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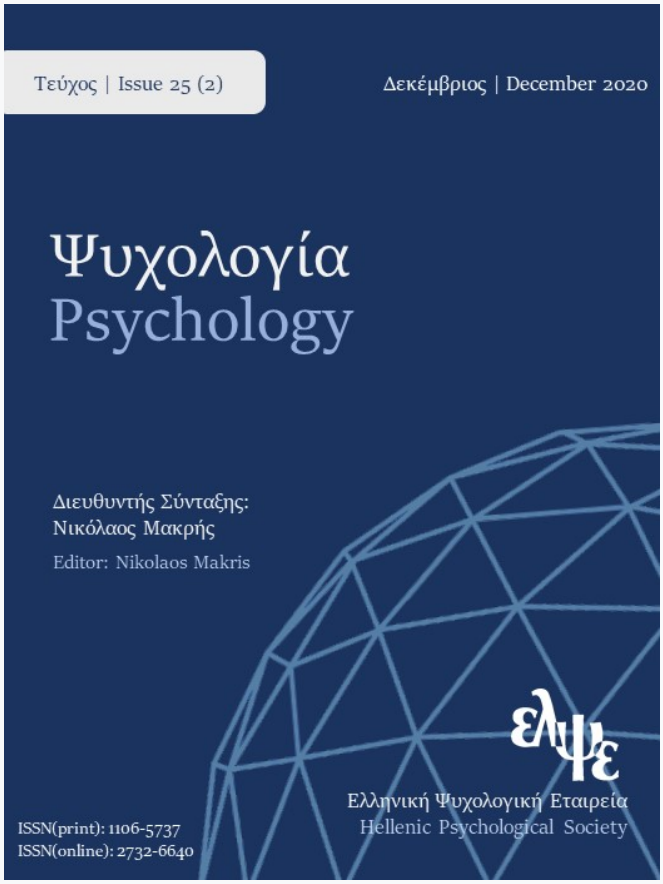

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ΕΜΠΕΙΡΙΚΗ ΕΡΓΑΣΙΑ | RESEARCH PAPER

Exposure to A Severe Illness Prototype, Perceptions of Severity, and Coping Responses

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KEYWORDS

care seeking,
common sense model,
illness coping behaviours,
Illness prototype,
perceived illness severity

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ABSTRACT

The aim of this experimental study was to examine the relationship of exposure to a lung cancer illness prototype to perceptions of illness severity, illness recognition, and coping responses. Two hundred and ten students were presented with Scenarios of a person suffering from lung cancer-related symptoms. Participants were randomly assigned in two groups: half were asked to think of themselves as the patient, and half of "someone else they know". After each Scenario, participants were asked to respond to a set of questions regarding the perceived severity of symptoms, potential coping actions, and illness recognition. Repeated Measures MANOVAs, moderation analyses, correlations, and chi-square tests were used to analyse the data. According to the results, gradual exposure to more severe symptoms was related to increased perceived illness severity, increased possibility of using an active coping plan (e.g., care seeking), and more accurate illness recognition. Perceived illness severity was related to more active coping. Still, most participants inaccurately recognized an acute disorder in the majority of Scenarios. Participants in the other-person-group reported greater possibility of using active coping. The findings provide support to several of the Common Sense Model suggestions regarding the role of illness prototypes. They also indicate that illness prototypes are flexible, dynamic constructs that vary according to the specific aspects of the condition.

There is a close relationship between the perceived severity of a symptom and the decision to seek professional help or treatment. Symptoms that are represented as more severe or as indicators of an underlying illness, which a person is not able to personally manage, are more likely to lead to care-seeking (Leventhal et al., 2015). According to the Common Sense Model (CSM) of Self-regulation, when a person is faced with a symptom or a deviation from 'normal' self (that is, how a person usually feels about their physical condition and functioning), an illness-related prototype (or schema) is activated (Leventhal et al., 2005; Orbell & Henderson, 2016). Illness-related prototypes generally refer to what a person knows or believes and feels about a disease (Leventhal et al., 2005). The CSM suggests that it is against these prototypes that a symptom is compared so as to be interpreted (or not) as an indicator of illness (Leventhal et al., 2016).

Indeed, Bishop and Converse (1986) found in two experiments that people organize and recall information about illness according to pre-existing beliefs which refer to the associations between the symptoms and a disease. People are more likely to identify a set of symptoms as indicators of illness (either serious or not) when these fall within the commonly held prototype of that illness. In addition, Bishop, Briede, Cavazos, Grotzinger,

and McMahon (1987) found that people respond more rapidly to a set of symptoms that highly fits an illness prototype than to a set of symptoms containing irrelevant ones.

An illness prototype includes personal perceptions and information about several aspects of the illness such as symptoms, potential causes and consequences, and possible coping responses (Leventhal et al., 2005; Leventhal et al., 2016). The content can be generic or specific and varies depending on the type of illness. For example, the prototype for a common cold may include specific perceptions of a brief, easily controllable (e.g., 'rest and take an aspirin' action plan) condition which is characterized by a runny nose, sore throat, and cough. The prototype of a more severe condition, however, may not always be detailed or specific. As a person often lacks similar experiences or specific knowledge, they frequently include diverse information coming from family and friends, especially when they have been diagnosed with such an illness, as well as media campaigns, and cultural beliefs (Leventhal et al., 2016). Still, even for the more common conditions, such as the common cold, the corresponding illness prototypes may be quite multifaceted (Orbell & Henderson, 2016), with the components of each prototype strongly interconnected (Henderson et al., 2007).

In any case, the activation of an illness prototype guides the development of particular action plans and coping procedures in order to manage this condition (Leventhal et al., 2005). For instance, there is evidence that patients who view an illness as having more severe consequences worry more and are more likely to adopt an active, problem-solving response to symptoms (Walsh et al., 2004). Also, even the subliminal activation of an illness prototype can automatically activate coping reactions and behaviors that are typically associated with that illness (Henderson et al., 2009; Orbell & Henderson, 2016). A recent study by Lowe and Norman (2017), using a connectionist network simulation, showed that the activation of an illness schema spontaneously leads to the activation of certain coping responses. For a more transient condition, self-treatment as a coping response was significantly more likely than seeing a physician or calling emergency services. Seeing a physician became the coping priority when the condition became more serious.

Despite that illness prototypes seem to be important in guiding illness-related reactions and behaviour, only a few studies so far have examined their impact. In this respect, the aim of this experimental study in a sample of university students was to examine the relationship of gradual exposure to a severe illness prototype to perceptions of illness severity (as a major factor that guides health-related behavior; Leventhal et al., 2005), and two coping responses. That is, care-seeking, and delay any action. The first coping behavior corresponds to an active effort to deal with a severe illness, whereas the second refers to an effort to escape the situation or the related distress and may be detrimental when dealing with a severe condition (Sarafino & Smith, 2017). We also examined whether a higher illness prototype (i.e., a profile of illness with more and more severe symptoms) is related to a more accurate recognition of illness, as well as whether a more accurate recognition is related to perceived illness severity and coping responses. In order to examine the impact of a severe illness prototype, we focused here on lung cancer.

Lung cancer is one of the most common types of cancer worldwide for both sexes; it is the most common cause of death due to cancer and is mainly a result of personal lifestyle (i.e., smoking and exposure to tobacco smoke; World Cancer Research Fund/American Institute for Cancer Research, 2018). The typical symptoms of lung cancer include constant cough, hemoptysis, weight loss, dyspnoea, fever, fatigue, lack of appetite, pain in chest and other body parts, swollen throat (European Lung Foundation/European Respiratory Society, 2016). However, provided that young students do not typically have a direct experience with lung cancer, it is very likely that they build their relevant illness prototype based on information coming from diverse sources, such as media stories, while it is also possible that they use their imagination to create the prototype (Leventhal et al., 2016).

For this reason, a preliminary study took place before the present one so as to examine students' beliefs regarding lung cancer symptoms. The findings of this preliminary study are presented below, in the Method.

Based on the CSM suggestions regarding the role of illness prototypes (Leventhal et al., 2011; Leventhal et al., 2016) and the findings of previous studies that relate severe illness prototypes to worry and activation (e.g., Bishop et al., 1987; Lowe & Norman, 2017; Walsh et al., 2004), we expected higher lung cancer prototypes to be associated with a perception of illness as more severe, with more accurate recognition of illness (i.e., as a case of lung cancer or cancer in general vs. other severe conditions) and the adoption of more active coping responses (e.g., care-seeking). We also expected the perceived severity of the illness and its accurate recognition to be associated with more active coping responses.

A further aim of this study was to examine potential differences in the ways that participants respond to exposure to a severe illness prototype, depending on whether exposure refers to themselves as a potential patient or to other persons. It is possible for a person's interpretation and reaction to a health threat towards self to differ in comparison to a health threat against other persons. Although the perceptions about others, or about their condition and behaviour are influenced by self-perceptions (O'Mahony, 1984), the context of a situation (e.g., whether it refers to self or others) can impact these perceptions and subsequent behaviour (Smeesters et al., 2010). For example, patients' partners develop their own illness representations (Weinman et al., 2003), but these are often significantly different from those held by patients (e.g., Karademas et al., 2019). Given that illness prototypes are complex mental constructs (Orbell & Henderson, 2016), our question was whether focusing on self as a (potential) patient vs. focusing on the health condition of another person impacts these constructs and, thus, potential action plans. Given the lack of relevant studies, the examination of this effect may add to our understanding of the impact of illness prototypes activation on illness-related behavior.

Method

Participants and procedure

A convenience sample of undergraduate students coming from the Department of XX, University of XX, were invited to participate in the study. They were recruited through class announcements and participated voluntarily (no incentives were provided). Inclusion criteria were age over 18 years, being able to provide informed consent, being free of any illness. Eleven students currently suffering from an illness were excluded from analyses following data collection. The final sample consisted of 210 students (148 females and 62 males; mean age = 19.60 years, SD = 1.94).

Participants were presented, in small groups of 10-15 persons, with five short Scenarios of a person experiencing a set of symptoms. The scenarios were developed for the purposes of the present study and all symptoms included in these scenarios were referring to lung cancer but in a gradual way (i.e., later Scenarios contained more symptoms, corresponding thus to a higher lung cancer prototype). In Scenario 1, the hypothetical person was suffering for the last two weeks from malaise, fever, and cough. In Scenario 2, in addition to the symptoms included in Scenario 1, the hypothetical person was suffering from pain in the chest and high fever. In Scenario 3, the person was additionally suffering from lack of appetite and dyspnoea. In Scenario 4, the person was moreover suffering from weight loss, a really hard cough, and swelling in the throat. In the final Scenario, the person was furthermore suffering from constant pain in the chest and other parts of the body, severe dyspnoea, hemoptysis, and severe weight loss.

Each Scenario was followed by a phrase asking participants to imagine that the person suffering from the symptoms was either themselves or another person. Participants were randomly assigned into two groups. In

the first group (N = 108, after excluding currently ill participants) participants were asked to think of themselves as the suffering person, whereas in the second group (N = 102, after excluding currently ill participants) participants were asked to think of "someone else they know". Finally, participants were asked to respond to a set of questions (see *Measures*), before being presented with the next Scenario. Each scenario and subsequent questions were presented to the participants for 10 minutes, before moving to the next one. The entire procedure was conducted by trained research assistants.

In order to make sure that the Scenarios correspond to undergraduate students' beliefs about the disease symptoms, a simple preliminary study took place in a different sample. Eighty-one undergraduate healthy students (51 females, 30 males; mean age = 21.53 years, SD = 2.68), coming from the same Department, were directly approached during a class and were asked, if agree, to write down the three or four symptoms which they thought that mainly characterize lung cancer. They were also asked about their health status and their experience with lung cancer. None was suffering from a chronic condition, and only one student reported some experience with lung cancer (recent diagnosis of a family member). According to the results, (severe) dyspnoea was the most frequently reported symptom (by 43.4% of the participants), followed by pain (on chest or body in general; reported by 40.9%), (severe) cough (40.4%), and hemoptysis (35.9%). Also, fatigue/weakness was reported as a potential symptom (28.4%), (high) fever (27%), and weight loss (18.5%). These symptoms, which correspond to a great extent to the actual symptoms of lung cancer (European Lung Foundation/European Respiratory Society, 2016), were incorporated in the Scenarios detailed above.

Measures

Severity and potential illness identity. For each Scenario, participants were asked to respond to three questions regarding the severity of the disease symptoms (Considering these symptoms, how possible is a significant health problem? How threatening are these symptoms of health? To what degree do you consider these symptoms as indicative of a severe illness?). The questions for this and the next scales were developed for the purposes of the present study and were based on the relevant tradition of the CSM (Cameron, Durazo, & Rus, 2016). Participants responded using a 7-point Likert type scale with anchored endpoints (1=*not at all;* 7=*very much*; Cronbach's *a*s = .83 to .92, across the five Scenarios). Answers to all questions were summed up to an overall perceived severity score per scenario. In addition, participants were asked to indicate whether the symptoms included in each Scenario correspond to a specific disease or not and, if yes, which one.

Coping responses. Two types of coping responses were assessed for each Scenario: the "wait and see" and the "care-seeking" response. The wait-and-see response was assessed with three questions (How likely would it be to wait for the symptoms to subside on its own? How likely would it be to let time pass and see what happens? How likely would it be to evaluate these symptoms as passing and thus try to calm down? Cronbach's *a*s = .75 to .80, across the five Scenarios). The care-seeking response was assessed with two items (How likely would it be to ask for a physician's or other health professional's advice? How likely would it be to immediately visit a physician or a health care service? Cronbach's *a*s = .80 to .93, across the five Scenarios). Participants responded using a 7-point Likert-type scale anchored at the endpoints (1=*not likely at all;* 7=*definitely*).

Results

Preliminary results

No differences were noticed between the two groups as far as sex is concerned (chi-square = .33, $p > .10$). Also, the mean age difference between the two groups was not statistically significant, $F(1, 209) = .01$, $p > .10$. A one-

way multivariate analysis of variance (MANOVA) across all variables (i.e., perceptions of severity and the two coping responses) and across all five Scenarios with sex as the independent variable revealed a statistically significant difference, Wilks λ =.81; $F(15, 194)$ =3.02, p<.001, η^2=.19, with females scoring higher in perceived severity and care-seeking across all Scenarios (p<.01). Thus, all subsequent analyses were conducted after controlling for sex. A post hoc examination revealed a statistical power equal to .83 at an alpha level equal to 5% and medium effect size for the analyses performed.

The means and standard deviations of perceived illness severity, wait-and-see, and care-seeking coping responses across Scenarios, are presented in Table 1

Table 1
Means (Standard Deviation in Parentheses) of Perceived Illness Severity and Coping Responses Across Scenarios for the Self/Other-focus Groups

	Self-focus Group (*(N = 108)*			**Other-focus Group *(N = 102)***		
	Illness Severity	**Wait-and-see**	**Care seeking**	**Illness Severity**	**Wait-and-see**	**Care seeking**
Scenario 1	11.97 (4.05)	11.17 (4.07)	11.04 (2.66)	13.47 (3.64)	7.82 (3.75)	12.89 (1.63)
Scenario 2	15.32 (3.14)	8.85 (3.92)	10.45 (3.47)	15.51 (3.46)	6.30 (3.35)	12.72 (2.10)
Scenario 3	17.46 (3.01)	7.16 (4.04)	12.09 (2.75)	17.58 (3.38)	5.31 (3.30)	13.03 (1.94)
Scenario 4	19.37 (2.39)	5.84 (3.67)	12.79 (2.45)	19.00 (2.92)	4.62 (2.68)	13.24 (1.88)
Scenario 5	20.27 (2.08)	5.33 (3.72)	13.19 (2.18)	20.23 (2.37)	3.91 (2.26)	13.62 (1.49)

Gradual exposure to severe illness prototype, perceptions of severity, and coping responses

In order to examine the differences in perceptions of severity and coping responses across the five Scenarios, as well as the potential differences between the self vs. other-focus groups, three 5 (time) X 2 (group) Repeated Measures MANOVAs were performed (one for each of the dependent variables).[1] Mauchly's test of sphericity indicated that in all relevant analyses the assumption of sphericity had been violated (χ^2s > 148.00, p < .001) and thus a Greenhouse-Geisser correction was used (ε = .57-.72, across analyses).

As far as perceived severity is concerned, a statistically significant time (the 5 Scenarios) effect, Wilks λ = .68; F (4, 204) = 24.53, p < .001, partial η^2 = .33, and a time X group effect, Wilks λ = .93; F (4, 204) = 3.61, p < .01, partial η^2 = .07, were detected. The tests of within-subject effects, using the Greenhouse-Geisser correction, revealed significant differences in perceived severity between all pairs of the 5 Scenarios, F (2.48, 512.84) = 41.47, p < .001, partial η^2 = .17. Bonferroni post-hoc tests showed that increasingly higher levels of perceived severity were reported from each of the Scenarios to the next one (for all pairwise comparisons, p < .001; see Table 1 and Figure 1). With respect to the mean differences between the self vs. other-focus groups across Scenarios, no statistically significant differences were found, F (1, 207) = 1.12, p > .05, partial η^2 = .01.

Regarding the wait-and-see response, a statistically significant time effect, Wilks λ = .92; F (4, 204) = 4.49, p < .01, partial η^2 = .08, and a time X group effect, Wilks λ = .94; F (4, 204) = 3.48, p < .01, partial η^2 = .06, were found. The tests of within-subject effects, with the use of the Greenhouse-Geisser correction, revealed significant differences in this response between all pairs of Scenarios, F (2.89, 597.93) = 9.06, p < .001, partial η^2 = .04. Bonferroni post-hoc tests revealed that lower levels of wait-and-see response were reported from each of the Scenarios to the next one (for all pairwise comparisons, p < .001; see Table 1 and Figure 2). Significant mean differences were also found between the self vs. other-focus groups across Scenarios, F (1, 207) = 30.19, p < .001,

partial η^2 = .13. Post-hoc analyses revealed that participants in the other-focus group scored lower than those in the self-focus group across all five Scenarios (mean differences > 1.20, p < .01, 95% Confidence Intervals = .38 to 4.44).

Finally, regarding the care seeking coping response, both time and time X group effects were statistically significant, Wilks λs = .89 and .84; F (4, 204) = 6.54 and 10.08, p < .001, partial η^2 = .11 and .17, respectively. The tests of within-subject effects, using the Greenhouse-Geisser correction, revealed significant differences between all pairs of Scenarios, F (2.85, 472.99) = 12.73, p < .001, partial η^2 = .06. According to Bonferroni post-hoc tests, with the exception of the difference between Scenario 1 and Scenario 2 which was not statistically significant, gradually higher levels of care seeking were reported from each of the other Scenarios to the next one (p < .001; see Table 1 and Figure 3). The mean difference between the self vs. other-focus groups across Scenarios was also significant, F (1, 207) = 21.95, p < .001, partial η^2 = .10. Post-hoc analyses showed that in Scenarios 1 to 3 there was a significant group effect (mean differences > .93, ts > -3.01, p < .01, 95% Confidence Intervals = -3.08 to -.34). In Scenarios 4 and 5, there were no significant group differences (mean differences < -.45, p > .05, 95% Confidence Intervals = -1.07 to .07).

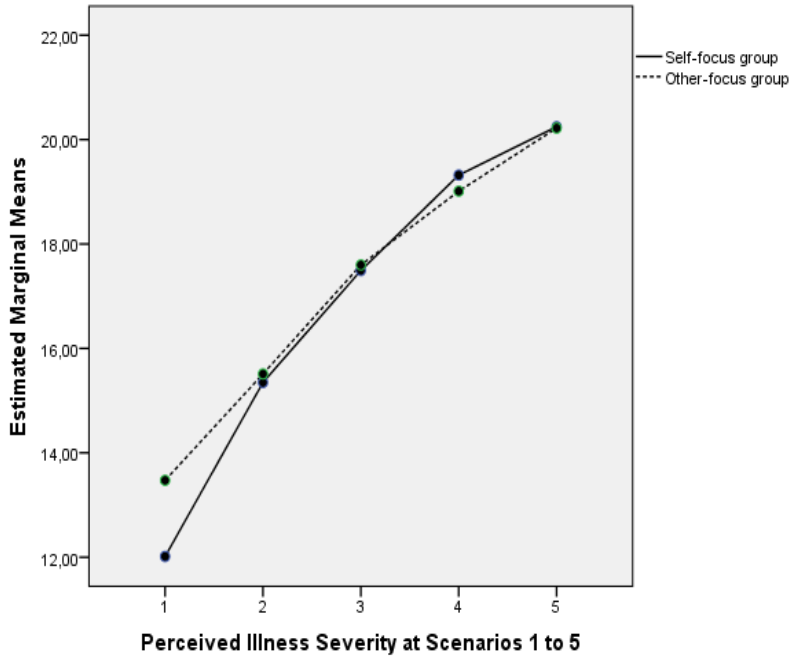

Figure 1 Estimated marginal means (after controlling for sex) of perceived illness severity across Scenarios for the self and other-focus groups

Relations between perceived illness severity and coping responses across groups

To examine the relationship between perceived illness severity, wait-and-see, and care-seeking, the mean scores in the three variables across all five Scenarios were calculated. The Spearman's *rho* correlation between the mean scores of perceived illness severity and the wait-and-see response was -.39 (p < .001); the correlation between illness severity and the care-seeking response was *rho* = .53 (p < .001), and between the two types of coping response, *rho* = -.55 (p < .001).

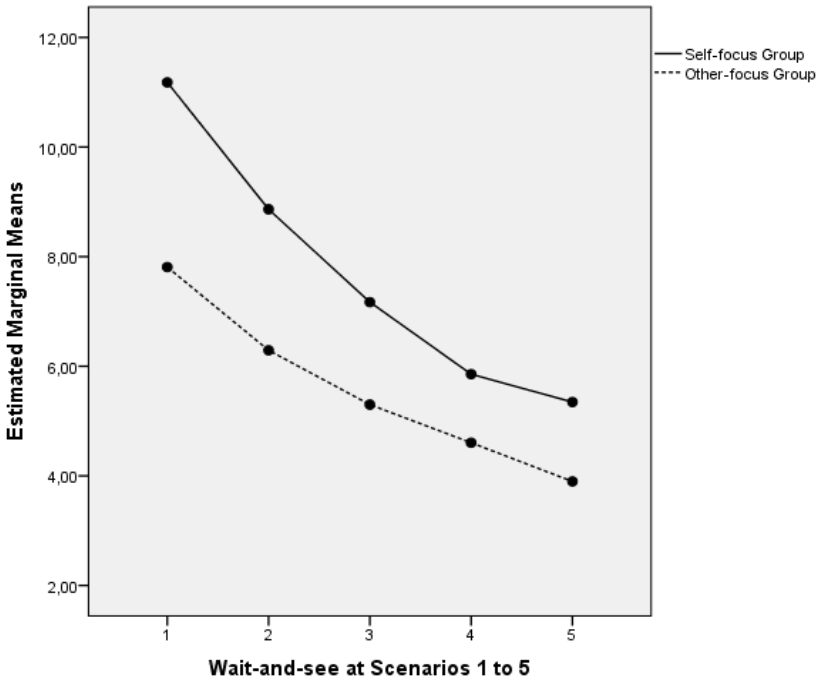

Figure 2 Estimated marginal means (after controlling for sex) of the wait-and-see coping response across Scenarios for the self and other-focus groups

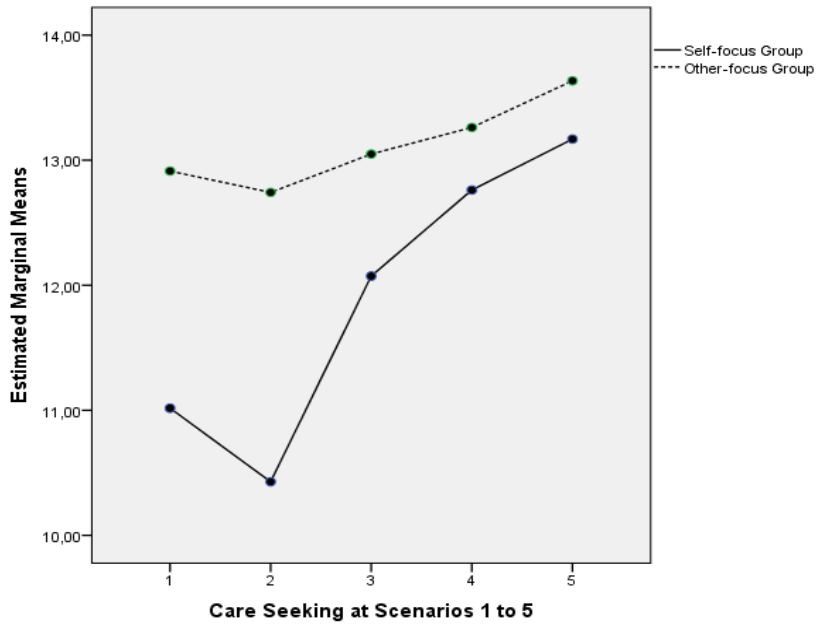

Figure 3 Estimated marginal means (after controlling for sex) of the care-seeking coping response across Scenarios for the self and other-focus groups

To examine whether the strength of the correlations between perceived illness severity and the two coping responses was dependent on the group (i.e., self vs. other-focus), two moderation analyses (one for each coping response) were performed with group serving as the moderator, perceived severity as the independent variable, and coping responses as the dependent variables. To run the moderation, PROCESS, a freely available computational tool for SPSS and SAS (Hayes, 2012), was used. Both normal-theory tests and bias-corrected and

accelerated bootstrapping (5000 bootstrap samples) were employed to test these effects. According to the results, and after controlling for participants' sex, the relations between perceived severity and wait-and-see, and between perceived severity and care-seeking were both moderated by the group (*B*s = .32 and -.31, *SE*s = .15 and .10, *t*s = 2.16 and -3.11, $p < .05$, Bootstrap Confidence Intervals = .03 to .61, and -.50 to -.11, respectively). In both cases, the association between perceived severity and coping responses was much stronger in the self-focus group (Table 2).

Table 2

Mean Effects (Unstandardized Regression Coefficients) of Perceived Illness Severity on Coping Responses at the Self and Other-focus Groups

	Group	
	Self-focus [CI (95%)]	Other-focus [CI (95%)]
Effects on the wait-and-see response	-.67 (.11) [-.89 to -.44]	-.34 (.10) [-.43 to -.15]
Effects on care seeking	.55 (.08) [.40 to .69]	.24 (.07) [.11 to .37]

**Notes*. Standard Error (*SE*) in parentheses and 95% bootstrapping bias corrected and accelerated (5000 bootstrap samples) confidence intervals (CI) in brackets; sex served as covariate in the analyses. Effects are significant at $p<.05$ for the 95% bootstrap confidence intervals, when the derived intervals do not include values of zero.

Recognition of illness identity

Table 3 presents participants' responses regarding which illness might be the cause of the symptoms presented in each Scenario. Lung cancer or cancer in general was reported by only 2.4% of the participants in Scenario 1, and by 3.8% in Scenario 2 (see, Table 3). In Scenario 3, 8.1% reported cancer as a potential cause of symptoms. Cancer was reported by 22.9% and 50.5% of the participants in Scenarios 4 and 5, respectively. Flu or a respiratory infection, and pneumonia or bronchitis were the most frequently reported responses in Scenarios 1 to 3. Moreover, several participants named a "severe" or "life-threatening" illness with no other specification in Scenarios 3 to 5, while a significant number of participants (ranging from 17.3% in Scenario 5 to 31-32% in Scenarios 3 and 4) reported other diseases, such as AIDS, tuberculosis, hepatitis, anxiety and eating disorders, severe allergies, and gastrointestinal diseases.

Chi-square tests were employed to determine whether there were any differences in recognizing illness identity (i.e., cancer vs. other diseases) across Scenarios between the self and the other focus groups. According to the results, no statistically significant differences were found (χ^2 (1) < 1.67, $p > .10$).

Illness recognition, perceptions of severity, and coping responses

A MANOVA across perceptions of illness severity and coping responses for each one of the five Scenarios with the recognition of the illness identity (cancer vs. other diseases) and self/other-focus groups as the independent variables was performed. No statistically significant differences with respect to the recognition of illness identity were observed, Wilks λs < 1.00; $F(3, 203) < 2.20$, $p > .05$, $\eta^2 < .04$. In addition, no statistically significant differences were observed as far as the interaction between recognition of illness identity and self/other-focus groups is concerned, Wilks λs < .99; $F(3, 203) < 2.14$, $p > .05$, $\eta^2 < .03$.

Discussion

The aim of this study was to examine the relation of gradual exposure to a severe illness (i.e., lung cancer) prototype to perceived illness severity, coping responses, and the accurate recognition of the disease. Overall, the findings provided support to our hypotheses.

Table 3
Percentages of the Type of Disease Named by the Participants Across Scenarios 1 to 5

	Lung cancer or cancer in general	Flu/ infection	Pneumonia/ bronchitis etc.	A cardiac disease	A very severe/life threatening illness (no other specifications)	Other
Scenario 1	2.4%	65.3%	9.1%	-	-	23.2%
Scenario 2	3.8%	28.7%	32.9%	9.5%	-	25.1%
Scenario 3	8.1%	15.8%	30.9%	4.5%	9.5%	31.2%
Scenario 4	22.9%	7.9%	14.4%	5.5%	17.6%	31.7%
Scenario 5	50.5%	-	12.9%	5.5%	13.8%	17.3%

Gradual exposure to a higher lung cancer prototype was accompanied by an increase in perceived illness severity and increased possibility of using an active coping plan (i.e., less use of the "wait and see" response, and more use of care-seeking). As also expected, the perceived severity of illness was related to the adoption of more active coping responses. These findings are in accordance with the CSM (e.g., Leventhal et al., 2011) according to which, the activation of an illness prototype results in specific illness representations (e.g., regarding its severity) and the development of action plans. They are also in accordance with the findings of previous studies which have also shown that people respond with more worry and more activation to those symptoms that match their prototype of a severe illness (Bishop et al., 1987; Lowe & Norman, 2017; Walsh et al. 2004).

Gradual exposure to a higher lung cancer prototype also led participants to a more accurate recognition of the potential disease-causing the symptoms (i.e., as lung cancer or cancer in general). A respiratory system related illness (e.g., flu, bronchitis, pneumonia) was recognized by most participants in Scenarios 1 to 3. Only in Scenario 5, cancer was recognized by the majority of participants. But, even in this case, when the described symptoms were very severe, only half of the participants accurately identified the disease. In fact, most participants named a rather acute disorder as the cause of symptoms in the majority of Scenarios (even at the later ones).

The prototype for acute conditions is the default for the interpretation of symptoms (Leventhal et al., 2016). Most people tend to interpret symptoms, especially early ones, as a sign of an acute, time-limited illness that will go by soon. Moreover, the acute prototype stays always 'in the background' and often seeds doubts about the actual severity and meaning of symptoms (Halm et al., 2006; Leventhal et al., 2016). The 'reluctance' to identify cancer, found in this study, provides support to the CSM and indicates that the acute prototype is rooted in the ways of understanding symptoms even when these point to a quite severe and probably long-term illness.

Whether this is a typical way of interpreting symptoms or a (not always successful) way of coping with the fear of a distressing diagnosis (e.g., Dracup & Moser, 1997) is something to be examined in future studies.

In addition, it is interesting that many participants (i.e., 17-32% across Scenarios) named a variety of potential diseases as the cause of the described symptoms. Some of them were more or less related to the respiratory system (e.g., tuberculosis, severe allergies). Still, several other of the diseases named by the participants was rather unexpected (e.g., anxiety and eating disorders or AIDS). A possible explanation might be that people tend to focus on different symptoms, probably based on their personal or close persons' experiences, media stories, etc. (Leventhal et al., 2016), which leads them to diverse assumptions/heuristics about the identity of a disease.

Still, contrary to our hypotheses, the 'correct' illness recognition (i.e., cancer vs. other potential diseases) was not related to perceived illness severity or coping responses. It seems that the evaluation of actions needed to manage the condition does not depend on the accuracy of illness recognition but probably on the perceived severity of the condition. Of course, other factors, such as the persistence of symptoms and past experience, are also crucial determinants of these responses (Leventhal et al., 2015).

A most interesting finding of this study refers to the differences noticed in the self vs. other person-focus groups. The results showed that, although there was no difference in perceptions of severity, the participants in the other person-focus group reported a lower possibility of using the wait-and-see response across all five Scenarios, and a greater possibility of seeking care when the symptoms were less or moderately severe (i.e., at Scenarios 1 to 3). Moreover, the correlations between perceived severity and coping responses were weaker in the other person-focus group. Overall, it seems that participants were more willing or ready to urge another person to undertake action in order to deal with a health threat, in comparison to what they would do for themselves. This may reflect personal concerns about another person's condition and thus it is not surprising (Eisenberg & Sulik, 2012). Still, it may also be indicative of the ways that illness prototypes function.

Illness prototypes are not simple constructs. They consist of several types of beliefs (e.g., regarding symptoms, appropriate actions to deal with threats, potential consequences) and they incorporate information coming from a variety of resources over time (Leventhal et al., 2005; Orbell & Henderson, 2016). The findings of this study indicate that illness prototypes are also flexible mechanisms, the activation of which and the reactions they initiate may greatly depend on the details of the particular condition (e.g., the self vs. other person-focus as examined in this study) and other factors that are not directly related to illness.

Of course, the findings of this study should be interpreted in relation to certain limitations. First, participants were young and healthy students with no direct experience of a severe illness. This may have affected the accurate recognition of illness as well as the reported potential coping reactions. Future studies need to focus more on the illness prototypes of older persons and, especially, those vulnerable to chronic illness (e.g., persons adopting non-healthy lifestyles) so as to better understand their reactions to a potential illness and, through this, promote more effective prevention programs. Second, the five Scenarios included in the study contained only potential symptoms of the disease. However, illness prototypes also include beliefs and information regarding several other aspects of the disease (Orbell & Henderson, 2016). Moreover, although symptoms are necessary for care-seeking, they are not always sufficient as several other factors are involved in this process (Cameron et al., 1993). This is a limitation that may have significantly affected participants' responses. Third, in this study, we focused on only one severe disease. A clearer understanding of the impact of illness prototypes probably requires the examination of the illness prototypes of more common and less threatening conditions as well. Fourth, only two types of coping reactions were assessed. There is a need for future studies to examine further reactions, such as asking for advice from friends and relatives, using self-medication, etc. Finally, participants in the other person-focus

group were not inquired about the particular person they had had in mind when responding to the five Scenarios. However, this might have provided some explanation to the findings (e.g., whether they were thinking of a close person or a person vulnerable to health threats). Future studies are needed to examine this crucial topic. That is, whether the degree of familiarity with the potential patient moderates the relation of an illness prototype activation to coping responses.

Nevertheless, we believe that the findings of this study have significant theoretical and practical implications. They provided support to several of the CSM suggestions regarding illness prototypes (Leventhal et al., 2011; Leventhal et al., 2016). They showed that the accurate recognition of illness is not linked to perceived severity or coping reactions. It seems that it is the severity of symptoms, even when the disease is erroneously recognized, which guides illness-related responses. Also, when the focus of attention was another person, more active coping responses were reported earlier in the illness prototype activation process. This points to the possibility that illness prototypes are flexible, dynamic constructs that respond to the specific aspects and demands of the situation and vary across time and conditions (see also, Anderson, 2009).

As far as the practical implications are concerned, the 'reluctance' to recognize a severe illness until the symptoms became very severe, rings a warning bell regarding how fast people will respond to alarming symptoms. Previous studies (Bishop et al., 1987; Horne et al., 1999) have already shown that people respond more rapidly to symptoms that highly fit an illness prototype. However, delays in matching symptoms with a severe illness prototype and thus in seeking appropriate help might take a toll on health. This points to the need to educate people more effectively in the ways of interpreting symptoms and professional help-seeking. Another potential answer to this need may also emerge from the findings of the study. Namely, the finding that people tend to urge other persons to seek help earlier than they would for themselves. The involvement of close persons in the process of evaluating symptoms and responding accordingly might result in an acceleration of care-seeking. This is important especially for persons dealing with a health threat whose close persons may play a crucial role by preventing patients from misinterpreting symptoms or adopting maladaptive coping reactions (e.g., procrastination in care-seeking).

Βιβλιογραφία

Anderson, J. R. (2009). *Cognitive psychology and its implications* (7th ed.). Worth Publishers.

Bishop, G. D., & Converse, S. A. (1986). Illness representations: A prototype approach. *Health Psychology, 5,* 95-114. https://doi.org/10.1037/0278-6133.5.2.95

Bishop, G.D., Briede, C., Cavazos, L., Grotzinger, R., & McMahon, S. (1987). Processing illness information: The role of disease prototypes. *Basic and Applied Social Psychology, 8*, 21-43. https://doi.org/10.1080/01973533.1987.9645875

Cameron, L., Durazo, A., & Rus, H.M. (2016). Illness representations. In Y. Benyamini, M. Johnston & E.C. Karademas (Eds), *Assessment in Health Psychology* (pp. 45-59). Hogrefe.

Cameron, L., Leventhal, E. A., & Leventhal, H. (1993). Symptom representations and affect as determinants of care seeking in a community-dwelling, adult sample population. *Health Psychology, 12*, 171-179. https://doi.org/10.1037/0278-6133.12.3.171

Dracup, K., & Moser, D. K. (1997). Beyond sociodemographics: factors influencing the decision to seek treatment for symptoms of acute myocardial infarction. *Heart & Lung, 26*, 253-262. https://doi.org/10.1016/s0147-9563(97)90082-0

Eisenberg, N., & Sulik, M. J. (2012). Is self – other overlap the key to understanding empathy? *Emotion Review, 4*, 34-35. https://doi.org/10.1177/1754073911421381

European Lung Foundation/European Respiratory Society (2016, October). *Lung cancer factsheet*. Available at https://www.europeanlung.org/assets/files/el/publications/lung-cancer-factsheet-gre.pdf

Halm, E.A., Mora, P., & Leventhal, H. (2006). No symptoms, no asthma. The acute episodic disease belief is associated with poor self-management among inner-city adults with persistent asthma. *Chest, 129*, 573-580. https://doi.org/10.1378/chest.129.3.573

Henderson, C. J., Hagger, M. S., & Orbell, S. (2007). Does priming a specific illness schema result in an additional information-processing bias for specific illness? *Health Psychology, 26*, 165-173. https://doi.org/10.1037/0278-6133.26.2.165

Henderson, C. J., Orbell, S., & Hagger, M. S. (2009). Illness schema activation and attentional bias to coping procedures. *Health Psychology, 28*, 101-107. https://doi.org/10.1037/a0013690

Horne, R., Weinman, J., & Hankins, M. (1999). The beliefs about medicine questionnaire: The development and evaluation of a new method for assessing the cognitive representation of medication. *Psychology and Health, 14,* 1-24. https://doi.org/10.1080/08870449908407311

Karademas, E.C., Dimitraki, G., Thomadakis, C., & Giannousi, Z. (2019). The relation of spouse illness representations to patient representations and coping behavior: A study in couples dealing with a newly diagnosed cancer. *Journal of Psychosocial Oncology, 37*, 145-159. https://doi.org/10.1080/07347332.2018.1508534

Leventhal, H., Diefenbach, M., & Leventhal, E. A. (1992). Illness cognition: Using common sense to understand treatment adherence and affect cognition treatment. *Cognitive Therapy and Research, 16*, 223–230. https://doi.org/10.1007/BF01173486

Leventhal, H., Halm, E., Horowitz, C., Leventhal, E.A., & Ozakinci, G. (2005). Living with chronic illness: A contextualized, self–regulation approach. In S. Sutton, A. Baum & M. Johnston (Eds.), *The SAGE handbook of health psychology* (pp. 197-240). Sage.

Leventhal, H., Leventhal, E. A., & Breland, J. Y. (2011). Cognitive science speaks to the "common-sense" of chronic illness management. *Annals of Behavioral Medicine, 41*, 152–163. https://doi.org/10.1007/s12160-010-9246-9

Leventhal, H., Yu, J., & Leventhal, E.A. (2015). Illness behavior and care-seeking. In M.J Smelser & P.B. Baltes (Eds.), *International Encyclopedia of Social and Behavioral Sciences* (2nd ed; pp. 596-602). Elsevier.

Leventhal, H., Yu, J. S., Leventhal, E. A., & Bodnar-Deren, S. M. (2016). Cognitive mechanisms and common-sense management of cancer risk: Do patients make decisions? In M.A. Diefenbach, S. Miller-Halegoua & D.J. Bowen (Eds.), *Handbook of health decision science* (pp. 87-108). Springer.

Lowe, R., & Norman, P. (2017). Information processing in illness representation: Implications from an associative-learning framework. *Health Psychology, 36*, 280-290. https://doi.org/10.1037/hea0000457

O'Mahony, J. F. (1984). Knowing others through the self-influence of self-perception on perception of others: A review. *Current Psychological Research & Reviews, 3*, 48-62. https://doi.org/10.1007/BF02686558

Orbell, S., & Henderson, C. J. (2016). Automatic effects of illness schema activation on behavioral manifestations of illness. *Health Psychology, 35*, 1144-1153. https://doi.org/10.1037/hea0000375

Sarafino, E. P., & Smith, T.W. (2017). *Health psychology: Biopsychosocial interactions* (9th Ed). Wiley.

Smeesters, D., Wheeler, S. C., & Kay, A. C. (2010). Indirect prime-to-behavior effects: The role of perceptions of the self, others, and situations in connecting primed constructs to social behavior. In M.P. Zanna (Ed.), *Advances in experimental social psychology* (vol. 42; pp. 259-317). Academic Press.

Walsh, J. C., Lynch, M., Murphy, A.W., & Daly, K. (2004). Factors influencing the decision to seek treatment for symptoms of acute myocardial infarction. An evaluation of the self-regulatory model of illness behaviour. *Journal of Psychosomatic Research, 56*, 67-73. https://doi.org/10.1016/S0022-3999(03)00082-5

Weinman, J., Heijmans, M., & Figueiras, M. J. (2003). Carer perceptions of chronic illness. In L.D. Cameron & H. Leventhal (Eds.), *The self-regulation of health and illness behaviour (pp. 207-219)*. Routledge.

World Cancer Research Fund/American Institute for Cancer Research (2018). *Diet, nutrition, physical activity and lung cancer*. Retrieved March 30, 2020, from https://www.wcrf.org/dietandcancer

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ΕΜΠΕΙΡΙΚΗ ΕΡΓΑΣΙΑ | RESEARCH PAPER

Έκθεση σε Ένα Πρότυπο Σοβαρής Ασθένειας, Αντίληψη της Σοβαρότητας και Αντιδράσεις Διαχείρισης της Ασθένειας

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αναζήτηση ιατρικής φροντίδας,
μοντέλο κοινής λογικής,
συμπεριφορές διαχείρισης ασθένειας,
πρότυπο ασθένειας,
αντιληπτή σοβαρότητα ασθένειας

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ΠΕΡΙΛΗΨΗ

Στόχος αυτής της πειραματικής μελέτης ήταν να εξεταστεί η σχέση της έκθεσης στο «πρότυπο ασθένειας» του καρκίνου του πνεύμονα με την αντίληψη για τη σοβαρότητα της ασθένειας αυτής, την αναγνώριση της ασθένειας, καθώς και τις αντιδράσεις διαχείρισής της. Διακόσιοι δέκα φοιτητές εκτέθηκαν σε διάφορα σενάρια ενός προσώπου που υπέφερε από συμπτώματα καρκίνου του πνεύμονα. Οι συμμετέχοντες χωρίστηκαν με τυχαίο τρόπο σε δύο ομάδες: οι μισοί κλήθηκαν να φανταστούν τον εαυτό τους ως τον ασθενή που υπέφερε τα συμπτώματα, και οι άλλοι μισοί να φασταστούν ως ασθενή «κάποιον άλλο που γνωρίζουν». Μετά την παρουσίαση κάθε σεναρίου, οι συμμετέχοντες καλούντο να απαντήσουν σε μια σειρά ερωτήσεων σχετικά με την αντιληπτή σοβαρότητα των συμπτωμάτων της ασθένειας, τις πιθανές δράσεις διαχείρισης της ασθένειας και την αναγνώριση της ασθένειας. MANOVA επαναληπτικών μετρήσεων, αναλύσεις ρύθμισης, συσχετίσεις και χ^2 κριτήρια χρησιμοποιήθηκαν για την ανάλυση των δεδομένων. Σύμφωνα με τα ευρήματα, η σταδιακή έκθεση σε όλο και σοβαρότερα συμπτώματα σχετίστηκε με αυξανόμενη αντίληψη της σοβαρότητα της ασθένειας, αυξανόμενη πιθανότητα χρήσης ενός ενεργητικού πλάνου διαχείρισης της ασθένειας (π.χ., αναζήτηση ιατρικής φροντίδας), και ακριβέστερη αναγνώριση της ασθένειας. Η αντιληπτή σοβαρότητα της ασθένειας σχετίστηκε θετικά με χρήση περισσότερο ενεργητικών συμπεριφορών διαχείρισης της ασθένειας. Οι περισσότεροι συμμετέχοντες αναγνώρισαν λανθασμένα την ασθένεια ως οξεία στην πλειονότητα των σεναρίων. Οι συμμετέχοντες στην ομάδα που τους ζητήθηκε να σκεφτούν ένα άλλο πρόσωπο ως ασθενή ανέφεραν ως περισσότερο πιθανή τη χρήση ενεργητικών συμπεριφορών. Τα ευρήματα προσφέρουν στήριξη σε αρκετές πλευρές του Μοντέλου της Κοινής Λογικής ως προς το ρόλο των προτύπων ασθένειας. Επίσης, δείχνουν ότι τα πρότυπα ασθένειας είναι ευέλικτες, δυναμικές κατασκευές οι οποίες μεταβάλλονται ανάλογα με τις ιδιαιτερότητες κάθε κατάτασης.