Dispositional optimism was significantly related to GWB ($b = 1.23$, $p < 0.001$), after controlling for this personality trait. When mediation was controlled, extraversion remained significantly associated with GWB ($b = 0.644$, $p < 0.001$), but its significance is reduced meaning that dispositional optimism partially mediated the relationship between extraversion and GWB (Sobel test result $z = 6.84$, $p < 0.001$). About 37.1% of the total effect of extraversion on GWB is mediated by dispositional optimism.

Using similar models and procedures, we found that, after controlling for dispositional optimism, the effect of openness to experience on GWB is not statistically different from zero ($b = 0.10$, $p = 0.33$), so, dispositional optimism completely mediates the effect of openness to experience on GWB. Agreeableness and conscientiousness remained associated with GWB ($b = 0.27$, $p = 0.01$; $b = 0.30$, $p = 0.004$, respectively), showing a partial mediation effect of dispositional optimism. The result of Sobel test, $z = 5.63$, $p < 0.001$; $z = 6.83$, $p < 0.0001$ indicates that 52.7% of the total effect of agreeableness and 53.3% of conscientiousness on GWB is partially mediated by dispositional optimism.

Physical health (PH)

As dispositional optimism and openness to experience were not statistically significantly associated with physical health, no mediation effects were considered between neuroticism/openness to experience and PH.

Results of model 2.3 showed that more extravert patients feel physically better and they are more optimistic. Dispositional optimism was significantly related to PH having a positive impact. Extraversion, after controlling for dispositional optimism, remained significantly associated to PH, but the strength of the relation between these variables was significantly reduced, showing a partial mediation effect of dispositional optimism. Sobel tests results lead to the same conclusion. About 40.6% of the total effect of extraversion on PH is mediated by dispositional optimism.

For the remaining personality traits, and after controlling for dispositional optimism, conscientiousness was significantly associated to PH ($b = 0.46$, $p = 0.004$). The reduced significant coefficient between these variables show a partial mediation effect of dispositional optimism (Sobel test, $z = 4.09$, $p < 0.001$) and 33.7% of the effect of conscientiousness on PH, are mediated by it. Agreeableness was no longer significantly associated with PH (after controlling for dispositional optimism, $b = 0.24$, $p = 0.14$) and, according to Baron and Kenny's criteria,[31] dispositional optimism completely mediates the effect of agreeableness on PH.

Mental health (MH)

The models reveal significant relationships between PT and MH. After controlling for neuroticism, results showed that dispositional optimism had a positive impact on MH. Extravert patients, openness to experience, agreea-

bleness and conscientiousness felt a better MH and are more optimistic people. After controlling for dispositional optimism, neuroticism remained inversely associated with MH (b = -1.52, p < 0.001), extraversion (b = 0.51, p < 0.001) and conscientiousness (b = 0.41, p = 0.006) remained positive significantly associated with MH. The association between these variables was reduced, demonstrating a partial mediation: Sobel test, z = -4.45, p < 0.001; z = 7.21, p < 0.0001, respectively (15.4% of the total effect of neuroticism on MH, 53.3% of the total effect of extraversion, and 53.5% of the total effect of conscientiousness are mediated by dispositional optimism). The association between openness to experience and agreeableness with MH, after controlling for dispositional optimism, was not statistically significant, reflecting evidence for total mediating effect of dispositional optimism between openness to experience/agreeableness and MH.

Subjective well-being (SWB)

Results reveal that higher levels of neuroticism had a negative impact on SWB (b = -1.02, p < 0.001) and on the level of optimism (b = -0.28, p < 0.001). Extravert people (b = 1.10, p < 0.001), with open minds (b = 0.24, p < 0.001), kind people (b = 0.62, p < 0.001) and conscientious (b = 0.75, p < 0.001), had a better SWB and were more optimistic (b = 0.3, b = 0.11, b = 0.19, b = 0.22 respectively and *p*<0.001 for all). Dispositional optimism was significantly associated to SWB, even when controlling for the respective personality traits. Adjusting for dispositional optimism, the associations between neuroticism (b = -0.72, p < 0.001), and extraversion (b = 0.74, p < 0.001) remained statistically significant but were reduced, indicating that dispositional optimism acts as a partial mediator. The results of Sobel tests were: z = -6.22, p < 0.0001 and z = 6.67, p < 0.001, respectively. And, 29.1% of the total effect of neu-

TABLE 2 Regression models testing the personality traits-dispositional optimism-QoL mediation chain

Model	b	se (b)	95% CI	p
Model 2.1: dispositional optimism mediates the neuroticism- GWB link				
GWB (outcome)← **neuroticism (predictor)**	-1.070	0.081	-1.229, -0.911	<0.001
Optimism (mediator)←**neuroticism (predictor)**	-0.284	0.019	-0.321, -0.247	<0.001
GWB (outcome)← optimism (mediator)|**neuroticism (predictor)**[a]	1.020	0.156	0.714, 1.325	<0.001
Neuroticism (predictor)|optimism (mediator)[b]	-0.780	0.090	-0.958, -0.603	<0.001
SobelTest	z = -5.99		p < 0.001	
Model 2.2: dispositional optimism mediates the extraversion - GWB link				
GWB (outcome) ← extraversion **(predictor)**	1.019	0.096	0.830, 1.208	<0.001
Optimism (mediator) ←extraversion **(predictor)**	0.307	0.022	0.264, 0.351	<0.001
GWB (outcome) ←optimism (mediator)|extraversion **(predictor)**[a]	1.233	0.157	0.925, 1.541	<0.001
Extraversion **(predictor)** | optimism (mediator)[b]	0.640	0.104	0.436, 0.845	<0.001
SobelTest	z = 6.844		p < 0.001	
Model 2.3: dispositional optimism mediates the extraversion - PH link				
PH **(outcome)** ← extraversion **(predictor)**	0.710	0.142	0.432, 0.988	<0.001
Optimism (mediator) ←extraversion **(predictor)**	0.307	0.022	0.264, 0.351	<0.001
PH(outcome) ← optimism (mediator) | extraversion **(predictor)**[a]	0.940	0.238	0.473, 1.408	<0.001
Extraversion **(predictor)** | optimism (mediator)[b]	0.421	0.158	0.111, 0.732	0.008
SobelTest	z = 3.800		p < 0.001	
Model 2.4: dispositional optimism mediates the neuroticism - MHlink				
MH **(outcome)** ← **neuroticism (predictor)**	-1.806	0.108	-2.017, -1.594	<0.001
Optimism (mediator) ← **neuroticism (predictor)**	-0.284	0.019	-0.321, -0.247	<0.001
MH (outcome) ← optimism (mediator) | **neuroticism (predictor)**[a]	0.980	0.210	0.567, 1.392	<0.001
Neuroticism (predictor) | optimism (mediator)[b]	-1.527	0.122	-1.766, -1.288	<0.001
SobelTest	z = -4.455		p < 0.001	
Model 2.5: dispositional optimism mediates the extraversion - MH link				
MH **(outcome)** ← extraversion **(predictor)**	1.102	0.140	0.827, 1.378	<0.001
Optimism (mediator) ← extraversion **(predictor)**	0.307	0.022	0.264, 0.351	<0.001
MH (outcome) ← optimism (mediator) | extraversion **(predictor)**[a]	1.914	0.227	1.469, 2.359	<0.001
Extraversion **(predictor)** | optimism (mediator)[b]	0.512	0.151	0.216, 0.808	<0.001
SobelTest	z = 7.217		p < 0.001	

a- Adjusted for personality traits
b- Adjusted for dispositional optimism

roticism on SWB and 32,2% of the total effect of extraversion on SWB are mediated by dispositional optimism.

Similar results were found for agreeableness (b = 0.33, p = 0.003) and conscientiousness (b = 0.41, p < 0.001), the coefficients were statistically significant, reduced indicating that dispositional optimism acts as a partial mediator.

Regarding openness to experience, after controlling for dispositional optimism, it was no longer significantly associated with SWB (b = 0.05, p = 0.57), providing further evidence for the total mediating effect of dispositional optimism to the conscientiousness SWB association.

Discussion

The purpose of this study was to examine, in Portuguese chronic patients, if dispositional optimism exerts a moderating or a mediating influence on personality traits and both, QoL components and SWB. Optimism has consistently been shown to affect adjustment to QoL in chronic diseases. In recent years, dispositional optimism has been the most frequently examined personality attribute for disease-related adjustment,[4] given that dispositional optimism is a very general tendency, a disposition that reflects expectations across a variety of life domains. However, it is important to note that, optimism does not help people to overcome the disease *per se*, but influences several factors that, probably, help in the selection of coping strategies for adjustment to life.

In a series of regression models our study found that the effect of personality traits on QoL is not moderated but rather mediated (partially and totally) by dispositional optimism.

Patients' personality traits influence dispositional optimism and, in doing so, affect indirectly their QoL. These findings are consistent with those from other studies.[10] We found that dispositional optimism did not exert a significant mediating effect between neuroticism/openness to experience and PH.

According to several authors,[6-8, 17, 18, 34-36] these data generally suggest direct and indirect associations between dispositional optimism and better QoL.

The present findings offer a useful contribution to the growing literature identifying the role of optimistic beliefs to adaptation beyond specific chronic disease. Expecting positive outcomes in one's life seems to be an important aspect of human nature. The findings have important implications in light of the positive effects of optimism on health outcomes. By conducting studies that examine the links between optimism and psychological adjustment in individuals with chronic diseases, we may get closer to understanding their interrelations.

We conclude that dispositional optimism is more likely to play a mediating, rather than a moderating role in personality traits-outcomes (QoL components and SWB) association. Interventions in patients should be done in order to achieve and maintain a level of optimism that helps to facilitate and improve the QoL.

Dispositional optimism is a mediator between personality traits and QoL and SWB in Portuguese patients with chronic disease.

Although additional research is clearly needed for a better understanding of the functional relationship between dispositional optimism and adjustment, the present study provides a step in that direction.

TABLE 3 Regression models testing the personality traits-dispositional optimism-SWB mediation chain

Model	b	se (b)	95% CI	p
Model 3.1: dispositional optimism mediates the neuroticism - SWB link				
SWB **(outcome)** ← **neuroticism (predictor)**	-1.028	0.080	-1.186, -0.871	<0.001
Optimism (mediator) ← **neuroticism (predictor)**	-0.284	0.019	-0.321, -0.247	<0.001
SWB (outcome) ← optimism (mediator) | **neuroticism (predictor)**[a]	1.054	0.154	0.752, 1.356	0.004
Neuroticism (predictor) | optimism (mediator)[b]	-0.728	0.089	-0.903, -0.553	<0.001
SobelTest	z = -6.223		p < 0.001	
Model 3.2: dispositional optimism mediates the extraversion - SWB link				
SWB **(outcome)** ← extraversion **(predictor)**	1.103	0.094	0.918, 1.287	<0.001
Optimism (mediator) ←extraversion **(predictor)**	0.307	0.022	0.264, 0.351	<0.001
SWB (outcome) ← optimism (mediator) | extraversion **(predictor)**[a]	1.156	0.152	0.857, 1.455	0.004
Extraversion **(predictor)** | optimism (mediator)[b]	0.745	0.102	0.545, 0.945	<0.001
SobelTest	z = 6.678		p < 0.001	

Resumo

O papel do otimismo na qualidade de vida de pessoas portuguesas com doenças crônicas: moderador/mediador?

Objetivo: o otimismo tem sido demonstrado como uma variável importante no ajustamento da qualidade de vida de pessoas com doenças crônicas. O estudo tem como objetivo verificar se o otimismo exerce um efeito moderador ou mediador entre os traços de personalidade e a qualidade de vida, em portugueses com doenças crônicas.
Métodos: os modelos de regressão linear múltipla foram usados para avaliar o efeito de moderação e mediação do otimismo na qualidade de vida. A amostra, constituída por 729 doentes, recrutados nos principais hospitais de Portugal responderam a questionários de autorresposta avaliando questões sócio-demográficas e clínicas, personalidade, otimismo disposicional, qualidade de vida e bem-estar subjetivo.
Resultados: os resultados encontrados mostraram que o otimismo disposicional não exerce um papel moderador entre os traços de personalidade e a qualidade de vida. Controlando por idade, sexo, nível de escolaridade e percepção da severidade da doença, o efeito dos traços de personalidade na qualidade de vida e no bem-estar subjetivo foi mediado pelo otimismo (parcial e total), expecto para as associações, neuroticismo/abertura à experiência e à saúde física.
Conclusão: o otimismo disposicional exerce apenas um papel mediador entre os traços de personalidade e qualidade de vida, em pessoas com doenças crônicas, sugerindo que 'a expectativa de que coisas boas vão acontecer' contribui para uma melhor qualidade de vida e melhor bem-estar subjetivo.

Unitermos: doença crônica, otimismo, mediador, moderador, traços de personalidade, qualidade de vida.

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