

Psychology, Health & Medicine

Lecture 7: Symptoms and Illness Perceptions

Hangover, Cold or Flu?

Lecture Overview

- Understanding health and illness
- Common-sense model of illness perceptions
- Self-regulation Model applied to genetics

Self-regulation model (Leventhal et al., 1992)

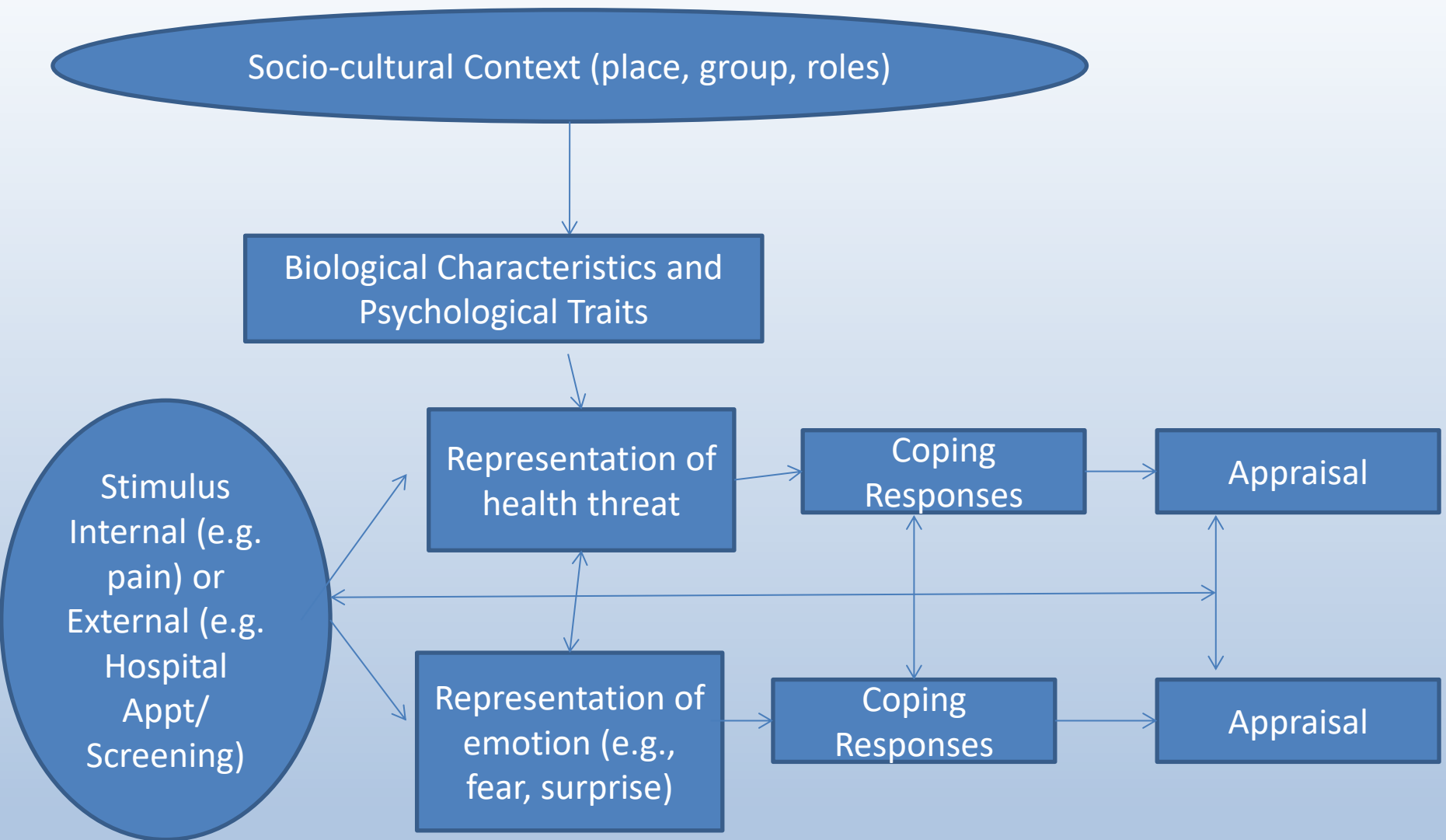
- People are “common-sense scientists”
- When faced with a health threat, we form a cognitive representation and emotional response based upon our beliefs about:
 - Identity (label, signs & symptoms)
 - Causes (genetic, psychological, environmental)
 - Consequences (e.g., emotional, financial, physical)
 - Timeline (acute, chronic, cyclical)
 - Curability/controllability
- Useful for understanding genetic risk?

Leventhal's Self Regulation Model

- People do not only form *cognitive* representations
- Also form *emotional* representations of an illness
 - E.g. hangover = not worried/annoyed
 - Cold = not worried
 - Flu = a bit worried
 - Bird Flu = very worried

Leventhal's Self Regulation Model

- Illness representations acquired through:
 - Media
 - Personal experience
 - Family & Friends
- May be inaccurate!
- Influence preventive behaviour and coping responses:
 - Seeking medical help (over or under-use)
 - Adherence to treatment (e.g., screening, medication)
 - Emotional reactions to symptoms (e.g., avoidance, hypervigilance)
 - Engagement in self-care behaviour (e.g., BSE, healthy lifestyle)



The Common-Sense Model of Illness:
Adapted from Morrison & Bennett (2006) P 252.

Illness Perceptions Questionnaire-revised (Moss-Morris et al., 2002)

- Measures the five IRs identified by Leventhal et al.
 - Identity (label, signs & symptoms)
 - Causes (genetic, psychological, environmental)
 - Consequences (e.g., emotional, financial, physical)
 - Timeline (acute, chronic, cyclical)
 - Curability/controllability
- Also includes:
 - emotional representations,
 - illness coherence,
 - beliefs about personal control.

Illness Perceptions Questionnaire Website

<http://www.uib.no/ipq/>

Research into Illness Perceptions

- Fielding (1987)
 - Asked patients to identify factors that they believed had contributed to their MI
 - Most common factors were stress and worry!
 - Factors such as smoking or high cholesterol (i.e., medically proven contributors) were not highly endorsed!
 - *Do people like to attribute causes of their illness to short-term, changeable, external factors?*

Heijmans (1998):

- Individuals with CFS who believed their illness to be serious, to have little control over it and saw little possibility of cure reported greater mental health difficulties and less vitality than those with the opposite beliefs.

Petrie et al. (1996):

- Cardiac patients were more likely to attend a cardiac rehabilitation course if they held strong beliefs that their condition could be controlled or cured.
- More likely to return to work within 6 weeks if believed only short-term and minimal negative consequences.
- Beliefs about serious consequences associated with later disability and limited activity

Interventions using the SRM

McAndrew, Musemeci-Szabo, Mora, et al. (2008). Using the common sense model to design interventions for the prevention and management of chronic illness threats: from description to process. *British Journal of Health Psychology*, 13(2), 195-204.

- SRM can be used to develop interventions for improving chronic illness management

Wearden & Peters (2008) Therapeutic techniques for interventions based on Leventhal's common sense model. *British Journal of Health Psychology*, 13(2), 189-193

Illness Representations & Outcomes



- What hypotheses could you come up with based upon this common-sense model of illness perceptions?

Individual differences in illness representations

Why might two individuals with the same condition have very different experiences of this condition?



Individual differences in illness representations

Individual differences in the perception of interpretation of symptoms...

- Trait Neuroticism
- Negative Affect
- Mood
- Stress

But....

- How do we understand how people respond to living with the risk of a disease?
- Genetic risk?
- Does the self-regulation model help?

Applying the self-regulation model to genetics

Background: understanding responses to genetic risk

- Objective risk status rarely predicts psychological responses to risk information (e.g. Bennett et al., Hilgart et al., 2010).
- Mixed emotional responses reported (e.g. Phelps, Bennett & Brain, 2008).
- Not everyone in need of psychological intervention – can we predict/identify those most likely to benefit from additional support/intervention?

Genetic risk and the self-regulation model

E.g. those who perceive that being at genetic risk

- is severe,*
- chronic,*
- Is uncontrollable*
- and believes they have an inability to cope emotionally*

will experience more distress than someone who believes that they can control the same illness and can cope emotionally.

e.g., Lancaster, Brain & Phelps (2011)

- Negative emotional representations of ovarian cancer risk moderately associated with greater ovarian cancer specific distress
- Cognitive illness representations were weakly related to ovarian cancer-specific distress.

Lancaster, D.L., Brain, K., & Phelps, C. (2011). Illness representations and distress in women undergoing screening for familial ovarian cancer. *Psychology & Health, 26*(12):1659-77

e.g. Phelps, Bennett & Brain (2012)

- Questionnaire data from 331 individuals who had undergone cancer genetic risk assessment was analysed to explore associations between baseline psychological variables (taken upon referral) and psychological distress and emotional outcomes one month later whilst waiting for risk assessment results (Time 2) and following the provision of risk information (Time 3).

Aim of current study

- ▶ To explore whether it is possible to predict psychological outcomes in individuals awaiting genetic risk information through measuring participants' beliefs about implications of being at genetic risk of cancer

Methods

- Longitudinal questionnaire data from a larger trial dataset (Phelps, Bennett, Brain, Hood & Murray, 2012).
- Participants undergoing early stages of cancer genetic risk assessment through the Cancer Genetics Service for Wales
- 331 individuals risk assessment were analysed at baseline/upon referral; 201 at follow-up (one-month later).

Views about being at increased risk of cancer.	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Being at increased risk would be a serious issue for me	☐	☐	☐	☐	☐
Being at increased risk would have major consequences on my life	☐	☐	☐	☐	☐
Being at increased risk would not have much effect on my life	☐	☐	☐	☐	☐
Being at increased risk would strongly affect the way others see me	☐	☐	☐	☐	☐
Being at increased risk would have serious financial consequences	☐	☐	☐	☐	☐
Being at increased risk would cause difficulties for those who are close to me	☐	☐	☐	☐	☐
There is a lot that I could do to control my chances of getting cancer	☐	☐	☐	☐	☐
What I do could determine whether or not I developed cancer	☐	☐	☐	☐	☐
My chances of developing cancer would depend on me	☐	☐	☐	☐	☐
Nothing I do would affect my chances of getting cancer	☐	☐	☐	☐	☐
I would have the power to influence my chances of getting cancer	☐	☐	☐	☐	☐
My actions would have no affect on my chances of getting cancer	☐	☐	☐	☐	☐
The genetic risks of cancer are puzzling to me	☐	☐	☐	☐	☐
I have a clear picture or understanding of the genetic risks of cancer	☐	☐	☐	☐	☐
I don't understand the genetic risks of cancer	☐	☐	☐	☐	☐
There is very little that could be done to control my chances of getting cancer	☐	☐	☐	☐	☐
Screening (e.g. mammography, colonoscopy) could help control my chances of getting cancer	☐	☐	☐	☐	☐
Surgery could help control my chances of getting cancer	☐	☐	☐	☐	☐
There is nothing that could help control my chances of developing cancer.	☐	☐	☐	☐	☐

Adapted IPQ-r illness representations sub-scales

We are interested in your own personal views about how you think you would feel if you were found to be at increased risk of cancer....

	Scale range	No. of items	Example item
Consequences	6-30	6	Being at increased risk would be a serious issue for me
Personal control	6-30	6	There is a lot that I could do to control my chances of getting cancer
Illness Coherence	3-15	3	I have a clear picture or understanding of the genetic risks of cancer
Treatment control	4-20	4	Screening could help control my chances of getting cancer

Principal Components Analysis on IPQ-R causal factors: beliefs about the possible causes of cancer

Causal Factors/sub-scales	Causal factors comprising sub-scale	α
Psychological Attributions	Emotional state, family problems, overwork, stress or worry, mental attitude, my personality	.87
Risk Factors	Diet/eating habits, alcohol, smoking, my own behaviour, ageing, pollution	.69
Harm/Neglect	A germ or virus, faulty immune system, poor medical care in past, accident or injury	.53
Uncontrollable external factors	Accident or injury Chance or bad luck	.29*
Heredity		Single item
<i>Acknowledgement: Lancaster, Brain & Phelps (2011)</i>		

Do illness beliefs predict psychological outcomes over time?

Multiple regression on those completing time 1 and time 2 assessments
(n=201)

- Step one:
 - Illness representations (personal control, treatment control , illness coherence, consequences)
- Step two:
 - Illness representations
 - Causal beliefs
- Step three:
 - Illness representations
 - Causal beliefs
 - Baseline distress/PA/NA

Predicting cancer-specific distress at Time 2

		β	Adjacent R^2	R^2 change	F
Step 1	Consequences	.477***	.25		13.47***
	Personal control	-.03			
	Treatment control	.04			
	Illness coherence	-.06			
Step 2	Consequences	.46***	.26	.01	5.47***
	Personal control	-.05			
	Treatment control	.04			
	Illness coherence	-.04			
	Psychological attributions	.05			
	Risk factors	-.01			
	Harm/Neglect	.03			
	Hereditary	.04			
	Chance/bad luck	.05			
	Accident/injury	.03			
Step 3	Consequences	.25***	.53	.27	15.73***
	Personal control	-.05			
	Treatment control				
	Illness coherence				
	Psychological attributions				
	Risk factors				
	Harm/Neglect				
	Hereditary				
	Chance/bad luck				
	Accident/injury				
	Baseline distress				
	*** p<.001				

Stronger beliefs in the serious consequences of cancer being found to be at increased risk of cancer significantly predicted higher levels of cancer-specific distress at follow-up

Stronger beliefs in the serious consequences of being found to be at increased risk of cancer significantly predicted higher levels of cancer specific distress at follow-up

Predicting Negative Affect at Time 2

		β	Adjusted R^2	R^2 change	F
Step 1	<u>Consequences</u>	.49***	.26	—	15.35***
	Personal control	.09			
	Treatment control	.00			
	Illness coherence	-.12			
Step 2	<u>Consequences</u>	.46***	.31	.04	7.00***
	Personal control	.10			
	Treatment control	.02			
	Illness coherence	-.08			
	Psychological attributions	.00			
	Risk factors	-.12			
	Harm/Neglect	.12			
	Hereditary	.12			
	Chance/bad luck	.08			
Step 3	<u>Consequences</u>	.31***	.45	.15	11.74***
	Personal control	.09			
	Treatment control				
	Illness coherence				
	Psychological attributions				
	Risk factors				
	Harm/Neglect				
	Hereditary				
	Chance/bad luck				
	Accident/injury				
	<u>Baseline distress</u>				

*** p<.001

Stronger beliefs in the serious consequences of being found to be at increased risk of cancer significantly predicted higher levels of Negative Affect at follow-up

Predicting Positive Affect at Time 2

		β	Adjusted R^2	R^2 change	F
Step 1	Consequences	.11	.12	.12	5.41***
	Personal control	-.05			
	<u>Treatment control</u>	.33***			
	Illness coherence	.01			
Step 2	Consequences	.10	.16	.04	3.00***
	Personal control	-.04			
	<u>Treatment control</u>	.29***			
	Illness coherence	.03			
	Psychological attributions	-.05			
	Risk factors	.05			
	Harm/Neglect	.00			
	Hereditary	.13			
	Chance/bad luck	-.11			
	Accident/injury	.14			
Step 3	Consequences	.11	.16	.00	2.72***
	Personal control	-.04			
	<u>Treatment control</u>	.29***			
	Illness coherence	.03			
	Psychological attributions	-.05			
	Risk factors	.05			
	Harm/Neglect	.00			
	Hereditary	.13			
	Chance/bad luck	-.11			
	Accident/injury	.14			
	Baseline distress				

Stronger beliefs in screening/surgery helping reduce chances of getting cancer significantly predicted higher levels of positive affect at follow-up

Post-risk ANOVA: Illness perceptions by risk group

Illness Perceptions at Time 3	Average n=31	Moderate n=53	High n=36
	Mean (SD)	Mean (SD)	Mean (SD)
Consequences	16.30 (5.00)	16.42 (4.36)	17.96 (4.76)
Personal control	18.83 (2.97)	17.60 (3.31)	18.21 (3.38)
Treatment control	13.89 (3.09)	14.27 (2.36)	14.70 (2.96)
Illness coherence	9.60 (2.96)	10.71 (2.56)	11.77 (2.30)

Significant effect for risk group on Illness Coherence

$$F(2,100) = 4.5 \ p=0.01$$

Those at high risk reported significantly greater understanding of this risk than those at average risk ($p<0.01$)

Conclusions

- Understanding cognitive representations of being at risk may have some use in explaining psychological responses to cancer genetic risk assessment.
- Those receiving a high risk result have a greater understanding of its implications: this may reflect differences in the mechanisms by which individuals at different levels of risk are informed.
- Important for those involved in patient care to have an understanding of these psychological processes.
- Potential role of interventions aimed at changing health-related cognitions.