

# Patient Psychology Research Review™

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Issue 2 - 2012

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## Welcome to the second issue of Patient Psychology Research Review.

Highlights of this issue include a study that investigated the idea that it is not only stress that negatively affects health, but also the *belief* that stress affects health. We have also included an innovative NZ study of the benefits of a relatively brief psychological intervention on surgical wound recovery, and a Danish study of the impact of modern health worries on the rate of GP consultations. Our final study is for the fashionistas and shows that wearing counterfeit products can affect your behaviour.

We hope you find this issue interesting and look forward to hearing your comments which we will pass on to Keith Petrie, Professor of Health Psychology at Auckland University Medical School, and expert reviewer for this edition.

Kind regards

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## Does the perception that stress affects health matter? The association with health and mortality

**Authors:** Keller A et al

**Summary:** This study investigated the relationship between the amount of stress, the perception that stress affects health, and health and mortality outcomes in adults. Data from the US 1998 National Health Interview Survey were linked to prospective National Death Index mortality data through 2006. 28,753 survey respondents were selected, representing nearly 186 million adults. Overall, 55.5% of the sample reported experiencing a moderate amount or a lot of stress in the past year, and 33.7% of them perceived that stress affected their health a lot or to some extent. Higher levels of reported stress, and the perception that stress affects health, were both independently associated with an increased likelihood of worse health and mental health outcomes. Respondents who reported a lot of stress and perceived that stress affected their health a lot had a 43% increased risk of premature death (hazard ratio 1.43; 95% CI 1.2–1.7). In conclusion, high amounts of stress and the perception that stress impacts health are each associated with an increased risk of premature death.

**Comment:** This interesting study investigated the idea that it is not only stress that negatively affects health, but also the belief that stress affects health. The authors used data from a national household survey of over 28,000 respondents to show that indeed individuals reporting both a high amount of stress and the perception that stress affects their health were at greater risk of an early death, over and above those who report high stress or perceived health effects of stress alone. How this belief impacts on poor health is not entirely clear. It may be that the belief that stress affects health worsens outcomes by creating negative expectations or a defeat type reaction. Or it could be that the belief increases the overall stress response by increasing the perceived consequences of being under stress.

**Reference:** *Health Psychol* 2012;31(5):677-684

<http://dx.doi.org/10.1037/a0026743>



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## A brief relaxation intervention reduces stress and improves surgical wound healing response: a randomised trial

**Authors:** Broadbent E et al

**Summary:** This NZ study investigated whether a brief psychological intervention could reduce stress and improve surgical wound healing. 60 patients undergoing elective laparoscopic cholecystectomy were randomised to receive standard care or standard care plus psychological intervention that included 45 minutes of relaxation and guided imagery with take-home relaxation CDs for listening to for 3 days before and 7 days after surgery. At day 7, questionnaires found that patients in the intervention group had less perceived stress than those in the control group. Patients in the intervention group also had higher levels of hydroxyproline deposition (a measure of collagen deposition and wound healing) in the wound at day 7 (mean 22.35 vs 13.56 µg/cm;  $p=0.02$ ). In conclusion, a brief relaxation intervention prior to surgery can reduce stress and improve surgical wound healing, and may be of particular use in patients at risk for poor healing after surgery.

**Comment:** The strong relationship between stress and wound healing has been shown now in a number of studies. In this innovative study, the researchers randomised patients undergoing removal of their gallbladder to a relaxation session with a health psychologist and relaxation CD that patients could use prior to the surgery or standard care. The results showed that the relaxation group had lower reported stress and superior wound healing as measured by a marker of collagen synthesis in the wound. This is the first study to show that a psychological intervention can affect immune markers of wound healing in surgical patients. The study highlights the role that a relatively brief psychological intervention can play in improving recovery from surgical operations.

**Reference:** *Brain Behav Immun* 2012;26:212-217

<http://dx.doi.org/10.1016/j.bbi.2011.06.014>

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## Modern health worries and visits to the general practitioner in a general population sample: an 18 month follow-up study

**Authors:** Andersen J et al

**Summary:** This study evaluated the role of modern health worries (MHW) for care seeking in primary care. A representative sample of 5,068 patients from eight GPs completed a baseline questionnaire on MHW as well as symptoms of health and personality. Their visits to the GP over the next 18 months were then assessed. Modern health worries were common amongst participants; higher levels were seen among women and older individuals. MHW was found to be associated with care seeking at the GP, even after adjustment for age, gender, neurotic traits, symptoms of anxiety, somatisation, other health anxieties and self-rated health. Participants in the highest quartile of the MHW-scale had 20% more GP visits over the 18-month period than those in the lowest. In conclusion, MHW was independently associated with care seeking at the GP.

**Comment:** Worries about aspects of modern life causing health problems are very common in the population and in New Zealand compared to other countries. In fact, the concept of modern health worries was first developed here. Our previous cross-sectional studies have found them to be associated with healthcare use and symptom reporting. This Danish follow-up study of over 5,000 general practice patients shows that they also predict GP visits with those with the highest level of modern health worries having a 20% higher rate of GP consultations. This is a finding that underlines the fact that MHW should be considered more often in frequent attenders and in patients with medically unexplained symptoms.

**Reference:** *J Psychosom Res* 2012;73:264-267

<http://dx.doi.org/10.1016/j.jpsychores.2012.07.007>

## Impact of television coverage on the number and type of symptoms reported during a health scare: a retrospective pre-post observational study

**Authors:** Faasse K et al

**Summary:** This NZ study investigated the impact of television news coverage on the prevalence of adverse events reported during a medication health scare. Adverse events reported to the NZ Centre for Adverse Reactions Monitoring in 2008 that were related to the Eltroxin formulation change were reviewed in relation to 3 specific television news stories. The primary outcome measure was the total rate of adverse events reported per day. After story 1 there was a significant increase in total reporting rates ( $p<0.001$ ), with larger effect sizes for increases in television-mentioned symptoms. Story 2 also caused a significant increase in total adverse event reporting ( $p=0.002$ ) that was driven by significant increases in television-reported symptoms only. Story 3 did not cause a significant increase in total reporting, and increased reporting rates were seen for only one of the two television-reported symptoms. In conclusion, television news coverage can affect the overall rate of adverse events reporting during a health scare.

**Comment:** This study from our research group shows how television news bulletins can influence the medication side effects people report. Not only did television stories about side effects to a formulation change to a thyroid medication increase the rate of medication side effects reported to the Centre for Adverse Reactions Monitoring, the specific symptoms mentioned in each of the television bulletins were reflected in the types of symptoms reported. This study shows that news coverage based around dramatic stories told by individual patients is likely to increase overall symptom reporting among those watching the bulletin. Especially those who believe they too may be affected by the event. The patient stories in the TV bulletins provide a blueprint for those watching to notice and report symptoms consistent with those stories.

**Reference:** *BMJ Open* 2012;0:e001607

<http://dx.doi.org/10.1136/bmjopen-2012-001607>



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### Predicting mortality from human faces

**Authors:** Dykiert D et al

**Summary:** This study investigated whether facial photographs of older people can be used to predict their mortality. High-quality facial photographs of 292 members of the Lothian Birth Cohort 1921, taken at about 83 years of age, were assessed by 12 young-adult raters for a number of features, including apparent age, health, and well-being. Associations between these ratings and mortality during a 7-year follow-up period were analysed using Cox proportional hazards regression. After adjustment for chronological age and sex, the age estimated from facial photographs was a significant predictor of mortality (hazard ratio 1.36, 95% CI 1.12–1.65). Rated age remained a significant predictor for mortality even after controlling for concurrent, objectively measured health and cognitive ability, and other ratings. Health as rated from facial photographs significantly predicted mortality (hazard ratio 0.81, 95% CI 0.67–0.99) when adjusted for sex and chronological age, but not when adjusted for rated age or objectively measured health and cognition. Other rated features (attractiveness, symmetry, intelligence, and well-being) were not predictive of mortality. In conclusion, rated age of the face is a significant predictor of mortality risk among older people.

**Comment:** The study shows that looking younger may have some positive benefits for living longer. Judges rated photographs of the faces of members of a Scottish research cohort born in 1921. The judges rated how old the person looked as well as how healthy as well as other dimensions such as their intelligence and well-being. Rated age predicted time to death even after controlling for actual age, measures of health status and cognitive ability. It is interesting that rated age was a better predictor than judges or self-rated health. This gives some credibility to the view that by 50 everyone has the face they deserve and that looking young for your age may also be a good marker for longevity.

**Reference:** *Psychosom Med* 2012;74:560-566

<http://dx.doi.org/10.1097/PSY.0b013e318259c33f>

### Disruptive innovations for designing and diffusing evidence-based interventions

**Authors:** Rotheram-Borus M et al

**Summary:** Evidence-based therapeutic and preventive intervention programs (EBIs) have been growing exponentially but have not been broadly adopted. We need to critically re-examine our scientific conventions in order for our EBI science to significantly reduce disease burden. The traditional biomedical model for validating, implementing and diffusing EBI products and science must be re-examined. The model of disruptive innovations suggests that we re-engineer EBIs according to their most robust features in order to serve more people in less time and at a lower cost. Four new research approaches are needed in order to support disruptive innovations: synthesise common elements across effective innovations; experiment with new delivery formats; adopt market strategies to promote evidence based interventions; and adopt continuous quality improvement. Evidence based interventions need to have more of an impact on families and children to inspire, inform, and support them to adopt and sustain healthy lifestyles.

**Comment:** This is a thought-provoking piece pointing out that despite the fact that we have hundreds of effective evidence-based psychological interventions for improving health very few of these have been implemented at all or on a large enough scale to make a difference. The authors argue that we should instead be looking to apply disruptive innovations or simpler and less expensive technologies that satisfy the needs of most people. They argue that this can be achieved by looking for common elements across interventions and simplifying delivery by using mobile and web-based technology or the use of a less highly trained workforce to reach a greater number of people.

**Reference:** *Am Psychol* 2012;67(6):463-476

<http://dx.doi.org/10.1037/a0028180>

### Childhood abuse and inflammatory responses to daily stressors

**Authors:** Gouin J-P et al

**Summary:** Dysregulated physiological stress responses may be responsible for the greater morbidity and mortality seen in individuals who were abused as children. This study evaluated the impact of childhood abuse on inflammatory responses to daily stressors. 130 older adults were evaluated for recent daily stressors and childhood abuse history using the Daily Inventory of Stressful Events and the Childhood Trauma Questionnaire. Blood samples were taken for measurement of circulating interleukin-6 (IL-6), tumour necrosis factor- $\alpha$  (TNF- $\alpha$ ), and C-reactive protein (CRP) levels. Childhood abuse history moderated IL-6 levels but not TNF- $\alpha$  and CRP responses to daily stressors. Participants with a childhood abuse history who reported multiple stressors in the previous 24h had IL-6 levels that were 2.35 times higher than those of participants without a childhood abuse history who reported multiple daily stressors. In conclusion, childhood abuse leads to increased IL-6 responses to daily stressors in adulthood.

**Comment:** This study from one of the world's leading groups in psychoimmunology shows that adults with a history of abuse in childhood had an abnormal inflammatory immune response to daily stress. This may help explain the greater risk associated with childhood abuse for developing age-related illnesses. Abused adults had an over 2 times greater IL-6 response to daily stressors than non-abused adults. It may be that this response may fuel low grade chronic inflammation associated with the development of illnesses such as cardiovascular disease.

**Reference:** *Ann Behav Med* 2012;44:287-292

<http://dx.doi.org/10.1007/s12160-012-9386-1>



## Patient Psychology Research Review

### Independent commentary by Professor Keith Petrie

Keith Petrie is Professor of Health Psychology at Auckland University Medical School. Keith Petrie worked as a clinical psychologist in medical settings before taking up a faculty position in Auckland.

For full bio [CLICK HERE](#).

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## Non-adherence to immunosuppressive medications in kidney transplantation: intent vs. forgetfulness and clinical markers of medication intake

**Authors:** Griva et al

**Summary:** This study evaluated intentional and unintentional non-adherence to immunosuppression medication in kidney transplant patients. 218 patients (mean 49.6 years) had their adherence to immunosuppressive therapy measured by self-report and serial immunosuppressive assays. They were then assessed for medication beliefs, quality-of-life, depression, and transplantation-specific emotions. Intentional non-adherence was low (13.8%) but 62.4% of patients admitted unintentional non-adherence and 25.4% had sub-target immunosuppressive levels. Patients who admitted unintentional non-adherence had a higher risk of sub-target serum immunosuppressive levels (odds ratio 8.4;  $p=0.004$ ). Dialysis vintage, doubts about necessity, and less worry about viability of graft explained between 16.1 and 36% of self-reported non-adherence. Depression was only related to intentional non-adherence. In conclusion, non-adherence is common in kidney transplant patients but can be improved by targeting necessity beliefs, monitoring depression, and reducing forgetfulness.

**Comment:** This study among UK kidney transplantation patients found relatively high rates of adherence with around half of patients reporting less than perfect adherence. The researchers found most of the non-adherence was accidental rather than deliberate. Despite this, non-adherence was associated with patients' beliefs about their immunosuppressive medication. Patients who reported greater concerns about taking the medication and who had lower necessity beliefs were at greater risk of non-adherence. The study reinforces the critical importance of patient beliefs about their medication in long-term regimens.

**Reference:** *Ann Behav Med* 2012;44:85-93

<http://dx.doi.org/10.1007/s12160-012-9359-4>

## Are we really compassionate to our patients?

Dr Tony Fernando, from the University of Auckland, is studying why being compassionate towards patients can sometimes be difficult for doctors.

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## The counterfeit self: the deceptive costs of faking it

**Authors:** Gino F et al

**Summary:** This 4-part study evaluated the impact of wearing counterfeit products. Participants wore fake or authentically branded sunglasses in 4 experiments. Those wearing fake sunglasses were found to cheat more across multiple tasks than those wearing authentic sunglasses, both when they believed they were wearing counterfeit products and when they were randomly assigned to wear them. The effects of wearing counterfeit sunglasses extended beyond the self and influenced judgments of other people's unethical behaviour. The feelings of inauthenticity that wearing fake products create (called 'the counterfeit self') were found to mediate the impact of counterfeits on unethical behaviour. In conclusion, wearing counterfeit products makes people feel less authentic and increases their likelihood of behaving dishonestly and judging others as unethical.

**Comment:** And finally one for the fashionistas. This study shows that the things you wear can affect your behaviour. Participants assigned to wear what they believed were fake sunglasses were more dishonest when reporting their performance on a task. The manipulation also influenced how participants perceived other people's honesty. Participants who were wearing what they believed to be fake sunglasses interpreted other people's behaviour as being more dishonest and less truthful. So the fake Louis Vuitton bag and Prada sunglasses may be changing your behaviour in more ways than you realise!

**Reference:** *Psychol Sci* 2010;21:712

<http://dx.doi.org/10.1177/0956797610366545>

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