

EUROPEAN HEALTH PSYCHOLOGY SOCIETY

THE EUROPEAN Health Psychologist

THE BULLETIN OF THE EUROPEAN HEALTH PSYCHOLOGY SOCIETY

in this issue

Page

- 44 EHPS President's Message
 Irina Todorova
- 46 Positive orientation: Turning potentials into optimal functioning
 Gian Vittorio Caprara
- 49 Are most positive findings in health psychology false.... or at least somewhat exaggerated?

 James C. Coyne
- Is obesity an eating disorder?

 Jane Wardle
- Can our health behaviour models handle imagery-based processes and communications?

 Linda D. Cameron
- 59 EHPS Executive Committee reports
 Manja Vollmann, Yael
 Benyamini, Britta Renner,
 Holger Schmid, Paul
 Norman, Elvira Cicognani

Conference Issue

Dear readers,

Welcome to the conference issue of the European Health Psychologist. As we come towards the end of our first year as editors of the EHP, we have been struck by the high quality of the articles that we have managed to attract over the last 12 months. In this issue in particular we have 4 excellent contributions from each of the European Health Psychology Society (EHPS) 2009 conference keynote speakers. This is the first time that all of the EHPS conference keynote speakers have agreed to write for the EHP conference edition and we thank them for taking time from their busy schedules to do this. We have no doubt that these articles will whet the appetite for the keynote talks and will be the source of much discussion and debate over the course of the conference in Pisa.

Thanks for our success in 2008-2009 must go the excellent editorial team: Dr Rik Crutzen from the Netherlands, Dr Richard De Visser from the UK, Dr Jenny Fidler from the UK, Dr Lukasz Kaczmarek from Poland, Dr Nihal Mohamed from the USA, Dr Elke van Hoof from Belgium and the tireless editorial manager Justin Presseau from the University of Aberdeen. Justin will be stepping down from this role after the Pisa conference and his meticulous and unflappable manner will be greatly missed by the EHP team. The Trojan efforts from Justin and the coeditors can be seen in the increasingly high quality of the EHP over the last year. Please do not hesitate to contact us or any of the editorial team if you have any queries or proposals for the EHP.

The EHP will continue to publish relevant information from the EHPS and provide an unorthodox vehicle for the rapid exchange of your scientific findings, reflections and ideas. We thank all those that have contributed over the last year and we look forward to receiving and publishing new thought provoking pieces in 2009-2010.

Gerry Molloy and Emely de Vet, Editors

EHPS president's message

Dear EHPS members and colleagues,

On the eve of the 23rd conference of EHPS, to be held in September 2009 in Pisa, Italy, we approach the end of the first year of the term of the current EHPS Executive Committee. *The European Health Psychologist* has been an excellent resource for scientific information, original discussions and societal news, and during the past year the editorial board has been developing it further. The September 2009 issue of *The European Heath Psychologist* is awaited with interest, as it comes out also in a colourful printed version, thanks to the support of Taylor & Francis. This issue gives us an opportunity to introduce the new EC and summarize some of the activities of the Society and the Executive Committee during its first year. You will also receive detailed formal reports comprising all EC activities several weeks before the Members' Meeting in Pisa.



Irina Todorova President European Health Psychology Society

As one of the major events of the Society are its conferences, much of our efforts have been devoted to organizing current conferences, reviewing proposals and ensuring future venues for the annual EHPS meetings. The high activity related to conference proposals and decisions regarding venues led us to the decision that one member of the Executive Committee needs to take on the role of Conference Officer and ensure continuity of information and procedures. Our current officer is Paul Norman, and he has been following closely all the steps that need to be taken to prepare proposals, coordinate venues and finalize decisions about conferences. We were so excited to be able to work with Paul Norman as President-Elect considering his long-standing experience in EHPS that we quickly came up with many roles for him, all of which he graciously accepted!

The Pisa 2009 EHPS conference is now imminent, and we are excited to see the nearly 1200 submissions it has received. Thanks to the President of the Conference, Mario Guazzelli, the Scientific Committee with its chairs Stan Maes and Franco Bonaguidi, and the Track chairs; to the Organizing Committee, with its chair and co-chair Carmen Berrocal Montiel and Claudio Gentili, and to many more local organizers who have made this conference such a treat! In addition to the keynote lectures, the parallel and poster sessions, many people are contributing additional ideas and activities to the conference. For example, the *Meet the Expert* initiative, this year is being organized by Evie Kirana and Angeliki Bogosian. CREATE has organized another three day pre-conference workshop on the topic of *Advancing the science of behaviour change: Methods and theories*, facilitated by Susan Michie, Falko Sniehotta and David French, and organized by Stephan Dombrowski, Nelli Hankonen, Natalie Mallach, Jana Richert, and Amelie Wiedemann. Angeliki Bogosian and Panayiota Andreou have organized the SYNERGY workshop: *Pragmatics of running clinical trials: Design, management and the processes of change*, that is being facilitated by Rona Moss-Morris, Trudie Chalder, Alison Wearden, and Gijs Bleijenberg. We also have several diverse half-day *pre-conference workshops*, facilitated by Werner W. Wittmann, Alessia Franchini, and Adriana Baban.

The preparations for the 2010 Conference in Cluj, Romania are underway, expertly supported by Adriana Baban as Conference President, Britta Renner as Liaison Officer and Paul Norman as Conference Officer and Chair of the Scientific Committee. The venue has been set, and the details are being planned. Adriana Baban, and her colleagues from the Babes-Bolyai University, will host the reception at the end of the Pisa conference, to introduce the interesting 2010 plans and invite you all to attend! Additionally, we have excellent proposals for an EHPS conference in Crete for 2011 and in Prague for 2012. We look forward to presenting these proposals for your approval at the Members' Meeting in Pisa.

It has now been four years since the launch of the new EHPS review journal, *Health Psychology Review*. Joop van der Pligt as Editor and Denise de Ridder, Alexander Rothman and Brian Oldenburg as Associate Editors, have made an invaluable contribution to the success of this new journal and through it, to the EHPS and to the discipline of Health Psychology. On behalf of the EC and the EHPS members, I would like to extend a very warm and appreciative thank you to them and to all consulting editors and reviewers, who made the initial years of the journal such a success. The idea for such a journal had been discussed many times in the past, but this team has now made it a reality, and ensured that it is full of high quality reviews and theoretical papers. We have sent you a call for nominations of the new editor of Health Psychology Review for the next term, and will announce the results shortly.



The EHPS journal *Psychology & Health* has also been increasingly successful and visible. The Editors Rona Moss-Morris and Lucy Yardley and the team of Associate Editors, have worked tirelessly with the many contributions, resulting in an increase to 10 issues per year. Not only that, but the editors are happy to announce that the impact factor of the journal has now risen above 2.00 for the first time (to 2.083)! In addition, the editors have ensured that the journal is now indexed on Medline.

The Honours Committee, elected during the last two Members' Meetings, has launched the first cycle of nominations and selection of new EHPS fellows this year. The process is now near completion and the results will be announced at the Members' Meeting in Pisa 2009. We encourage you to nominate new fellows next year - a call will be issued in the fall (self-nominations are welcome).

The vibrancy and creativity of the Society and its subdivisions has continued to flourish during this year, thanks to the varied and selfless contributions of many members. EHPS currently has 454 members, of which 87 new members, from 37 countries worldwide. We now have National Delegates from 31 countries, including three new delegates. Elvira Cicognani has creatively undertaken the coordination of the National Delegate activities, has invited new delegates, and has proposed and implemented several interesting new ideas. For example, for the first time, the National Delegates are organizing a round-table at the Pisa Conference, to discuss topics of professional interest to health psychologists in Europe. Additionally, she proposed to re-design the EHPS website, to include a webpage for each member country.

The financial situation of the Society has been quite solid and was further solidified after the well attended joint EHPS and DHP Conference in Bath, 2008. Sustaining the membership and financial stability of EHPS is possible thanks to the expertise of our Membership Officer and Treasurer Manja Vollmann, and we are all very comfortable knowing that she is overseeing our income and expenses, as well as the website. This stability has motivated us to fund some new initiatives, and we will be proposing further ideas for cross-national networking in the months to come. For example, this year we have increased the number of conference and workshop grants offered, and have increased the upper limit for the grants. I extend a very appreciative thank you to this year's grants committee Holger Schmid, Britta Renner and Amelie Wiedemann, who had the difficult task to select among all the excellent grant applicants! Congratulations to the recipients!

Additionally, CREATE has proposed several new initiatives, which EHPS will support. These include two tandem grants, each for two young researchers from different countries to visit one another to work on a joint project. Also, there will be two visiting scholar grants, which will each allow a young researcher to visit a senior researcher in another country. As Education and Training Officer, Holger Schmid has contributed to the organization of all the grants, workshops and other education activities mentioned above. He has now initiated a survey among the National Delegates, which will be conducted with the help of Elvira Cicognani, to create a resource for health psychology professional criteria and programs in different countries throughout Europe.

The Executive Committee has been working in a mutually supportive and constructive manner during the past year, with each member not only actively pursuing their own responsibilities according to their roles, but creatively contributing to all matters we have had to address. Britta Renner's extensive experience in EHPS has been a solid base for our work this year, as she has offered extremely helpful input which has permeated every activity of the EC. None of all that is listed above would have been possible without the sustained, precise and timely input of our Secretary Yael Benyamini, who supports every activity of the EC and thus it is impossible to list her specific tasks. Vera Araujo-Soares is also a member of the EC, and has been on maternity leave during this year. We cannot wait to welcome her back from leave in August (and to delegate to her the new role of Communication Officer)! Our work has also been supported by our office assistant Franziska Unholzer, our web manager Aljoscha Triendl.

In conclusion, I would like to thank every member of the EC for their valuable contributions to the EHPS! I have been extremely lucky to work with such a team with so much experience and such a collaborative spirit, thank you to all!

Please contact all members of the EC with questions and suggestions, and please continue to be involved in EHPS initiatives, consultations, sub-divisions and committees, as members' input is invaluable for the diverse functioning of the Society. I'd like to invite all members and potential future members to the EHPS Members' Meeting in Pisa, which will take place on Thursday, September 24th, 2009, from 13.40-15.10 hrs.

Irina Todorova EHPS President 46

keynote article

Positive orientation: Turning potentials into optimal functioning

Gian Vittorio Caprara*1

¹ "Sapienza" University of Rome, Italy

Background

Over recent years, a rapidly growing body of research has focused on human strengths and individual optimal functioning. Findings point to the critical role that people's evaluations of themselves, their life and their future exert with respect to their wellbeing and success across a variety of domains of functioning (Diener & Suh, 2000; Kahneman, Diener, & Schwartz, 1999). In particular self-esteem, life satisfaction and optimism, are often correlated with a number of outcomes that attest to individual optimal functioning and feeling good, such as health, job success, and interpersonal positive relationships (Lyubomirsky, King, & Diener 2005; Psyzczynski, Greenberg, Solomon, Arnt, & Schimel, 2004; Scheier & Carver, 2001).

All three constructs correspond to enduring knowledge structures about oneself and the world that significantly affect one's feelings and actions, shape the present and predispose to future experiences. Life satisfaction refers to one's overall evaluation of different activities and relationships that make one's own life worth of living (Diener, 1984). This overall judgment summarizes the degree of gratification one ultimately draws from the multiple activities and relationships that have marked her/his life. Self-esteem refers to one's global self-regard and to the degree of acceptance of herself/himself (Harter, 1999). This overall judgment reflects the manifold person/situation transactions that mark one's course of life, as people draw recognition from what they accomplish with others over the course of time and across diverse life contingencies. Although one should not underestimate the costly pursuit of selfesteem under severe contingencies (Crocker & Park, 2004) or the risky consequences of an exaggerated opinion of oneself (Baumeister, Campbell, Krueger, & Vohs, 2003), one cannot doubt about the beneficial effects of self-esteem along the entire life-span and in various life domains (Du Bois & Tevendale, 1999; Emler, 2001). People with high levels of self-esteem adopt more efficacious strategies in pursuing their goals, are less prone to give up in front of obstacles and adversities, feel more control over life events, are at lower risk for anxiety and depressive symptoms and have better health outcomes (Baumeister, 1993; Greenberg, et al. 1992; Kernis, 2003). Optimism refers to a view about future personal and social events in which good things will be plentiful and bad things

*corresponding author: GV Caprara; email: gianvittorio.caprara@uniroma1.it



Gian Vittorio CapraraProfessor of Personality Psychology
Dean of the 2nd Faculty of Psychology
"Sapienza" University of Rome, Italy

scarce (Carver & Scheier, 2002). The beneficial effects of this view have been largely documented in various settings and life circumstances. In particular, optimism has been found positively correlated with physical health, effective coping strategies, successful recovery from diseases, and longevity (Maruta, Colligan, Malinchoc, & Offord, 2000; Scheier & Carver, 1985, 2001; Segerstrom, Taylor, Kemeny, & Fahey, 1998).

The high degree of inter-correlation between life satisfaction, self esteem and optimism lead to focus on what they have in common and ultimately to hypothesize that they rest upon a common latent factor, namely a common mode of viewing at the world and facing reality that affects the ways people construe their experiences and predispose to action (Caprara, Delle Fratte, & Steca, 2002; Caprara, Steca Alessandri, Abela, & McWhinnie, 2009).

What is common to Self-esteem, Life Satisfaction, and Optimism

In earlier studies several thousand subjects, equally distributed by sex and age between 20 and 80, filled out a questionnaire including items to assess life satisfaction, self esteem, and optimism (Alessandri, 2008; Caprara, Alessandri, Tisak, & Steca, 2009). Results from these studies, demonstrated that life satisfaction, self-esteem, and optimism, were positively and strongly correlated to each other. Moreover, in confirmatory factor analyses life satisfaction, self esteem and optimism were modeled as indicators of a common latent factor and



Positive orientation: Turning potentials into optimal functioning

showed high and statistically significant positive loadings on the common factor (Caprara, Alessandri, Tisak, & Steca, 2009). Likewise the explained variances of the three indicators were uniformly high, and fit indices attested to a good match between the conceptual model and the observed data (Alessandri, 2008; Caprara, Alessandri, Tisak & Steca, 2009; Caprara, Delle Fratte & Steca, 2002). Subsequent studies attested to the generalizability of these findings across linguistic and cultural contexts, in Japan, Germany, Spain and Canada (Caprara, Alessandri, Gunzenhauser, Peirò, Trommsdorff, & Yamaguchi 2009; Caprara, Steca Alessandri, Abela, & McWhinnie, 2009).

Stability and predictive value of Positive Orientation

Longitudinal findings attest to the high stability of positive orientation during the course of adolescence (Alessandri, 2008; Caprara, Alessandri, Tisak, & Steca, 2009). Furthermore, positive orientation was a strong predictor of measures tapping depression, positive and negative affectivity, quality of friendship and health, as well as others indicators of individual optimal functioning at school and at work (Alessandri, 2008; Caprara Alessandri, Tisak, & Steca, 2009), over and above the unique and summative power of self-esteem, life satisfaction and optimism.

The genetic of Positive Orientation

A twin study has examined together self-esteem, life satisfaction, and optimism, with the aim to unravel their common genetic and environmental architecture (Caprara, Fagnani, Alessandri, Steca, Gigantesco, et al. 2009). Multivariate genetic analyses revealed that a model assuming genetic and unshared environmental influences as partly common to self-esteem, life satisfaction, and optimism, and partly specific to each trait, provided a clear portrait of the genetic architecture of positive orientation. Heritability (defined as the proportion of total variance in a trait due to genetic variance) for the three first order component of positive orientation was: 73% for self-esteem, 59% for life satisfaction, and 28% for optimism. Moreover, the genetic factors common to the three variables accounted for at least three-quarters of the heritability of each of them. Environmental effects explained an important part (40%) of the variance of optimism, but showed a weaker impact on the variance of self-esteem (5%) and life satisfaction (8%). For each trait, a sizeable amount of variance (22% for self-esteem, 33% for life satisfaction, 32% for optimism) was accounted for by environmental factors that are specific to the trait. Shared genetic factors were responsible for large components of phenotypic correlations. Genetic correlation (that measures the extent to which two traits are affected by the same genes) was estimated at .80 for self-esteem and life satisfaction, .83 for self-esteem and optimism, and .87 for life satisfaction and optimism.

Turning potentials into optimal functioning: challenges and future directions of research

The above findings converge in pointing to positive orientation as a basic pre-disposition that may account for individuals' adjustment and achievements to a considerable extent. Whereas one may wonder whether any change is possible, interventions designed to nurture and to strengthen a positive view of oneself, life and the future, represent a major challenge for researchers, clinicians and health psychologists. Even though genes may determine our average set-point for positive orientation, they are probably not responsible for our position within our personal range of variation at any particular time. The influential role of unique experiences deserves particular attention in order to identify the strategies more suitable to promote individual flourishing.

In this regard previous findings point to the contributions of self-efficacy beliefs to positive orientation within the frame of social cognitive theory that places self efficacy beliefs at the core of human agency and provides direction to target properly the processes and mechanisms that enable people to exert control over the course of their life and to contribute actively to their happiness (Bandura, 1997; Caprara, 2002).

In particular earlier findings have corroborated a conceptual model in which one's perceived self-efficacy in managing affect, influences one's perceived efficacy in managing interpersonal relationships and both in concert contribute to positive orientation (Caprara & Steca, 2005; 2006ab). Recent findings highlight the contribution of positive orientation to perceived efficacy and further clarify the contribution of perceived efficacy to positive orientation over time. In particular perceived emotional efficacy and social efficacy contribute to lower order components of later positive orientation, namely self-esteem and life satisfaction, over and beyond the high stability of positive orientation across time.

These results, although preliminary, appear particularly encouraging as they show that self-efficacy in dealing with affect and social relations may significantly contribute to strengthen positive orientation. In this regard, social cognitive theory attest to mastery experiences as effective means to promote self efficacy beliefs and provide directions to design and implement proper interventions to enable people to deal effectively with affect regulation and interpersonal relations.

Positive orientation: Turning potentials into optimal functioning

Conclusion

The interest in the positive features of individual functioning has gained greater attention over the last decades in accordance with the theoretical and empirical growth of the positive psychology movement (Seligman & Csikszentmihalyi, 2000).

The above program of research points to human strengths and aims to disclose new ways to promote human potentials. Positive orientation has been the name given to what life satisfaction, self esteem and optimism share in common, likely a pervasive mode of facing reality, reflecting upon experience, framing events and processing personal and interpersonal experiences along time and across life circumstances. The studies summarized above attest to positive orientation as an important pre-disposition that may exert a great influence in colouring individuals' view of life and in seizing their potentials. Recent findings attest to the pivotal role that self-efficacy beliefs in the domain of affect regulation and interpersonal relations, may play towards promoting individuals' positive orientation.

References

- Alessandri, G. (2008). An empirical test of the theory of positivity. Results from cross sectional, longitudinal and genetic data. Unpublished Ph. D. Dissertation, "Sapienza", University of Rome, Italy.
- Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman.
- Baumeister, R. F. (1993) (Ed.). Self-esteem: The puzzle of low self-regard. New York: Plenum.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyle? *Psychological Science in the Public Interest, 4*, 1-44.
- Caprara, G. V. (2002). Personality psychology: Filling the gap between basic processes and molar functioning. In C. von Hofsten & L. Bakman (Eds.), Psychology at the turn of the Millennium: Volume 2. Social, developmental and clinical perspectives (pp. 201-224). Hove, East Sussex UK: Psychology Press.
- Caprara, G. V., Alessandri, G., Gunzenhauser, C., Peirò, J. M., Trommsdorff, G. & Yamaguchi, S. (2009). Cross cultural findings attesting to what is in common to self-esteem, life satisfaction and optimism. Preliminary Research Report. "Sapienza", University of Rome.
- Caprara, G. V., Alessandri, G., Tisak, J., & Steca, P. (2009). Assessing positive orientation. *Submitted manuscript*.
- Caprara, G.V., Delle Fratte, A., & Steca, P. (2002). Determinanti personali del benessere in adolescenza: Indicatori e predittori ("Personal determinants of adolescents' well-being: indicators and predictors"). Psicologia Clinica dello Sviluppo, 2, 203-223.
- Caprara, G.V., Fagnani, C., Alessandri, G., Steca, P., Gigantesco, A., Cavalli-Sforza, L., & Stazi, M. A. (2009). Human Optimal Functioning. The Genetics of Positive Orientation towards Self, Life, and the Future. Behaviour Genetics, DOI: 10.1007/s10519-009-9267-y.
- Caprara, G.V. & Steca, P. (2005). Affective and social self-regulatory efficacy beliefs as determinants of positive thinking and happiness. *European Psychologist*, *4*, 275-286.
- Caprara, G.V. & Steca, P. (2006a). The contribution of self-regulatory efficacy beliefs in managing affect and family relationships to positive thinking and hedonic balance. *Journal of Social and Clinical Psychology*, 25, 601-625.
- Caprara, G.V. & Steca, P. (2006b). Affective and interpersonal self-

- regulatory efficacy beliefs as determinants of subjective well-being. In A. Delle Fave (Ed.), *Dimensions of well-being. Research and intervention*. Milano: Franco Angeli.
- Caprara, G.V., Steca P., Alessandri, G., Abela, J. R. J., & McWhinnie, C. M. (2009). Positive Orientation: Explorations on What is Common to Life Satisfaction, Self-Esteem, and Optimism. *Submitted manuscript*.
- Carver, C. S. & Scheier, M. F. (2002). Optimism. In C. R. Snyder & J. L. Lopez (Eds.), *Handbook of positive psychology* (pp. 231-243). New York: Oxford University Press.
- Crocker, J. & Park, L. E. (2004). The costly pursuit of self-esteem. *Psychological Bulletin*, *130*, 392-414.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542-575.
- Diener, E. & Suh, E.M. (2000). Culture and subjective well-being. Cambridge, MA: The MIT Press.
- DuBois, D. L. & Tevendale, H. D. (1999). Self-esteem in childhood and adolescence: Vaccine or epiphenomenon? Applied and Preventive Psychology, 8, 103-117.
- Emler, N. (2001). Self-esteem: the costs and consequences of low self-worth. York, England: York.
- Greenberg, J., Solomon, S., Pyszczynski, T., Rosenblatt, A., Burling, J., Lyon, D., Simon, L., & Pinel, E. (1992). Why do people need self-esteem? Converging evidence that selfesteem serves an anxiety-buffering function. *Journal of Personality and Social Psychology*, 63, 913-922.
- Harter, S. (1999). The construction of the self: A developmental perspective. New York: Guilford.
- Kanheman, D., Diener, E., & Schwarz, N. (Eds.) (1999). Well-being: the foundations of hedonic psychology. New York: Russell Sage.
- Kernis, M. H. (2003). Toward a conceptualization of optimal self-esteem. *Psychological Inquiry*, 14, 1-26.
- Lyubomirsky, S., King, L., & Diener, E. (2005). The Benefits of Frequent Positive Affect: Does Happiness Lead to Success? *Psychological Bulletin*, 131, 803-855.
- Maruta, T., Colligan, R. C., Malinchoc, M., & Offord, K. P. (2000). Optimists vs. pessimist: Survival rate medical patients over a 30-year period. *Mayo Clinic Proceedings*, 75, 140-143.
- Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, J. (2004). Why do people need self-esteem? A theoretical and empirical review. *Psychological Bulletin*, 130, 435-468.
- Scheier, M. F. & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*, *4*, 219-247.
- Scheier, M. F. & Carver, C. S. (2001). Adapting to cancer: The importance of hope and purpose. In A. Baum & B. L. Andersen (Eds.), *Psychosocial interventions for cancer* (pp. 15-36). Washington, DC: American Psychological Association.
- Segerstrom, S. C., Taylor, S. E., Kemeny, M. E., & Fahey, J. L. (1998). Optimism is associated with mood, coping, and immune change in response to stress. *Journal of Personality and Social Psychology*, 74, 1646-1655.
- Seligman, M. E. P. & Csikszentmihalyi, M. (2000). Positive psychology. American Psychologist, 55, 5-14.



keynote article

Are most positive findings in health psychology false.... or at least somewhat exaggerated?

James C. Coyne*1, 2

- ¹ University of Pennsylvania School of Medicine, USA
- ² University of Groningen, the Netherlands

Health psychology has expanding opportunities to influence public health policy and promote patientoriented health care. Health psychologists are in a position to document the role of potentially modifiable behavior in determining biomedical outcomes, and, beyond this, to advocate that improvements in quality of life and the avoidance of unnecessary pain and distress, not just biomedical outcomes, are important factors in evaluating health care. Health psychology research commands increasingly more resources, even if not all that we desire. Yet, this increased influence and these new resources bring new responsibility to be evidence based in the claims made to the public, including clinicians, health policy makers, and health care consumers. Can we trust the health psychology literature to provide this evidence?

Ioannidis (2005a) provocatively declared that "It can be proven that most claimed research findings are false" (e124). Although the title of a later paper, "Why most discovered true associations are inflated" (Ioannidis, 2008) might seem to indicate a retreat from 'false' to merely 'inflated', the later paper actually presents a cogent defense of the claims in the earlier paper.

Ioannidis (2008) starts by pointing to the accepted criterion for a "discovery" is a statistical test reaching a p<05. level of significance. This fixation on statistical significance, of course, ignores the many nonsignificant results that will not get published, particularly when studies claiming discoveries were underpowered to begin with. Consistent with this, my colleagues and I were surprised to discover when that we scrutinized published meta analyses of health psychology interventions, a considerable number of the studies entered into these analyses were so underpowered that they had only a probability of .20 or less of detecting a moderate effect (e.g., $\sigma = .50$ based on Cohen, 1992) when it was indeed present (Coyne, Thombs, & Hagedoorn, under review). Yet, we found that a substantially higher percentage of the studies included in the meta analyses reported significant effects, even thought the overall estimated effects were well below σ = .50 Based on this, it is reasonable to assume that there must be a pervasive confirmatory bias in the

*Corresponding Author: James Coyne; email: jcoynester@gmail.com



James C. Coyne
Professor of Psychology
Department of Psychiatry
University of Pennsylvania, USA

Director, Behavioral Oncology Program Abramson Cancer Center, USA

Adjunct Professor of Health Psychology Department of Health Sciences University Medical Center Groningen University of Groningen, the Netherlands

available published studies. Indeed, Ioannidis (2005b) found that across fields, 25% of the most cited clinical trials and 5/6 of the most cited epidemiological findings were exaggerated or simply false.

How do health psychology intervention studies fare? Preparing for the Society of Behavioral Medicine's "Great Debate" concerning the efficacy of psychosocial interventions for cancer patients, my colleagues and I discovered that many of the claims by authors that their studies demonstrated that psychosocial interventions reduced distress among cancer patients were also exaggerated or simply false (Coyne, Lepore, & Palmer, 2006). We found that most studies that we reviewed did not restrict recruitment to cancer patients who were sufficiently distressed to register a clinically significant reduction in distress. Given that, claims of benefits had to depend on selective reporting of positive results picked from multiple outcomes, emphasis on unplanned subgroup analysis where main analyses did not reveal an effect, and inappropriate use of ▶

Are most positive findings in health psychology false.... or at least somewhat exaggerated?

multivariate analysis with too many control variables when main analysis revealed no effect, a practice known to lead to a high rate of spurious results that are not likely to generalize to other samples (Babyak, 2004). Of particular concern, we also found that we could not depend on what was reported in the main outcome papers for particular trials to determine how many or what outcome measures had actually been assessed, what subgroup analyses had been conducted, and what control variables had been considered for multivariate analysis. Comparisons among the papers from the same trial often revealed evidence of phantom outcome measures that appeared to have been banished, perhaps because they contradicted claims that interventions were efficacious, of subgroup analyses had been conducted but suppressed for similar reasons, and of phantom degrees of freedom had been consumed in analyses to pick the control variables that portrayed the efficacy of interventions in the most favorable light. In some cases, it was difficult to determine whether papers came from the same trial!

Yet, it is well known that confirmatory bias is pervasive in the reporting of clinical trials. Ioannidis (2008) notes how selective reporting of analyses and outcomes contributes to inflated estimates of the efficacy of interventions across fields. Is health psychology really any worse than biomedicine? A number of factors suggest that this might be the case. First, there has been much less discussion and documentation of the problem of confirmatory bias in health psychology and much less embracing of what are at least partial solutions. Psychology was slow to adopt empirically based reporting standards, particularly those delineated in CONSORT (Altman, et al., 2001), and in the meantime studies with incomplete reporting of flawed methods and analyses have accumulated (Cook, Palmer, Hoffman, & Coyne, 2007) and continue to dominate the literature (Coyne et al., submitted). Second, health psychology remains a lot more insecure than biomedicine in its sense of legitimacy. A large scale trial that produces null results is disappointing in biomedicine, but it does not threaten the legitimacy of biomedicine in quite the same way that it would health psychology. Indeed, I suspect that the reason why many health psychologists have clung to the claim that psychotherapy extends the life of cancer patients in the utter absence of credible evidence (Coyne, Stefanek, & Palmer, 2007) was that they believed that the credibility of the field would more be generally undermined if the claim about this hard biomedical outcome were shown to be false.

However, we need to be cognizant of the risks of holding onto claims when it becomes apparent that they are unrealistic. Science is self-correcting, even if frustratingly slow, and unrealistic claims will ultimately be discovered to be such. The first risk in clinging to unsustainable claims is that health psychology will be seen as having weak standards of evidence and a field prone to exaggerated claims. A lost credibility will be difficult to restore. The second risk is that when we are slow to abandon unrealistic claims. other claims that were valid all along come to be seen as an undignified retreat. Thus, psychological interventions can reduce distress and improve quality of life in cancer patients, particularly when the interventions are provided to patients with significant clinical distress (as opposed to all patients, even those who are not distressed). This outcome is important in its own right, but will likely be seen less so if we cling much longer to untenable claims that these interventions can or should extend life. Oncologists already skeptical about the value of psychosocial interventions will likely feel justified in observing that health psychologists unwarranted claims that they could extend life and now they concede that psychosocial interventions *merely* reduce distress and improve quality of life.

Pressures to claim positive results occur all along the continuum -- from investigators' reporting, and interpretation of their data to reviewers' evaluation to editors' decisions whether to accept a manuscript to immediate post-publication publicity and, finally, to citations of results in secondary sources such as reviews and practice guidelines. Recently, reports of two clinical trials evaluating the effects of psychological intervention on the survival of cancer patients appeared in print. The first study (Boesen et al., 2007) reported a lack of an effect, despite being well designed and adequately powered. The second (Andersen et al, 2008) claimed that cancer patients receiving psychosocial intervention had fewer recurrences and overall greater survival. The first study received almost no attention in the media, the second received extensive world wide coverage of its claims despite depending on an inappropriately conducted multivariate analysis. As in the first trial, simple bivariate analyses did not reveal that patients receiving the intervention lived longer. We would like to believe that psychosocial intervention can improve both the quantity and the quality of life, but based on the uniform consistency of the results of past studies (Coyne, Thombs, Stefanek, & Palmer, 2009), we should be skeptical on renewed claims of positive effects of psychosocial intervention on survival of cancer patients. As Ioannidis (2005a) clearly demonstrates, when pre-study probabilities of a positive result are low, then we should expect that reports of positive findings have a high probability of being false or exaggerated.



Are most positive findings in health psychology false.... or at least somewhat exaggerated?

In summary, we need a fundamental shift in the culture of reporting and publishing of studies, towards more frank and full disclosure of the results. Carrying out well designed trials and honestly reporting their results should become more valued than tortured analyses of data and selective reporting to guarantee positive results. Adherence to CONSORT as a condition of publishing reports of trials is an important first step, but CONSORT only increases the transparency in the reporting of the details of how studies were done, but does not necessarily the quality of the studies or the accuracy with which results are represented. Requiring that clinical trials be registered and that the designs be available on the Web prior to the collection of any data are collected is a practice worth borrowing from the biomedical journals. Being able to cite a prior web-based registered design, including designation of primary outcomes should become a condition for publishing in health psychology journals, just as it has become for the best of biomedical journals since 2004 (DeAngelis et al., 2004). Ioannidis (2008) points out that the success of such measures in eliminating bias in the biomedical journals has been far from complete, but that should not discourage health psychology from adopting them to reduce bias in its literature.

Beyond these recommendations, editors need to encourage the publishing of well designed trials that nonetheless yield null results. Moreover, if negative results are not considered publishable because a study only had 15 or so patients provided with the intervention, then positive results from such an underpowered study should not be considered publishable either. Furthermore, peer review is fallible and editors need to encourage the corrective process through letters to the editors. They should encourage more letters by removing overly strict limitations on the number of words allowed or time frames in which they must be submitted. Editors can also ensure that critical responses are acknowledged where the original studies are downloaded from electronic journal websites and that they are accessible with search engines.

The credibility of the health psychology literature is worth taking such steps to preserve. Patients, clinicians, and policy makers are depending on our delivery of accurate, helpful information that improves health outcomes.

References

Altman, D. G., Schulz, K. F., Moher, D., Egger, M., Davidoff, F., Elbourne, D. et al. (2001). The revised CONSORT statement for reporting randomized trials: Explanation and elaboration. *Annals of Internal Medicine*, *134*, 663-694.

Andersen, B. L., Yang, H. C., Farrar, W. B., Golden-Kreutz, D.M., Emery, C. F., Thornton, L. M., et al. (2008). Psychologic Intervention Improves Survival for Breast Cancer Patients A Randomized Clinical Trial. Cancer, 113(12), 3450-3458...

Boesen, E. H., Boesen, S. H., Frederiksen, K., Ross, L., Dahlstrom, K., Schmidt, G., et al. (2007). Survival after a psychoeducational intervention for patients with cutaneous malignant melanoma: A replication study. *Journal of Clinical Oncology*, 25(36), 5698-5703.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.

Cook, J.M., Palmer, S., Hoffman, K., & Coyne, J.C.(2007). "Evaluation of clinical trials appearing in Journal of Consulting and Clinical Psychology: CONSORT and beyond." *The Scientific Review of Mental Health Practice* 5, 69-80, 2007.

Coyne, J.C., Lepore, S. J., & Palmer, S. C. (2006). Efficacy of psychosocial interventions in cancer care: Evidence is weaker than it first looks. *Annals of Behavioral Medicine*, *32*, 104-110.

Coyne, J.C., Stefanek, M., & Palmer, S. C. (2007). Psychotherapy and survival in cancer: The conflict between hope and evidence. *Psychological Bulletin*, *133*(3), 367-394.

Coyne, J.C., Thombs, B., & Hagedoorn, M. (Manuscript Under Review). Ain't Necessarily So: Review and Critique of Recent Meta-Analyses of Behavioral Medicine Interventions in *Health Psychology*.

Coyne, J.C., Thombs, B. D., Stefanek, M., & Palmer, S. C. (2009). Time to Let Go of the Illusion That Psychotherapy Extends the Survival of Cancer Patients: Reply to Kraemer, Kuchler, and Spiegel (2009). *Psychological Bulletin*, *135*(2), 179-182.

DeAngelis, C. D., Drazen, J. M., Frizelle, F. A., Haug, C., Hoey, J., Horton, R., et al. (2004). Clinical trial registration - A statement from the International Committee of Medical Journal Editors. *JAMA-Journal of the American Medical Association*, 292(11), 1363-1364.

Ioannidis, J. P. A. (2005a). Why most published research findings are false. *Plos Medicine*, 2(8), 696-701.

Ioannidis, J. P. A. (2005). Contradicted and initially stronger effects in highly cited clinical research. JAMA-Journal of the American Medical Association, 294(2), 218-228.

Ioannidis, J. P. A. (2008). Why most discovered true associations are inflated. *Epidemiology*, 19(5), 640-648.

Acknowledgements

Special thanks to Brett Thombs, Mariet Hagedoorn, Stephen C. Palmer, Howard Leventhal and Michael Stefanek. Over time, discussions with them contributed to the ideas presented in this article and their support was important in encouraging its writing.

conference announcements

STAR 2010: 31st World Conference on Stress & Anxiety Research. 4-Aug-10 to 06-Aug-10. Galway, Ireland.

UK Society of Behavioural Medicine 5th Scientific Meeting. 14-Dec-09 to 15-Dec-09. Southampton, England.

11th International Congress of Behavioral Medicine. 4-Aug-10 to 4-Aug-10. Washington DC, USA.

keynote article

Is obesity an eating disorder?

Jane Wardle*1

¹ Department of Epidemiology and Public Health, University College London, UK

The relationship between obesity and eating disorders has always attracted interest. In both conditions, weight, eating and body image are central features, and in both conditions societal and cultural influences play a major role. The two disorders have been linked with one another in many different aetiological models. Historically, obesity considered to be a psychiatric disorder characterised by emotionally-driven abnormalities of eating behaviour (Kaplan & Kaplan, 1957). More recently, there have been suggestions that binge eating disorder plays a significant aetiological role in obesity (Hasler et al., 2004). Coming from an analysis of socio-cultural influences, societal idealisation of thinness has been blamed for body dissatisfaction which in turn has been hypothesised to drive efforts at weight control that are either too effective (resulting in anorexia nervosa and bulimia nervosa) or counterproductive (resulting in weight gain and obesity) (Ruderman & Wilson, 1979). From a similar perspective, obesity prevention programmes have been challenged as potentially increasing the risk of development of eating disorders (Carter & Bulik, 2008).

This paper presents a brief review of the phenomenology and aetiology of obesity to evaluate whether it is appropriate to identify it as a psychiatric disorder in which problems of eating behaviour and body image are primary features.

Eating disorders

DSM-IV recognises three eating diagnoses: anorexia nervosa (AN), bulimia nervosa (BN), and eating disorder not otherwise specified (EDNOS) which currently includes binge eating disorder (BED) although it may ultimately become a separate diagnostic category. As indicated by the name, abnormalities of eating behaviour are common to all three (restriction, binge eating, purging and other compensatory behaviours). Disturbances of body image including over-valuation of weight and denial of seriousness of low body weight (in AN), are also critical diagnostic features of AN and BN. Severe underweight is only diagnostic for AN; body weight may be normal in BN and even high in BED. Amenorrhea is also only diagnostic for AN, where it is most likely part of a generalised endocrine disturbance caused by low body weight.

*Corresponding Author: Jane Wardle; email: j.wardle@ucl.ac.uk



Jane Wardle
Professor of Psychology
Director, Health Behaviour Research Centre
Department of Epidemiology and Public Health
University College London, UK

The age of onset of eating disorders is usually in the teens and early twenties, with apparent cases of late-onset probably representing delayed diagnosis (Scholtz, Hill, & Lacey, 2009). Women have strikingly higher rates of AN and BN than men; although BED shows little evidence for sex differences (Decaluwe, Braet, & Fairburn, 2003). AN used to be thought to be more common in higher socioeconomic status (SES) groups, but current evidence indicates relatively little association with SES (Gard & Freeman, 1996); also true for BN and EDNOS. The prevalence of AN increased rapidly prior to the 1980s, but has been fairly stable since then, while BN, which was only identified in the late 1970s, showed increases over a longer period, though rates have stabilised (Currin, Schmidt, Treasure, & Jick, 2005).

In terms of aetiology, societal idealisation of thin body sizes for women, which began with the popularity of the English model Twiggy in the 1960s and has been perpetuated in the vogue for 'heroin-chic' and the 'size zero' model, is still accepted as playing a major role. However, the growing body of evidence that both genetic and early life factors are important has led to a more nuanced model in which individual susceptibility interacts with social pressures and life stress to determine risk (Mazzeo & Bulik, 2009).

Obesity

Obesity is defined entirely by weight (or more accurately, body fat); usually indexed by weight/height ratio (BMI) or waist circumference. High levels of



Is obesity an eating disorder?

body fat are necessary and sufficient for a diagnosis of obesity; which makes it inconsistent with a diagnosis of AN or BN, although not ruled out in EDNOS. There are established physiological correlates of obesity, including the elements of metabolic syndrome (e.g. insulin resistance, abdominal adiposity). Amenorrhea and infertility are also common in severely obese women. None of these are essential to the diagnosis of obesity, although they may be influential in determining priority for treatment.

Obesity rates were fairly stable in most developed countries until the early 1980s, but then started to rise; going from around 7% in 1984 to a current prevalence of 24% in the UK (Health Survey for England, 2007). Rates of obesity are similar in men and women, but overweight is more common in men. There is a weak negative association between obesity prevalence and SES in men, but a much stronger association in women, and high SES women are the only group in the UK to have shown no increase in obesity rates in the past 10 years. Age of onset is becoming earlier, with obesity emerging in the pre-school years and Type 2 diabetes (a comorbidity of obesity) appearing in paediatric populations for the first time (Jackson-Leach & Lobstein, 2006; Lobstein & Jackson-Leach, 2006). However, adiposity also increases throughout adult life, falling only in old age (Health Survey for England, 2007: http://www.ic.nhs.uk/webfiles/publications/ HSE07/HSE07%20Summary.pdf).

In terms of aetiology, there are a small number of single gene disorders with obesity as a primary feature (e.g. congenital leptin deficiency); but these are rare (Faroogi & O'Rahilly, 2007). Most cases are so-called 'common obesity'; representing the upper part of the normal distribution of weight within the population. But even in common obesity there is strong evidence for genetic factors (Wardle, Carnell, Haworth, & Plomin, 2008). Changes in the food supply and in food consumption norms, together with reduction in the need for physical activity in daily life, have almost certainly provided the engine for increases in obesity over the past 25 years (Hill, Wyatt, Reed, & Peters, 2003), with genetic characteristics determining susceptibility to these environmental exposures (Friedman, 2009). A gene-environment interaction model gains support from evidence that the greatest gains in weight in recent years have been at the higher end of the weight distribution: thinner people are almost as thin as they ever were, but weights at the upper end of the weight distribution have increased greatly, with worryingly high increases in severe obesity (Wardle & Boniface, 2007).

Body image in obesity

Body image disturbance is not a diagnostic feature

of obesity, however, there has been speculation that unrealistically thin body shape ideals could play an important initiating role. The theory is that body dissatisfaction motivates attempts at weight control which are ultimately counterproductive because they disturb the appetite control system and increase the reward value of food. Essentially, this is the 'restraintas-cause' model (body dissatisfaction → restraint → overeating \rightarrow weight gain). The role of restraint in the aetiology of overeating has been an area of intensive psychological inquiry, although most of the literature has focused on women because they are the primary targets of the thin-ideal and eating disorders are a predominantly female problem. Restraint theory fits less comfortably in a context where both obesity and BED show little sign of sex differences.

The existing evidence does not support the idea that obese people either favour especially low body sizes or over-estimate their own body size. Most obese adults do not believe that they are obese and few obese adults either favour or seek extremely low body weights (Johnson, Cooke, Croker, & Wardle, 2008). Among parents, fewer than 20% of those with overweight or obese children identify their child's weight as too high (Carnell, Edwards, Croker, Boniface, & Wardle, 2005). Adolescents have been shown to be more likely to under-estimate than overestimate their body size, with under-estimation increasing with higher body weight and despite the dramatic increases in obesity over the past decade, there has been no increase in the numbers of adolescents who feel overweight (Standley, Sullivan, & Wardle, 2009). The proportion of adults who regard themselves as overweight has actually fallen (Johnson et al., 2008).

Studies examining perceptual and cognitive aspects of body image in obesity have not demonstrated the kinds of systematic distortions that characterise disordered eating populations (Williamson, Muller, Reas. & Thaw, 1999). Nonetheless, most obese people are dissatisfied with their body size and shape, with a linear association between BMI and body dissatisfaction in adolescents (unpublished data from the HABITS study). dissatisfaction can be a significant source of psychological distress in some obese people; but in most cases, body dissatisfaction does not have pervasive effects on self-esteem or mood (Wadden, Foster, Stunkard, & Linowitz, 1989; Wardle, Williamson, Johnson, & Edwards, 2006). Self-esteem is not notably lower in obese than normal-weight groups (Wardle, 2005), nor are depression rates increased except among severely obese adults (Cooke & Wardle, 2005). However, emotional distress may undermine efforts at weight control, either by

Is obesity an eating disorder?

depleting self-regulatory ability or because strategies for coping with distress include over-eating. We have shown in adolescents that body dissatisfaction is associated with a range of eating problems (including binge eating), but the effect is not mediated by restraint, which if anything is associated with fewer signs of eating pathology (Johnson & Wardle, 2005).

Eating behaviour in obesity *Binge eating*

Binge eating is the eating behaviour that has most often been implicated in obesity, although there is also evidence for a pattern of eating called 'night-eating syndrome' (Allison et al., 2006). Community studies show that binge eating rates are higher in obese than normal-weight adults, although still comparatively low (below 5%) (Smith, Marcus, Lewis, Fitzgibbon, & Schreiner, 1998). However, it appears that there are important differences between obese patients with and without BED. BED is associated with a range of psychiatric comorbidities including depression, anxiety disorders and personality disorders, and a stronger family history of substance abuse (Yanovski, Nelson, Dubbert, & Spitzer, 1993). BED is also associated with poorer treatment outcomes independently of psychiatric co-morbidities (Pagoto et al., 2007).

Emotional eating

Over-eating in response to negative emotional states has long been identified in the clinical literature, although the scientific evidence for its role in the aetiology of obesity is less clear (Allison & Heshka, 1993). An early review suggested that emotional eating (EE) was highly prevalent among obese adults in treatment (Ganley, 1989), although community studies have not always found such strong effects. In clinical populations, EE may be specifically linked with other signs of emotional distress: in a sample of severely obese adults, a quarter reported no EE at all while half had maximum scores on the EE scale of the Three Factor Eating Questionnaire (Karlsson, Persson, Sjostrom, & Sullivan, 2000). The high EE group were also more depressed and anxious, making it difficult to be certain whether they were always prone to emotional eating, or their current emotional state accentuated the problem.

External Eating

Two eating behaviour traits were strongly identified with obesity in a series of elegant laboratory studies carried out by Schachter and colleagues: responsiveness to external food cues and responsiveness to internal satiety cues (Schachter, 1968). These two aspects of eating behaviour are echoed in the dual-process model of food intake regulation (Berridge, 2009) which distinguishes homeostatic processes (related to biological need and

signalled by the state of the internal milieu), and hedonic processes (related to the perceived reward value of food).

Recent work using psychometric measures of external responsiveness in adults has produced mixed results with some studies finding higher external eating in the obese but others finding few differences (Cappelleri et al., 2009). However, the picture appears Jansen et al (2003) used an clearer in children. experimental protocol to show that obese children ate more than normal-weight controls following food cue exposure. We have also found that heavier children are more likely to overeat in response to exposure to food cues (Hill et al., 2008), and that parents of heavier children identify them as more responsive to food (Carnell & Wardle, 2008; Webber, Hill, Saxton, Van Jaarsveld, & Wardle, 2009). Adult-child differences in these results may be due to adults exerting more deliberate control.

A closely-related construct is the reinforcing value of food. Epstein has showed that obese children and adults will do relatively more 'work' for food than non-food rewards compared with normal-weight adults (Epstein, Leddy, Temple, & Faith, 2007), and we recently showed that the reinforcing value of food at age 7 predicted weight gain prospectively over a year (Hill, Saxton, Webber, Blundell, & Wardle, 2009). We also found that speed of eating – potentially an indicator of the reward value of food – was higher in heavier children (Llewellyn, van Jaarsveld, Boniface, Carnell, & Wardle, 2008).

Satiety responsiveness

Schachter's other signature obesogenic behaviour was reduced responsiveness to internal food cues. Since then, a number of studies have shown that obese children are less responsive to preloads (i.e. downregulate meal consumption less than normal weight children if they had been given a pre-meal) (Birch & Fisher, 1998); and we have replicated this in the school setting, showing that heavier children are less responsive to variation in the caloric content of a midmorning snack. Our recent work has taken this approach further by using a psychometric measure (completed by parents) (Wardle, Guthrie, Sanderson, & Rapoport, 2001) which makes it possible to assess very large samples. These data show that satiety responsiveness is strongly associated with weight in children, and is also heritable (Carnell, Haworth, Plomin, & Wardle, 2008) and associated with the weight-related gene, FTO (Wardle et al., 2008).

Is it useful to call obesity an eating disorder?

In terms of meeting any of the criteria for currently recognised eating disorders, this is not the case for ▶



Is obesity an eating disorder?

the majority of the obese population. Most obese people experience some body dissatisfaction, but this is not more than might be expected given their deviations from ideals for body weight, and they do not consistently show any sign of disturbances of body image. Their eating behaviour is not highly restrictive. Binge eating is relatively uncommon except in the small sub-set that meet the diagnostic criteria for BED, and as such, could be defined as having an eating disorder. Comparing the epidemiology of obesity and eating disorders also gives little evidence for common processes: sex distributions, SES distributions, age of onset, and trends over time, are all different.

So do obese people eat 'normally'? Excluding the subset that meet diagnostic criteria for BED, most obese people show no sign of dramatic abnormalities in eating behaviour. However the studies described above link obesity with more subtle variations in appetite. Lower responsiveness to internal satiety cues and higher responsiveness to external food cues are heritable characteristics that are likely to confer vulnerability to over-eating in environmental conditions where the food supply is palatable and accessible (Carnell & Wardle, 2008; O'Rahilly & Farooqi, 2008). But these are not characteristics that are specific to obesity; rather they are traits expressed to a greater or lesser extent across the weight distribution.

We see no case for defining the majority of obese people as eating-disordered and little benefit in 'pathologising' an increasingly large proportion of the population. Nonetheless, sharing knowledge and expertise between the fields of obesity and eating disorders is likely to benefit both (Neumark-Sztainer, 2009), and a better understanding of the role of appetitive processes in obesity risk should offer new strategies for prevention and treatment.

References

- Allison, D. B., & Heshka, S. (1993). Emotion and eating in obesity? A critical analysis. *Int J Eat Disord*, 13, 289-295.
- Allison, K. C., Wadden, T. A., Sarwer, D. B., Fabricatore, A. N., Crerand, C. E., Gibbons, L. M., et al. (2006). Night eating syndrome and binge eating disorder among persons seeking bariatric surgery: prevalence and related features. Surg Obes Relat Dis, 2, 153-158.
- Berridge, K. C. (2009). 'Liking' and 'wanting' food rewards: Brain substrates and roles in eating disorders. *Physiol Behav*,14, 9, 537-550
- Birch, L. L., & Fisher, J. O. (1998). Development of eating behaviors among children and adolescents. *Pediatrics*, 101, 539-549.
- Cappelleri, J. C., Bushmakin, A. G., Gerber, R. A., Leidy, N. K., Sexton, C. C., Lowe, M. R., et al. (2009). Psychometric analysis of the Three-Factor Eating Questionnaire -R21: results from a large diverse sample of obese and non-obese participants. *Int J Obes (Lond)*, *33*, 611-620.
- Carnell, S., Edwards, C., Croker, H., Boniface, D., & Wardle, J. (2005). Parental perceptions of overweight in 3-5 y olds. *Int J*

- Obes (Lond), 29, 353-355.
- Carnell, S., Haworth, C. M. A., Plomin, R., & Wardle, J. (2008). Genetic influence on appetite in children. *International Journal of Obesity*, 32, 1468-1473.
- Carnell, S., & Wardle, J. (2008). Appetite and adiposity in children: Evidence for a behavioral susceptibility theory of obesity. *Am J Clin Nutr*, 88, 22-29.
- Carter, F. A., & Bulik, C. M. (2008). Childhood obesity prevention programs: how do they affect eating pathology and other psychological measures? *Psychosom Med*, 70, 363-371.
- Cooke, L., & Wardle, J. (2005). Depression and obesity in adults. In A. Steptoe (Ed.), *Depression and Physical Illness* (pp. 238-261). Cambridge: Cambridge University Press.
- Currin, L., Schmidt, U., Treasure, J., & Jick, H. (2005). Time trends in eating disorder incidence. Br J Psychiatry, 186, 132-135.
- Decaluwe, V., Braet, C., & Fairburn, C. G. (2003). Binge eating in obese children and adolescents. *Int J Eat Disord*, *33*, 78-84.
- Epstein, L. H., Leddy, J. J., Temple, J. L., & Faith, M. S. (2007). Food reinforcement and eating: a multilevel analysis. *Psychol Bull*, 133, 884-906.
- Farooqi, I. S., & O'Rahilly, S. (2007). Genetic factors in human obesity. *Obes Rev, 8 Suppl 1*, 37-40.
- Friedman, J. M. (2009). Obesity: Causes and control of excess body fat. *Nature*, 459, 340-342.
- Ganley, R. M. (1989). Emotions and eating in obesity: A review of the literature. *International Journal of Eating Disorders*, 13, 289-295.
- Gard, M. C., & Freeman, C. P. (1996). The dismantling of a myth: a review of eating disorders and socioeconomic status. *Int J Eat Disord*, 20, 1-12.
- Hasler, G., Pine, D. S., Gamma, A., Milos, G., Ajdacic, V., Eich, D., et al. (2004). The associations between psychopathology and being overweight: a 20-year prospective study. *Psychol Med.* 34, 1047-1057.
- Hill, C., Llewellyn, C. H., Saxton, J., Webber, L., Semmler, C., Carnell, S., et al. (2008). Adiposity and 'eating in the absence of hunger' in children. *Int J Obes (Lond)*, *32*, 1499-1505.
- Hill, C., Saxton, J., Webber, L., Blundell, J., & Wardle, J. (2009). The relative reinforcing value of food predicts weight gain in a longitudinal study of 7-10 year old children. Am J Clin Nutr, In press
- Hill, J. O., Wyatt, H. R., Reed, G. W., & Peters, J. C. (2003). Obesity and the environment: where do we go from here? *Science*, 299, 853-855.
- Jackson-Leach, R., & Lobstein, T. (2006). Estimated burden of paediatric obesity and co-morbidities in Europe. Part 1. The increase in the prevalence of child obesity in Europe is itself increasing. *Int J Pediatr Obes*, 1, 26-32.
- Jansen, A., Theunissen, N., Slechten, K., Nederkoorn, C., Boon, B., Mulkens, S., et al. (2003). Overweight children overeat after exposure to food cues. *Eat Behav*, 4, 197-209.
- Johnson, F., Cooke, L., Croker, H., & Wardle, J. (2008). Changing perceptions of weight in Great Britain: comparison of two population surveys. *BMJ*, *337*, a494.
- Johnson, F., & Wardle, J. (2005). Dietary restraint, body dissatisfaction and psychological distress: A Prospective Analysis. J Abnorm Psychol, 114, 119-225.
- Kaplan, H. I., & Kaplan, H. S. (1957). The psychosomatic concept of obesity. *J Nerv Ment Dis*, 125, 181-201.
- Karlsson, J., Persson, L. O., Sjostrom, L., & Sullivan, M. (2000). Psychometric properties and factor structure of the Three-Factor Eating Questionnaire (TFEQ) in obese men and women. Results from the Swedish Obese Subjects (SOS) study. *Int J Obes Relat Metab Disord*, 24, 1715-1725.
- Llewellyn, C. H., van Jaarsveld, C. H., Boniface, D., Carnell, S., & Wardle, J. (2008). Eating rate is a heritable phenotype related to weight in children. *Am J Clin Nutr*, 88, 1560-1566.

See page 61 for the remainder of the reference list

56

keynote article

Can our health behaviour models handle imagery-based processes and communications?

Linda D. Cameron*1

¹ Department of Psychology, University of Auckland, NZ

Health psychology researchers have devoted tremendous efforts to understanding the attitudes. beliefs and appraisals influencing health decisions, and to using theoretical models of these conceptual factors to develop and evaluate the persuasive effects of communications. For example, models such as the theory of planned behaviour and protection motivation theory focus on conceptual factors such as social norms, behavioural control, estimates of severity and likelihood of health threats, and self-efficacy. These constructs are typically assessed with text-based measures and, more often than not, interventions attempting to alter them rely primarily on text-based messages. From this research, we have learned a great deal about these abstract, conceptual factors and how individuals process and respond to linguistic and numeric information aimed at changing them. Yet research on concrete-experiential processes constructs, such as those involving imagery, has lagged behind

There are several potential reasons for this emphasis on abstract, conceptual processes as opposed to non-verbal, concrete-experiential processes. First, much of the research on health attitudes and behaviours has its foundations in early cognition research in which the focus was on rational decision-making processes. Second, experimental research on attitudes and behaviour evolved from a tradition of using text-based presumably on the basis communications in applied settings were predominantly text-based; and (b) text-based and numeric messages have a high degree of experimental precision, so that responses to variations of key words or numbers could be easily calculated and understood, and the messages could be replicated easily and with considerable accuracy in further research.

This emphasis on conceptual processes has grown increasingly divergent with ongoing trends in utilizing image-based modes of communications. With the rapid expansion of visual media and computer-based information using sophisticated graphics and imaging techniques, consumers are increasingly receiving health information in the form of pictures and images. How well do our current theories of health information processing and behaviour account for responses to



Linda CameronProfessor of Psychology
Deputy Head of Department
Department of Psychology (Tamaki Campus)
University of Auckland, New Zealand

these image-based communications, given their evolution from research focusing on conceptual processes?

The Common Sense Model (CSM) provides a theoretical framework for accounting for responses to imaged-based communications as it delineates the roles concrete-experiential processes and imagery contents of mental representations of health threats (Leventhal, Brissette, & Leventhal, Nevertheless, recent research guided by this model has focused primarily on the conceptual contents of mental by representations conceptually-focused using measures such as the IPQ-R (Moss-Morris, et al., 2002). Yet what are the mental images that are stored alongside these conceptual beliefs and appraisals? What are the reciprocal influences of concrete imagery and conceptual contents in terms of retention and accessibility? How do imagery contents influence motivations and behaviours—independently as well as in combination with conceptual contents?

How Images and Words are Processed Differently and Why it Matters

Research in perception and cognitive neuroscience indicates that written, auditory, and imagery-based information is processed differently and encoded in distinctive memory systems (Mayer, 2008; Paivio,

*Corresponding Author: Linda Cameron; email: l.cameron@auckland.ac.nz

36

Can our health behaviour models handle imagery-based processes and communications?

Walsh, & Bons, 1994; Stacy, Ames, & Knowlton, 2004). Information represented as images is processed more rapidly than linguistic information, and it is closely linked with affect and highly accessible to recall. All in all, evidence suggests that images can outperform words and numbers in terms of fostering learning, motivation and behaviour change (Cameron & Chan, 2008).

Evidence on the relative impact of images versus text-based information on health cognition and motivation exists within the domain of anti-smoking Experimental communications research. demonstrate that information about the consequences of cigarette smoking is more easily recalled and induces more intrusive thoughts when it is presented in image format (e.g., a picture of a blackened lung) than when it is presented in a verbal format (e.g., with the words, "smoking causes lung cancer"; McCaul, Mullens, Romanek, Erickson, & Gatheridge, 2007). Moreover, warning labels depicting such images have been found to be more effective than text-based warning labels in eliciting negative emotional reactions and attempts to quit smoking (Hammond, Fong, McDonald, Brown, & Cameron, 2003). Because images are more likely to stick in memory and intrude into consciousness, they may be more effective as cues to action in the long term.

The implications are clear: Images must be chosen with care. An inadvertently placed image in a health communication may overpower or counteract verbal statements that are carefully constructed to address risk, response efficacy, and other factors. Unfortunately, developers of health communications tend to select graphic images and pictures on the basis of intuition rather than theory and empirical evidence, and their independent influences are not systematically evaluated.

Techniques for Assessing Mental Imagery

Given that images in health communications are likely to be stored as mental images in representations of illness and illness risk, we need to know more about these "images in our heads" and how they influence health behaviours. Yet assessing mental imagery poses clear challenges.

One approach involves asking individuals to draw or artistically represent the images in their minds. Projective drawing and art techniques have a long history as research and therapeutic tools, and recent years have seen increases in their use within health psychology research. For example, applications of the Draw-An-Event Test have yielded new insights into the mental representations created by media messages about alcohol, and these techniques hold considerable

promise for assessing salient, non-verbal aspects of health-related media (Stacy, Ames, & Leigh, 2004). Recently, researchers have used an art "toolkit" containing pens, modelling clay, textured papers, and other materials for the purposes of exploring mental images of breast cancer held by breast cancer survivors (Harrow, Wells, Humphris, Taylor, & Williams, 2009). The qualitative findings indicated that women tended to differ in terms of whether their representation of cancer was creature-like (e.g., like a black snake or jellyfish, with tentacles that spread or bodies that grew) or substance-like (e.g., as hard lumps or inert matter). Women with creature-like images appeared to be relatively more distressed and have more intrusive thoughts.

Although these methods enable researchers to gather qualitative information about the imagery contents of representations, practical limitations curtail their utility in large-scale studies. Participants are often reluctant to engage in exercises requiring them to draw or artistically represent aspects of their bodies due to embarrassment about their artistic abilities, fears of others negatively evaluating their productions, the time and effort required, and difficulty capturing the images in their minds in their artwork. Similarly, coders can have difficulty interpreting the artistic representations—indeed, their interpretations may reflect their own views as much or more than those of the artist.

An alternative approach involves collecting verbal reports of mental images. For example, the Assessment of Illness Risk Representations (AIRR; Cameron, 2008) includes an imagery subscale in which respondents list the images that come to mind when they think about a particular health threat. In a study of skin cancer risk representations (Cameron, 2008), young adults reported their mental images of skin cancer. Content analyses revealed that most images fell neatly into the representational categories identified by the CSM: identity, cause, consequences, timeline, and control/cure. Moreover, 44% reported a skin symptom image such as a large, black growth or a crusty sore. These symptom images were key predictors of protection motivation: Intentions to engage in sun protection skin self-examinations and significantly higher for individuals who reported skin symptom imagery in combination with elevated worry about skin cancer. The Exercise Imagery Inventory (Giacobbi, Housenblas, & Penfield, 2005) represents a complementary self-report technique, in which individuals report their experiences of different types exercise-related images (e.g., appearance-based images, such as seeing oneself as fit, and self-efficacy imagery, such as seeing oneself completing a workout). Research suggests that these imagery

Can our health behaviour models handle imagery-based processes and communications?

experiences predict exercise behaviour and self-efficacy beliefs (Cumming, 2008).

These self-report techniques have several advantages: They are highly applicable in a variety of research settings as they can be completed quickly and scored easily, and they are high in acceptability. However, they are limited in terms of capturing all potentially important features of mental imagery (e.g., object and background details) if these features are not built in to the assessments.

Techniques for Instilling Adaptive Mental Images

Various lines of research are informing the development of methods for altering mental imagery in ways that motivate protective behaviour (Cameron & Chan, 2008). For example, mental simulation techniques have been shown to be potent ways for instilling images that are automatically elicited in target settings so as to motivate protective actions. Among sedentary adults, techniques involving imagery of approach goals (visualizing the rewards of exercising, such as feeling fit and energized) and implementation imagery (visualizing the steps to begin exercising) have been found to increase exercise motivations and behaviour over time (Chan & Cameron, 2009). Further evidence suggests that an asthma management intervention involving mental visualisations of healthy lungs can reduce symptoms and improve asthma knowledge and self-efficacy (Freeman & Welton, 2005). Similarly, use of a brief exercise involving rehearsal of active coping imagery has been found to improve coping efficacy and reduce pain and cortisol levels following abdominal surgery (Manyande et al., 1995).

Other research is demonstrating how the use of theoretically-guided graphics, demonstrations and metaphorical explanations can instil adaptive images that motivate protective behaviours. In one study, patients with end-stage renal disease were given a demonstration utilizing a transparent, stomach-shaped container to show how their phosphate-binding medication can bind with phosphates from foods. Compared to control participants, those viewing this demonstration reported a better and more coherent understanding of their medications and its efficacy in disease control (Karamanidou, Weinman, & Horne, 2008). Additional research has demonstrated the utility of using imagery-evoking communications that provide a coherent understanding of the links between health risk representations and recommended behaviour (Bishop, Marteau, Hall, Kitchener, & Hajek, 2005).

In recent work, we have developed computer-based communications about heart disease risk that incorporate graphics technologies developed as part of the Physiome Project, a world-wide initiative aimed at developing computational models for graphically representing all aspects of human physiology (Hunter & Borg, 2003). The communication programmes, which are guided by the CSM, depict animated images of a beating heart that are tailored to the personal characteristics of the viewer, and they show how changes in health behaviours affect the functioning of the heart (Lee, Cameron, Wünsche, & Stevens, 2009; Rubin, Wünsche, Cameron, & Stevens, 2005). These types of theoretically-guided communications have considerable potential to instil accurate imagery about the relationships between physiological processes, behaviour, and disease development and to do so in ways that motivate protective action.

Conclusion

More than ever, there is strong impetus to translate our theories of health behaviour into effective interventions. To do so, we need to fully develop these theories so that they incorporate all information processes. By increasing our efforts to understand imagery processes, we will be able to develop more sophisticated health communications that take full advantage of recent advances in graphics and media technologies. If we do not do so, we stand to develop health communications containing images that have less-than-optimal or even detrimental effects on health and well-being.

References

Bishop AJ, Marteau TM, Hall S, Kitchener H, & Hajek P. (2005). Increasing women's intentions to stop smoking following an abnormal cervical smear test result. *Preventive Medicine*, 41, 179-185.

Cameron LD. (2008). Illness risk representations and motivations to engage in protective behavior: The case of skin cancer risk. *Psychology and Health*, 23, 91-112.

Cameron LD, & Chan CKY. (2008). Designing health communications: Harnessing the power of affect, imagery, and self-regulation. *Personality and Social Psychology Compass*, 2, 262-282.

Chan C, & Cameron L. (2009). Promoting physical activity with goal-oriented mental imagery: A randomized controlled trial. Manuscript under review.

Cumming J. (2008). Investigating the relationship between exercise imagery, leisure-time exercise behavior, and self-efficacy. *Journal of Applied Sport Psychology*, 20, 184-198.

Freeman LW, & Welton D. (2005). Effects of imagery, critical thinking, and asthma education on symptoms and mood state in adult asthma patients: A pilot study. *The Journal of Alternative and Complementary Medicine*, 11, 57-68.

Giacobbi PR, Hausenblas HA, & Penfield RD. (2005). Further refinements in the measurement of exercise imagery: The Exercise Imagery Inventory. *Measurement in Physical Education and Exercise Science*, *9*, 251-266.

Hammond D, Fong G, McDonald PW, Brown S, & Cameron R. (2004). Graphic Canadian cigarette warning labels and adverse outcomes: Evidence from Canadian smokers. *American Journal of Public Health*, *94*, 1442-1445.

See page 61 for the remainder of the reference list



ehps executive committee reports



Manja Vollmann Treasurer and Membership Officer

I am a post doc at the research unit "Psychological Assessment & Health Psychology" of the University of Konstanz, Germany. My research interests span the fields of personality psychology, health psychology and social psychology. My main research focus is on personality traits (e.g., dispositional optimism) which promote mental and physical health. I am particularly interested in the social processes such as social integration and social support that mediate the beneficial health effects of dispositional optimism.

In 2008, I began my term as EHPS membership officer & treasurer. As membership officer I am responsible for maintaining good membership records by recruiting new members and by encouraging current members to continue their membership. I am concerned with supporting members during the application and renewal process, dealing with membership requests and preparing the receipts of the membership fee. As treasurer I am responsible for managing the financial issues of the society. My primary tasks are to oversee incoming and outgoing bank transfers, to prepare the annual budget and to report the financial situation to the EC and the membership.



Yael Benyamini Secretary

I am an Associate Professor at the School of Social Work of the Tel Aviv University in Israel. My research focuses on subjective perceptions of health and illness, from global assessments of one's health status to perceptions of specific health threats, with a special focus on women's health issues. A decade ago, this research has led me to the EHPS conferences and activities. Since then I have attended most conferences and many of the workshops and am grateful for the opportunity they provided to meet colleagues who contributed to my knowledge and thinking and often became friends, who I look forward to meeting again each year.

I have been serving as the EHPS secretary for the past three years. In this role, I take part in the planning and decision processes regarding the many EHPS activities, I am in charge of the formal aspects and documentation of various meetings and activities and in general of making sure that everything runs as smoothly, efficiently and productively as possible. In the past years, I have organized several member consultations, along with other EC members. Most of these consultations turned out to be a great way for members to be more involved and for the EC to learn more about members' views. Unfortunately, open discussions can also lead to bitter feelings among members from many countries (as was the case with the discussions regarding the conference venue for 2010). I hope that in the future we will only make the most from members' increased involvement and continue to be a society of all its members so that together we can pursue our aim of promoting health psychology in Europe.

My involvement as secretary led me to realize that we are no longer a small society but rather a very active and constantly growing and evolving one. Therefore, we must ensure continuity of the knowledge and expertise gained while planning and carrying out our diverse activities and not "re-invent the wheel" time after time. I am constantly looking for ways to work more efficiently in the present and to ensure smooth transition to the future. For example, I have identified gaps in our operation and consequently proposed new EC roles (Conference Officer, Communications Officer). I have also formed a system for organizing the many EHPS documents and am actively seeking new and updated documents and ways to keep the system current and useful.



Britta Renner Past President

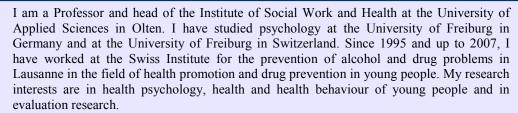
I am Professor of Psychological Assessment & Health Psychology at the Psychology Department of University Konstanz since 2007. My current research includes risk perception and risk communication. In particular, I am interested in cognitive and affective processes underlying risk perceptions, in the impact of risk communication on risk perceptions, and the impact of risk perceptions on health behavior. Further research projects focus on motives for and self-regulation of health behaviors change such as eating and physical exercise.

I am currently Past-president of the EHPS, and I was President during the period of 2006-2008. As Past president I contribute to all activities of the EC, including being liaison officer for the 2010 EHPS Conference in Cluj-Napoca, Romania and serving on the Grant Subcommittee. I am also Chair of the German Psychological Society's Division of Health Psychology (2007-2009).

EHPS executive committee reports



Holger Schmid *Education and Training Officer*



Many causes for the actual financial crisis have been proposed, and we may probably never know the true aetiology of it. However, lessons learned from it are rather straight forward: The most important thing to invest in is education and training. The EHPS has always been dedicated to education and training and since my first attendance of the EHPS conference in Leipzig in 1992 has been an important source of the developments in Health Psychology to me. I am grateful that I can in some way contribute to this in my function as education and training officer. With the pre-conference workshops, as well as the tremendous work of CREATE and SYNERGY the EHPS is strongly committed to developing members' research and professional skills. I personally was very happy to see so many good applications for the grants, with which the society can support mainly young researchers, and that we were able to increase the number of grants for this year - despite the crisis of the world's economy.



Paul Norman President Elect

I am a Reader in Health Psychology at the University of Sheffield. My main research interests focus on the application of social cognition models to the prediction of health behaviour and psychological adjustment to serious illness. I have been a member of EHPS for over 15 years and have attended most of the society's conferences over this time. I previously served on the EC as Secretary from 1996-2000 and was Editor of Psychology and Health from 2001-2006.

I was elected as President-Elect of EHPS in 2008. Over the past year my main activities have been in relation to the organisation of our annual conference. In particular, I was involved in the organisation of the consultation of members regarding the venue for the 2010 conference, I have been appointed as Chair of the Scientific Committee for the 2010 conference in Cluj-Napoca, and have overseen proposals for the 2011 and 2012 conference venues. I am also serving as chair of the committee to appoint a new Editor-in-Chief for Health Psychology Review.

EHPS continues to grow. The 2009 conference in Pisa is set to be one of our largest conferences to date. The society is in a relatively strong financial position and I have been supportive of the efforts of the current EC to invest some of our surplus in grants for attendance at the conference and the CREATE and Synergy workshops, as well as funding new initiatives to support research dialogue and collaborations between EHPS members. After the Bath conference, it was necessary to organise a consultation of members regarding the venue for the 2010 conference. I feel that such consultation exercises are useful for gauging members' opinions when we are faced with more detailed and/or contentious issues and when it is not possible to have a full discussion (and resolution) of such issues in the conference Members' Meeting.



Elvira Cicognani *National Delegates Officer*

I work as Associate Professor of Social and Community Psychology at the Faculty of Psychology of the University of Bologna, Italy, where I teach Health Promotion in community contexts. I have been a member of the EHPS since 1999 and a member of the Executive Committee of the Italian Health Psychology Society from 2002 to 2006. My research interests focus on health risk behaviours and prevention approaches in school and community contexts; coping and well being; participation in health; the role of community contexts on individuals' health and well being; qualitative research methods and participatory action research.

As National Delegate Officer my role is to facilitate and co-ordinate the work of National Delegates (currently around thirty), to promote networking, and to ensure meeting opportunities during the annual conferences. I think that National Delegates are an important resource both for the EHPS and for their own National Societies: they may contribute - from their own unique national experience - to a wider knowledge and discussion on key issues for this discipline and profession, and are a potentially formidable network for exploring opportunities for collaborative research.



ehps executive committee (2008-2010)

president

Irina Todorova

Health Psychology Research Center, Bulgaria

president elect

Paul Norman

Sheffield University, England

past president

Britta Renner

Konstanz University, Germany

secretary

Yael Benyamini

Tel Aviv University, Israel

membership officer and treasurer

Manja Vollmann

Konstanz University, Germany

ordinary member Vera Araújo-Soares

The Robert Gordon University, Scotland

ordinary member

Elvira Cicognani

University of Bologna, Italy

ordinary member

Holger Schmid

University of Applied Sciences Northwestern Switzerland, Switzerland

ehp editorial board

editors

Gerard Molloy

University of Stirling, Scotland

Emely de Vet

Utrecht University, the Netherlands

co-editors

Lukasz Kaczmarek

Adam Mickiewicz University, Poland

Richard De Visser

University of Sussex, England

Rik Crutzen

Maastricht University, the Netherlands

Jenny Fidler

University College London, England

Elke van Hoof

Vrije Universiteit Brussel, Belgium

Nihal Mohamed

Mount Sinai Hospital, USA

editorial manager

Justin Presseau

University of Aberdeen, Scotland

Reference list continued from page 55 (Is obesity an eating disorder? Jane Wardle)

- Lobstein, T., & Jackson-Leach, R. (2006). Estimated burden of paediatric obesity and co-morbidities in Europe. Part 2. Numbers of children with indicators of obesity-related disease. Int J Pediatr Obes, 1, 33-41.
- Mazzeo, S. E., & Bulik, C. M. (2009). Environmental and genetic risk factors for eating disorders: what the clinician needs to know. Child Adolesc Psychiatr Clin N Am, 18, 67-82.
- Neumark-Sztainer, D. (2009). The interface between the eating disorders and obesity fields: moving toward a model of shared knowledge and collaboration. Eat Weight Disord, 14, 51-58.
- O'Rahilly, S., & Farooqi, I. S. (2008). Human obesity: a heritable neurobehavioral disorder that is highly
- sensitive to environmental conditions. *Diabetes, 57*, 2905-2910.

 Pagoto, S., Bodenlos, J. S., Kantor, L., Gitkind, M., Curtin, C., & Ma, Y. (2007). Association of major depression and binge eating disorder with weight loss in a clinical setting. Obesity (Silver Spring), 15,
- Ruderman, A. J., & Wilson, G. T. (1979). Weight, restraint, cognitions and counterregulation. Behav Res Ther, 17, 581-590.
- Schachter, S. (1968). Obesity and eating. Internal and external cues differentially affect the eating behavior of obese and normal subjects. Science, 161, 751-756.
- Scholtz, S., Hill, L. S., & Lacey, H. (2009). Eating disorders in older women: Does late onset anorexia nervosa exist? Int J Eat Disord. In press.
- Smith, D. E., Marcus, M. D., Lewis, C. E., Fitzgibbon, M., & Schreiner, P. (1998). Prevalence of binge eating disorder, obesity, and depression in a biracial cohort of young adults. Ann Behav Med, 20, 227-232.
- Standley, R., Sullivan, V., & Wardle, J. (2009). Self-perceived weight in adolescents: over-estimation or underestimation? Body Image, 6, 56-59.
- Wadden, T. A., Foster, G. D., Stunkard, A. J., & Linowitz, J. R. (1989). Dissatisfaction with weight and figure in obese girls: discontent but not depression. Int J Obes, 13, 89-97.
- Wardle, J. (2005). The psychological burden of obesity in children. In D. Haskard (Ed.), Horizons in Medicine 17. London: Royal College of Physicians.
- Wardle, J., & Boniface, D. (2007). Changes in the distributions of body mass index and waist circumference in English adults, 1993/1994 to 2002/2003. Int J Obes (Lond), 32, 527-532.
- Wardle, J., Carnell, S., Haworth, C., & Plomin, R. (2008). Evidence for strong genetic influence on childhood adiposity despite the force of the obesogenic environment. Am J Clin Nutr, 87, 398-404.
- Wardle, J., Carnell, S., Haworth, C. M. A., Farooqi, S., O'Rahilly, S., & Plomin, R. (2008). Obesity-associated variation in FTO is associated with diminished satiety. J Clin Endocrinol Metab, 93, 3640-3643.
- Wardle, J., Guthrie, C. A., Sanderson, S., & Rapoport, L. (2001). Development of the Children's Eating Behaviour Questionnaire. *J Child Psychol Psychiatry*, 42, 963-970.

 Wardle, J., Williamson, S., Johnson, F., & Edwards, C. (2006). Depression in adolescent obesity: cultural
- moderators of the association between obesity and depressive symptoms. Int J Obes (Lond), 30, 634-643.
- Webber, L., Hill, C., Saxton, J., Van Jaarsveld, C. H., & Wardle, J. (2009). Eating behaviour and weight in children. Int J Obes (Lond), 33, 21-28.
- Williamson, D. A., Muller, S. L., Reas, D. L., & Thaw, J. M. (1999). Cognitive bias in eating disorders: implications for theory and treatment. Behav Modif, 23, 556-577.
- Yanovski, S. Z., Nelson, J. E., Dubbert, B. K., & Spitzer, R. L. (1993). Association of binge eating disorder and psychiatric comorbidity in obese subjects. Am J Psychiatry, 150, 1472-1479.

Reference list continued from page 58 (Can our health behaviour models handle imagery-based processes and communications? Linda Cameron)

- Harrow A, Wells M, Humphris G, Taylor C, & Williams B. (2008). Seeing is believing and believing is seeing. An exploration of the meaning and impact of women's mental images of their breast cancer and their origin in health care communcations. Patient Education and Counseling, 73, 339-346.
- Hunter PJ, & Borg T. (2003). Integration from proteins to organs: The Physiome Project. Nature, 4, 237-243. Karamanidou D, Weinman J, & Horne R. (2008). Improving haemodialysis patients' understanding of phosphate-binding medication: A pilot study of a psycho-educational intervention designed to change patients' perceptions of the problem and treatment. British Journal of Health Psychology, 13, 205-214.
- Lee TJ, Cameron LD, Wünsche B, & Stevens C. (2009). Utilizing imagery and conceptual information about heart disease to promote protective behavior. Manuscript under review.
- Leventhal H, Brissette I, & Leventhal EA. (2003). The common-sense model of self-regulation of health and illness. In LD Cameron & H Leventhal (Eds.), The Self-Regulation of Health and Illness Behaviour (pp. 42-65). London: Routledge.
- Mayande A, Berg S, Getting D, Stanford C, Mazhero S, Marks DF, Salmon P. (1995). Preoperative rehearsal of active coping imagery influences subjective and hormonal responses to abdominal surgery. Psychosomatic Medicine, 57, 177-182.
- Mayer RE. (2008). Applying the science of learning: evidence-based principles for the design of multimedia instruction. American Psychologist, 63, 760-769.
- McCaul KD, Mullens AB, Romanek KM, Erickson SC, & Gatheridge BJ. (2007). The motivational effects of thinking and worrying about the effects of smoking cigarettes. Cognition and Emotion, 21, 1780-1798.
- Moss-Morris R, Weinman J, Petrie KJ, Horne R, Cameron LD, & Buick D. (2002). The Revised Illness Perception Questionnaire (IPQ-R). Psychology & Health, 17, 1-16.
- Paivio A, Walsh M, & Bons T. (1994). Concreteness effects on memory: When and why? Journal of Experimental Psychology: Learning, Memory, and Cognition, 20, 1196-1204.
- Rubin J, Wünsche BC, Cameron LD, & Stevens C. (2005). Animation and modelling of cardiac performance for patient monitoring. In: McCane B, ed. Proceedings of Images and Vision Computing New Zealand (pp, 476-481). Otago, New Zealand: University of Otago.
- Stacy AW, Ames SL, & Knowlton BJ. (2004). Neurologically plausible distinctions in cognition relevant to drug use etiology and prevention. Substance Use and Misuse, 39, 1571-1623.
- Stacy AW, Ames SL, & Leigh BC. (2003). An implicit cognition assessment approach to relapse: Secondary prevention and media effects. Cognitive and Behavioral Practice, 11, 139-149.

Disclaimer: The views expressed within the European Health Psychologist are those of the authors and do not necessarily represent those of the European Health Psychology Society (EHPS) or the European Health Psychologist's (EHP) editorial board.

Behavioural Science Journals from Routledge

Health Psychology Review

Official Journal of the European Health Psychology Society

Editor:

Joop van der Pligt, University of Amsterdam, The Netherlands

Volume 3, 2009, 2 issues per year

Print ISSN: 1743-7199 Online ISSN: 1743-7202



Psychology Health

Mental Health and Substance Use: dual diagnosis

Philip D. Cooper, Suffolk Mental Health Partnership NHS Trust, UK

www.tandf.co.uk/journals/rmhs

Volume 2, 2009, 3 issues per year

Print ISSN: 1752-3281 Online ISSN: 1752-3273



www.tandf.co.uk/journals/rhpr

Psychology & Health

Official Journal of the European Health Psychology Society

Editors:

Rona Moss-Morris and Lucy Yardley, both at University of Southampton, UK

Volume 24, 2009, 10 issues per year

Print ISSN: 0887-0446 Online ISSN: 1476-8321

Global Public Health

An International Journal for Research, Policy and Practice

Editor-in-Chief:

Dr Richard Parker, Mailman School of Public Health, Columbia University, USA

www.tandf.co.uk/journals/rgph

Volume 4, 2009, 6 issues per year

Print ISSN: 1744-1692 Online ISSN: 1744-1706



www.tandf.co.uk/journals/gpsh

Psychology, Health & Medicine

Editor:

Professor Lorraine Sherr, Royal Free and University College Medical School, London,

Volume 14, 2009, 6 issues per year

Print ISSN: 1354-8506 Online ISSN: 1465-3966



NEW FOR 2009

Arts & Health

An International Journal for Research, Policy and Practice

Published in association with the Society for the Arts in Healthcare

Executive Editors:

Paul Camic, Stephen Clift, both at Canterbury Christ Church University, UK

and Norma Daykin, University of the West of England, UK

Volume 1, 2009, 2 issues per year

Print ISSN: 1753-3015

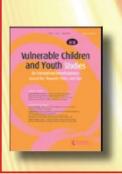
Online ISSN: 1753-3023

www.tandf.co.uk/journals/rahe

www.tandf.co.uk/journals/cphm

Routledge Taylor & Francis Group

Also published by Routledge











For more information please visit www.tandf.co.uk/journals

XG 901 01 A