

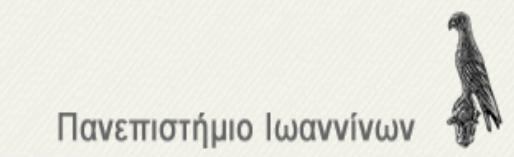


# RESILIENCE MEDIATES THE RELATIONSHIP OF ILLNESS PERCEPTIONS WITH DEPRESSIVE SYMPTOM SEVERITY AND SUICIDAL RISK IN PEOPLE WITH CHRONIC ILLNESSES

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### BACKGROUND

Patients' own views and beliefs about their condition can influence their way of responding both emotionally and physically to their illness [1]. These views, frequently described as **illness perceptions**, represent the patients' need to make sense of and respond to their illness [2]. Evidence suggests that, in people with long-term medical conditions (LTCs), illness perceptions are associated with **psychological distress**, and especially **depression** [3,4].

**Resilience** refers to a dynamic process that **moderates** the negative effects of stress and **promotes adaptation**, optimism and acceptance [5], and is positively correlated with physical health, optimism, and physical and emotional wellness, and negatively correlated with depression and posttraumatic stress disorder [5-8]. However, to the best of our knowledge, no studies have investigated the **interaction** between illness perceptions and **resilience** in its relationship to depression or suicidal risk.

### OBJECTIVE

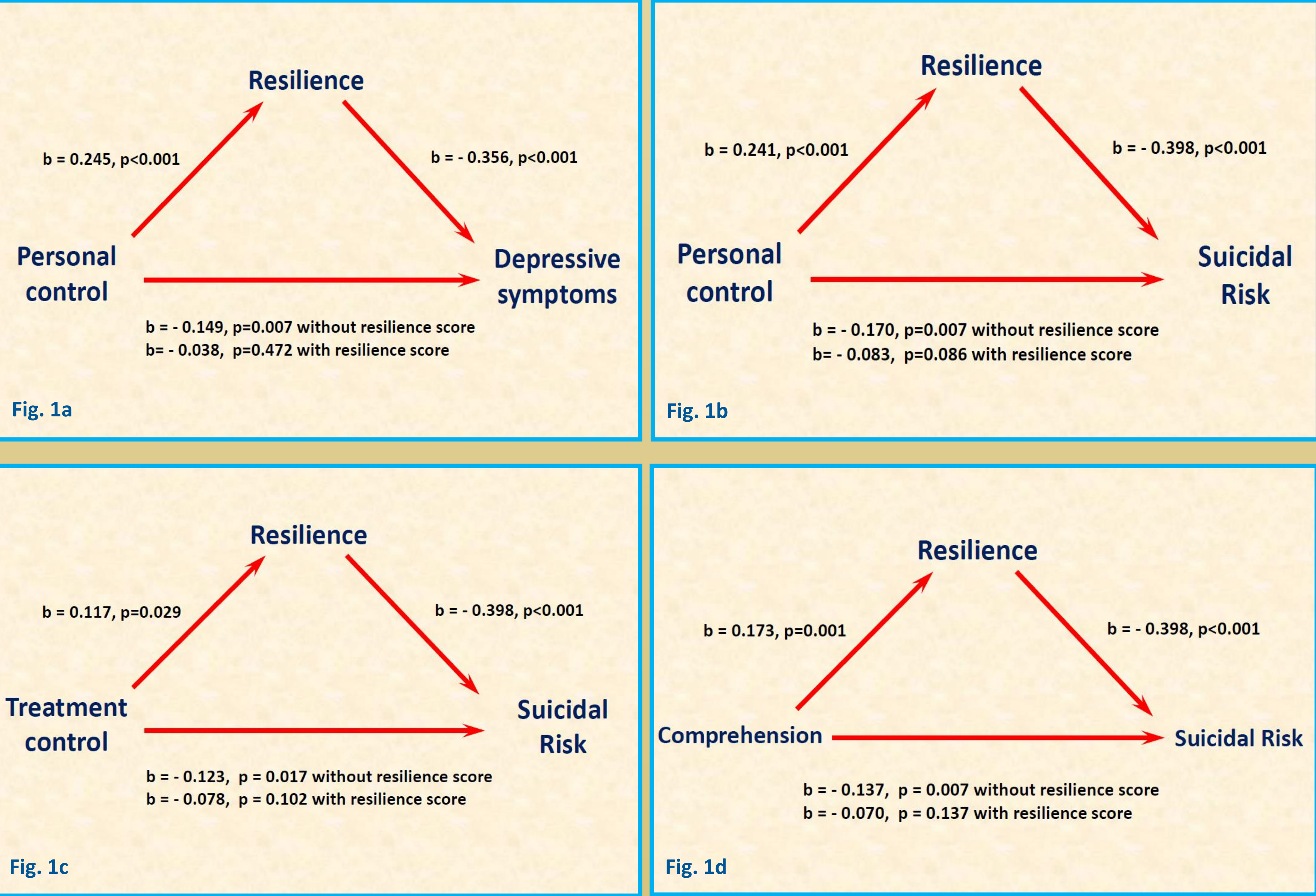
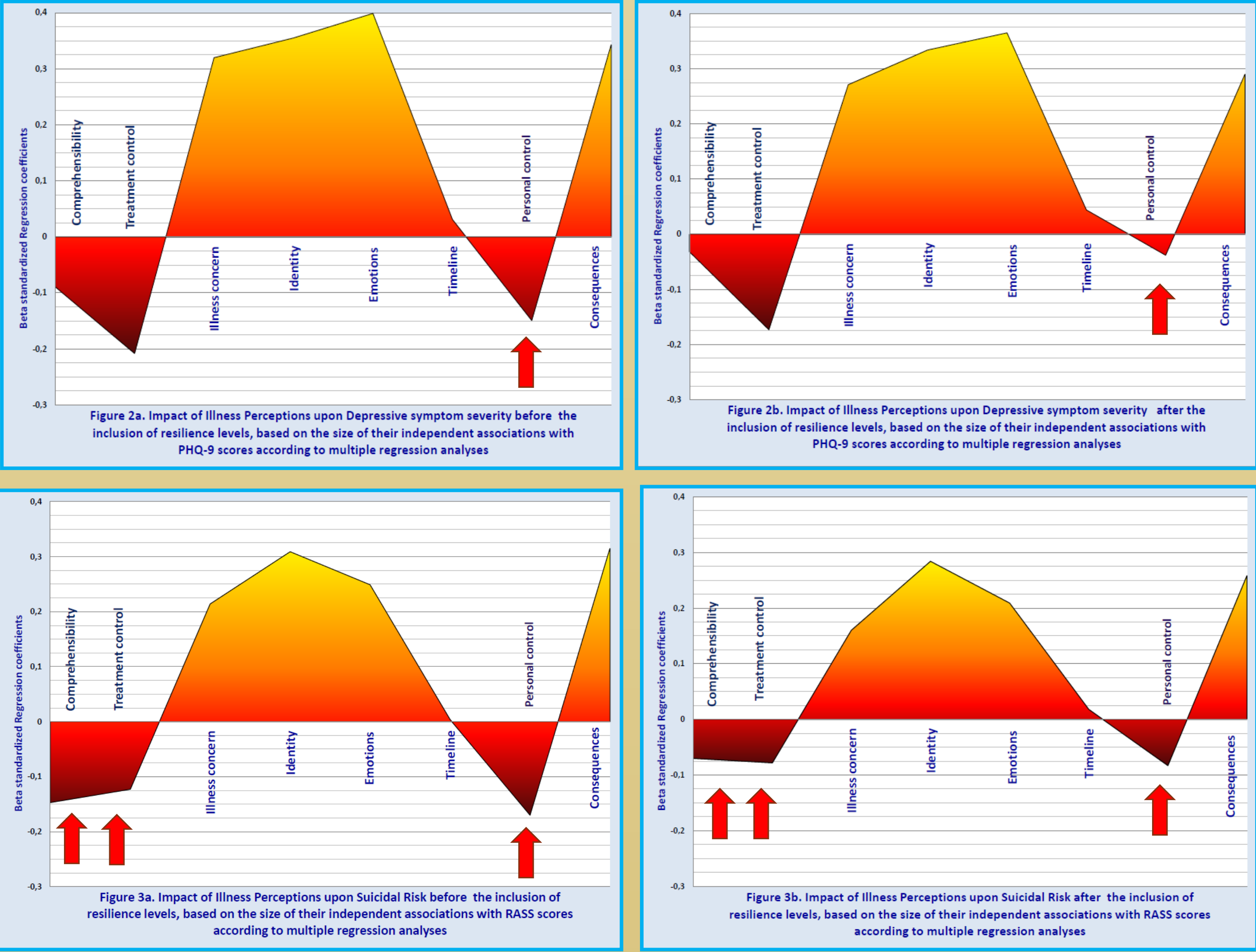
We aimed to test the hypothesis that, in people with chronic illnesses, **resilience mediates the association of illness perceptions with depressive symptom severity and suicidal risk**.

### DATA AND METHODS

Data were collected during the baseline assessment of the prospective study **ASSERT-DEP: “Assessing and enhancing resilience to depression in people with long term medical conditions in the era of the current Greek social and financial crisis”**.

The present **cross-sectional study** took place between 09/2015 and 03/2016. Among **376 patients with diabetes, COPD, and rheumatic diseases** attending specialty clinics or the emergency department, we tested whether **resilience** as measured with the standardized Greek version of the Wagnild and Young 14-item Resilience Scale (RS-14) mediates the relationship of **illness perceptions** (Brief Illness Perceptions Questionnaire; B-IPQ) with **depressive symptom severity** (PHQ-9) and **suicidal risk** (Risk Assessment for Suicidality Scale; RASS) according to the **Barron & Kenny method**, in hierarchical multiple regression analyses after adjusting for sociodemographic variables, number of LTCs and comorbidities (Charlson’s Comorbidity Index).

To fulfil the requirements of mediation according to the method of Baron and Kenny [9], the following three associations should be significant in regression equations: 1) independent variable (illness perceptions) and outcome variable (depressive symptoms and suicidal risk), 2) independent variable and mediating variable (resilience levels), and 3) mediating variable and outcome. If these criteria were fulfilled, we added in the first step of each regression analysis the score of resilience and noted whether this rendered the previous association between illness perceptions and depressive symptom severity or suicidal risk.



### RESULTS

Most illness perceptions were significantly associated with depressive symptom severity and suicidal risk.

With PHQ-9 and RASS scores as the dependent variables Resilience (RS-14) fulfilled all the criteria as possible mediator.

**Resilience totally mediated the relationship of personal control with depressive symptom severity after adjusting for age, sex, education, family status, number of chronic illnesses and comorbidities(Fig. 1a)**

Also, **resilience totally mediated the relationships of personal control (Fig. 1b), treatment control (Fig. 1c) and illness comprehension (Fig. 1d) with suicidal risk**, after adjusting for age, sex, education, family status, number of chronic illnesses and comorbidities.

On the contrary, illness consequences, illness identity, illness concern and emotions remained significantly associated with depressive symptoms and suicidal risk independently of RS-14 scores.

Fig. 2a-3b illustrate the magnitude of the influence of illness perceptions upon depressive symptom severity and suicidal risk based on the size of the independent associations between illness perceptions and PHQ-9 or RASS scores before (Fig. 2a & 3a) and after (Fig. 2b & 3b) the inclusion of the RS-14 scores.

Figure 1. The relationship between illness perceptions (as measured by the Brief Illness Perceptions Questionnaire) and Depressive symptom severity (PHQ-9) or Suicidal Risk (RASS), with Resilience (RS-14) score as possible mediator in patients with LTCs (b, standardized beta coefficients; p values are adjusted for age, sex, marital status, education, comorbidities and number of LTCs)

### CONCLUSIONS

Present findings indicate that **resilience** influence the impact of patient’s beliefs about **the control they feel they have over the illness upon depressive symptoms**. In addition, present results indicate that resilience influence also the impact of the patients’ beliefs about the **treatment potential**, their **understandings of the illness** and the **control they feel they have over the illness upon suicidal risk**.

### STUDY IMPLICATIONS

Although future prospective studies are warranted to confirm our findings, **psychotherapy trials targeting resilience may aid in the treatment and/or prevention of depression and suicidality in patients with chronic illnesses**.

### AKNOWLEDGEMENTS

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### REFERENCES

[1] K. Petrie, L.A. Jago, D.A. Devcich, The role of illness perceptions in patients with medical conditions, *Curr. Opin. Psychiatry* 20 (2007) 163–167.  
[2] H. Leventhal, D.R. Nerenz, D.J. Steele, Illness representations and coping with health threats, in: A. Baum, S.E. Taylor, J.E. Singer (Eds.), *Handbook of Psychology and Health, Volume IV: Social Psychological Aspect of Health*, Erlbaum, Hillsdale NJ, 1984.  
[3] T. Hyphantis, K. Kotsis, N. Tsifetaki, et al., The relationship between depressive symptoms, illness perceptions and quality of life in ankylosing spondylitis in comparison to rheumatoid arthritis, *Clin. Rheum.* 32 (5) (2013) 635–644  
[4] Broadbent E, Wilkes C, Koschwanez H, Weinman J, Norton S, Petrie KJ. A systematic review and meta-analysis of the Brief Illness Perception Questionnaire. *Psychol Health.* 2015;30(11):1361-85.  
[5] Wagnild GM. The Resilience Scale: User’s guide guide for the US English version of the Resilience Scale and the 14-item Resilience Scale ver. 3.33. Resilience Center 2016, Montana, USA.  
[6] Baldwin DR, Jackson D, Okoh I, Cannon RL (2011) Resiliency and optimism: An African American senior citizen’s perspective. *J Black Psychol* 37(1): 24-41.  
[7] Fredrickson BL, Tugade MM, Waugh CE, Larkin GR (2003) What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *J Pers Soc Psychol* 84(2): 365-376.  
[8] Tugade MM, Fredrickson BL (2004) Resilient individuals use positive emotions to bounce back from negative emotional experiences. *J Pers Soc Psychol* 86(2): 320-333.  
[9] Baron RM, Kenny DA. The moderator mediator variable distinction in social psychological research: conceptual, strategic and statistical considerations. *J Pers Soc Psychol* 1986; 51: 1173– 82.