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The Newsletter of the University Centre for Research on Pain and Disability

Message from the Scientific Director :

In this newsletter, we describe some recent work conducted on the role that perceptions of injustice play in determining recovery paths following injury.

Once a topic left largely to the legal profession, it is becoming clear that there are important health-related consequences to the attribution of blame for injury. Our work on this topic is featured in several papers referenced in the newsletter and will also be featured in a

symposium at the World Congress on Pain to be held in Montreal in August 2010. In this newsletter, we also describe some of our research addressing how treatment-related reductions in catastrophizing and fear of pain contribute to return-to-work outcomes.

A recently completed study from our Centre has shown that, if return to work is the objective of treatment, reducing

catastrophizing will be more important to achieve than reducing fear of pain. These findings have significant clinical and theoretical implications and were the subject of spirited discussion in a recent issue of the journal, *Pain*.

Finally, this newsletter announces a PGAP workshop for 2010. Wishing you a pleasant, healthy and safe holiday period.

MICHAEL J.L. SULLIVAN, PhD

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Perceived Injustice: A cause of problematic recovery?

There has been a resurgence of interest in the role that perceptions of injustice might play in the experience and recovery from a variety of debilitating health and mental health conditions. Debilitating health and mental health conditions are associated with suffering and loss; to the degree that the suffering and losses are appraised as undeserved, the individual might experience

his or her situation with a sense of injustice.

While perceived injustice might be considered a natural response to undeserved suffering and loss, there is a growing literature highlighting the negative impact of perceptions of injustice on health and mental health outcomes.

Research has shown that high scores on a measure of perceived injustice

were related to less rehabilitation progress and lower probability of return to work following musculoskeletal injury (Sullivan, M.J.L., Adams, H., Horan, S., Mahar, D., Boland, D., Gross, R. (2008). The role of perceived injustice in the experience of chronic pain and disability: Scale development and validation. *Journal of Occupational Rehabilitation*, 18: 249-61.



Perceptions of injustice have also been associated with more pronounced expressions of pain behaviour and greater disability (Sullivan, M.J.L., Davidson, N., Garfinkel, B., Scott, W. Perceived injustice is associated with heightened pain behavior and disability in individuals with whiplash injuries. *Psychological Injury and Law*, in press.

This new body of research is suggesting that the

assessment of perceived injustice should be part of the routine assessment of individuals with debilitating health or mental health conditions. Assessment also needs to be linked to intervention. At this time, little is known about the most effective means of targeting perceptions of injustice. The Third Edition of PGAP includes perceived injustice as a risk factor and techniques are described that might

assist the PGAP Provider in reducing the negative impact of perceived injustice on health outcomes. Ongoing research is needed to better understand how perceptions of injustice arise, and how best to target these perceptions in intervention programs aimed at facilitating recovery from debilitating health and mental health conditions.

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Perceptions of Injustice and Post-Traumatic Stress Symptoms Following Whiplash Injury

It has been suggested that 1 in 4 individuals who sustain whiplash injuries in motor vehicle accidents might show evidence of clinically significant post-traumatic stress symptoms. Post-traumatic stress symptoms are characterized by three major symptom clusters including re-experiencing symptoms (e.g., thought intrusion, nightmares), avoidance symptoms (e.g., avoidance of stimuli associated with the traumatic situation, social withdrawal) and arousal symptoms (e.g., hypervigilance, heightened startle reactions).

Most individuals who show evidence of post-traumatic stress symptoms immediately following a traumatic event will follow a path of uncomplicated recovery.

However, for a significant proportion of these individuals, symptoms of post-traumatic stress might persist for a long period of time. What accounts for the persistence of post-traumatic stress symptoms following traumatic injury? This is the question that was addressed in a recent study from our Centre (Sullivan, M.J.L., Thibault, P., Simmonds, M., Milioto, M., Canton, A-P., Velly, A. Pain, perceived injustice and the persistence of post-traumatic stress symptoms during the course of rehabilitation for whiplash injuries. *Pain* 2009; 145: 325 – 331).

In this study, we assessed 112 individuals who had sustained whiplash injuries in rear-collision motor vehicle accidents.

Participants were assessed three times during the course of a rehabilitation program and were interviewed 12 months later about their ongoing pain symptoms and their occupational status. Participants were approximately 3 months post-injury when they were first assessed.

In the study sample, 45% of participants scored above clinical threshold on a measure of post-traumatic stress symptoms at the time of admission. After 7 weeks in a multidisciplinary pain treatment program, half the participants' scores on the measure of post-traumatic stress symptoms fell below clinical threshold, while half continue to experience clinically significant post-traumatic stress symptoms.

Of interest was examining the variables that predicted whether post-traumatic stress symptoms would remit or persist. Initially, we had considered that the severity of pain or restrictions of movement might contribute to the persistence of post-traumatic stress symptoms. However, analyses revealed that none of the indices of pain or physical function contributed to the persistence of post-traumatic stress symptoms.

Pain catastrophizing (measured by the PCS) and perceived injustice (measured by the IEQ) were the only two variables that distinguished between participants whose symptoms remitted or persisted. Although the relation between pain catastrophizing and the persistence of post-traumatic stress symptoms has not been reported in previous research, this finding is consistent with theoretical models that propose that alarmist appraisals, and

rumination might be predisposing factors for chronic post-traumatic stress symptoms.

Perceived injustice emerged as the strongest predictor of the persistence of post-traumatic stress symptoms. The blame/unfairness subscale of the IEQ accounted for the bulk of model variance in group classification. In other domains of research, perceptions of injustice have been discussed in terms of blame attributions and revenge motives. Anger reactions have also been discussed as central to the experience of perceived injustice. Emotional reactions to negative events persist for longer periods of time when the events are appraised as unjust. These features of perceived injustice are candidates for processes that might augment the probability that post-traumatic stress symptoms will persist.

The results of the present study suggest that perceptions of injustice might need to be specifically targeted in order to maximize the probability of resolution of post-traumatic stress symptoms. Cognitive-behavioral interventions are currently considered the treatment of choice for post-traumatic stress conditions. However, perceptions of injustice have not been systematically addressed in intervention approaches for post-traumatic symptoms associated with whiplash injuries. Given that post-traumatic stress symptoms have been shown to contribute to chronicity of whiplash symptoms, the development of more effective intervention approaches to the management of post-traumatic stress symptoms might also impact positively on timely recovery from whiplash injuries.

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Fear of Movement: Has intuition (unfortunately) leaped ahead of the scientific evidence?

It has been just over one decade that the Fear-Avoidance Model of pain and disability has been published. The model has become so much part of our current conceptualizations of disability, that fear is considered to be a primary psychological determinant of disability associated with persistent pain conditions. According to the Fear-

Avoidance Model, individuals will differ in the degree to which they interpret their pain symptoms in a 'catastrophic' or 'alarmist' manner. The model predicts that catastrophic thinking following the onset of pain will contribute to heightened fears of movement. In turn, fear is expected to lead to avoidance of activity that might be associated with

pain. Prolonged inactivity is expected to contribute to depression and disability. The model is recursive such that increased pain symptoms, distress and disability become the input for further catastrophic or alarmist thinking. Several studies have been conducted examining different predictions of the Fear-Avoidance Model.

When models of disability are too intuitively appealing, the threshold for scientific rigor seems to be lowered in order to maintain our beliefs in the model. Unfortunately, this occurs at a significant cost to the client.

A number of cross-sectional studies have been cited as supportive of the predictions of a fear-avoidance model. Most of these have shown that measures of catastrophizing and disability are correlated with measures of fear of pain. Surprisingly, the sequential components of the model (e.g., catastrophizing leading to fear leading to disability) had never been tested. A graduate student at our Centre, Timothy Wideman PT, PhD candidate, decided to test the sequential components of the model. He used data from a study examining return to work rates following participation in the Pain-Disability Prevention Program (a program similar to PGAP). Mr. Wideman reasoned that if the model was valid, reductions in catastrophizing should lead to reductions in fear of pain, which in turn should lead to return to work. This however, was not what the data revealed. Reductions in catastrophizing were completely independent of later changes in fear of pain. When reductions in catastrophizing were statistically controlled, reductions in fear of pain were unrelated to return to work. The results of these analyses have recently been published in the journal, *Pain* (Wideman, T.H., Adams, H., Sullivan, M.J.L.. (2009). A prospective sequential analysis of the Fear-Avoidance model of pain. *Pain*, 145: 45 - 51.). The paper drew responses from proponents of the

Fear-Avoidance Model and was the focus of a leading editorial in the same issue of the journal.

Beyond their theoretical importance, the results of Mr. Wideman's study have important clinical implications. In clinical practice, fear has come to be seen as a major contributor to work-disability, and has played a central role in explanations for poor treatment outcomes. So intuitive has been the relation between fear and disability, that it seems completely logical to infer that someone with a pain condition who does not return to work, must be someone who has high levels of fear of pain. This reasoning has also led to recommendations that fear of pain should be a central focus of interventions for individuals with pain conditions. All this has occurred in the absence of evidence that reductions in fear of pain influence in any way the probability of return to work.

Even when no objective evidence of lesion is discernible, fear is not the only psychological variable that might contribute to work disability. Depression can be associated with work disability as a result of expectancies for failure and motivational deficits. Individuals may 'believe' themselves to be occupationally disabled and

as such not even consider return to work as a goal. Individuals might lack the confidence to pursue return to work goals, and individuals might also worry that they suffer from a yet-to-be diagnosed serious medical condition that might be exacerbated by returning to work. As well, the role of pain severity cannot be neglected; pain exists in the absence of discernible organic pathology, and can exist in severe forms even without the contribution of psychosocial risk factors.

When models of disability are too intuitively appealing, the threshold for scientific rigor seems to be lowered in order to maintain our beliefs in the model. Unfortunately, this occurs at a significant cost to the client.

Future research may reveal that fear reduction is an important factor in promoting recovery, at least in some clients. However, at this point, we do not know how to identify these clients. It is best to keep an open, scientifically rigorous and clinically responsible approach to the factors that might lead to disability in the absence of discernible organic pathology.

Selected activities and publications since our last Newsletter

Published Refereed Papers

- Sullivan, M.J.L., Thibault, P., Simmonds, M., Milioto, M., Canton, A-P., Velly, A. (2009) Pain, perceived injustice and the persistence of post-traumatic stress symptoms during the course of rehabilitation for whiplash injuries. *Pain*; 145: 325 – 331.
- Sullivan, M.J.L., Tanzer, M., Stanish, W.D., Fallaha, M., Keefe, F.J., Simmonds, M., Dunbar, M. (2009). Psychological Determinants of Problematic Outcomes Following Total Knee Arthroplasty. *Pain*, 143: 123 - 129.
- Wideman, T., Adams, H., and Sullivan, M.J.L. (2009). A Prospective Sequential Analysis of the Fear-Avoidance Model of Pain. *Pain*, 145: 45 - 51.
- Vlaeyen, J.W.S., Hanssen, M., Goubert, L., Vervoort, T., Peters, M., van Breukelen, G., Sullivan, M.J.L., Morley, S. (2009). Threat of pain influences social context effects on verbal pain report and facial expression. *Behaviour Research and Therapy*, 47, 774 – 782.
- Green A, Tripp DA, Sullivan M.J.L., Davidson M. (2009). The relation between empathy and estimates of others' pain. *Pain Medicine*, 10: 381 - 392.
- Flink, I.K., Mroczek, M.Z., Sullivan, M.J.L., Linton, S. (2009). Pain in childbirth: The role of catastrophizing. *European Journal of Pain*, 13: 312–316.
- Sullivan, M.J.L. (2008). Self-report of pain is an act of communication. *Pain*, 140: 521.

Scientific and Invited Plenary Presentations:

- Sullivan, M.J.L. Pain Catastrophizing: Mechanisms of Action and Implications for Treatment. Pain Management Programme SIG conference. Newcastle-upon-Tyne. UK, September, 2009.
- Sullivan, M.J.L. Est-ce que la catastrophisation affecte la guérison? Société Québécoise de la Douleur. Montreal, QC, October 2009

Colloquia and Invited Clinical Presentations

- Risk factor target interventions for pain-related disability.
Vermont division of Vocational Rehabilitation Services. Waterbury, VT, October, 2009.
- Psychosocial interventions for the prevention of pain-related disability.
Department of Physical Therapy. School of Occupational and Physical Therapy. McGill University. Montreal, QC, October 2009.
- Psychosocial interventions for the prevention of pain-related disability.
Department of Occupational Therapy. School of Occupational and Physical Therapy. McGill University. Montreal, QC, October 2009.
- Perceived injustice as a risk factor for problematic recovery outcomes.
Saskatchewan Workers' Compensation Board. Vocational Services 8th Annual Conference. Waskesiu Lake, SK, September 2009
- Identifying psychosocial risk factors for chronic pain and disability. Workers
Compensation Board of Manitoba and Manitoba Public Insurance. Winnipeg, MB, September 2009.
- Le programme de gestion de l'activité progressive (PGAP) : La psychologie de la douleur
et de l'incapacité. Great West Life, Montreal, QC, April 2009

TRAINING WORKSHOPS (Knowledge Exchange)

Formation: Détection et intervention auprès des facteurs de risques psychosociaux.
Commission de la santé et de la sécurité du travail (CSST).

- Montreal, Quebec, October 20, 2009
- Montreal, Quebec, October 15, 2009
- Montreal, Quebec, October 14, 2009
- Montreal, Quebec, October 6, 2009
- Montreal, Quebec, October 1, 2009
- Montreal, Quebec, September 22, 2009
- Montreal, Quebec, June 18, 2009
- Montreal, Quebec, June 16, 2009

- Montreal, Quebec, June 15, 2009
- Montreal, Quebec, May 19, 2009
- Montreal, Quebec, April 27, 2009
- Montreal, Quebec, April 17, 2009
- Montreal, Quebec, April 15, 2009
- Montreal, Quebec, April 14, 2009
- Montreal, Quebec, April 7, 2009
- Montreal, Quebec, April 6, 2009
- Montreal, Quebec, March 6, 2009
- Montreal, Quebec, March 2, 2009
- Montreal, Quebec, February 23, 2009

The Progressive Goal Attainment Program (PGAP): Training Workshop

- Winnipeg, Manitoba, September 25-26, 2009
- Toronto, Ontario, June 12-13, 2009

Information Updates

PGAP Workshop Scheduled for 2010

The next PGAP Workshop will be held in Toronto on June 11 & 12, 2010. The language of instruction is English. Unfortunately, simultaneous translation is not available.

The link for the registration form is :

http://fchappe.homeip.net:81/PHP_5/PDP-PGAP.COM/files/workshop/PGAP_Workshop_Toronto_June11.2010.pdf

The information is also available on the website www.pdp-pgap.com

Please note that there have been more expressions of interest than our workshop can accommodate, so we encourage those who would like to have the opportunity for training in 2010 to register early. You will also benefit from an “early-bird” registration fee if you register by the early deadline. If you would like to be notified about upcoming workshops, please send an email to info@pdp-pgap.com and request to be placed on the distribution list.



Upgrading to PGAP™ 3rd Edition

Current PGAP™ Providers interested in pursuing the option of upgrading their skill-set to the 3rd Edition by booking an appointment for the telephonic exam should contact our Centre. Please note we are now booking for mid February. Upgrade workshops will unfortunately not be held.

The cost associated with the telephone exam is \$400.00 (plus shipping of materials and provincial taxes which vary according to the region where the Program is provided or the service is performed as per Revenue Canada regulation) and includes all required materials.

Availability of French PGAP™-Related Materials

At the time of this writing the PGAP™ materials (3rd Edition) (Information Videos) for clients were available in English only. We are unfortunately, unable to meet our intended deadline for PGAP™ French translation and production. It is anticipated that French translation will now be available in late Autumn 2010. The Client Workbook is available in the 3rd Edition. PGAP™ Providers who familiarize themselves with the new edition will not have any difficulty using the new Client Workbook. As previously stated, however, due to the extensive resources required for the Treatment Manual to be translated, this item will continue to only be available in English, with no French translation planned. A French PGAP™ workshop will not be available until the end of 2010.

Ordering PGAP™ (and PDP Program) Materials

We take this opportunity to remind individuals that deliveries of orders for Program-related materials within Canada are usually within 5-10 business days. Please take this delivery time into consideration when you are scheduling your clients. We encourage providers to have on hand an extra copy of the materials in order to avoid delays in Program implementation as we do not provide a “rush” order service. Please note that there are no exchanges or refunds on materials, so please ensure you are ordering the correct materials for the Program you are offering (PGAP or PDP). English materials must be ordered on the English Forms and French materials on the French Forms. Orders with incorrect totals will be returned to sender as we cannot authorize amounts different than the signed for totals. Confirmations to change totals cannot be accepted by telephone. Please check your totals and that you have added the correct shipping and taxes, or you will unfortunately experience delays in receiving your order.

Further, we remind individuals that materials may be ordered by anyone for information purposes, however, are insufficient to deliver the standardized intervention in a clinically responsible fashion. Thank you for your understanding.

Coming soon... New downloadable information presentations

With the recent modifications of PGAP™ to address a wider range of populations with disabilities, we are committed to providing information in as accessible fashion as possible.

Over the past number of years, we have received many comments about the usefulness of the PGAP™ presentations that were downloadable with accompanying text. To this end, we have been working diligently on a new presentation and have had a select few PGAP™ providers review the presentation and give us feedback. This presentation which will be available early in January (in English) can be used as an effective demonstration tool for other clinicians and referral sources to learn about the potential benefits of PGAP™ and the outcomes that can be obtained with PGAP™. A French version will be available after the translation of materials has been completed.

Our Business Hours

Our hours of operation are from Monday to Thursday 9:00 to 4:00 (Atlantic time). We are closed Fridays. Please note we will be closing for the Christmas break on December 18 and will re-open on January 4.

As an organization responding to inquiries from providers, insurers and other organizations involved in occupational disability, please consider that at times we experience an overwhelming number of inquiries. Questions will be answered on a priority basis depending on the deadline dates. During busy periods questions may take up to 5 days for a response to your inquiries. We make every effort to respond to queries as quickly as possible and appreciate your understanding.