# The journey of a young researcher in the 21st century

I've been part of the School of Psychology now for a full year and felt it was about time I wrote something about my research interests for this blog. In the past two years I've become more involved with social media and just love the Health Psychology blog running here at NUIGalway.

My research journey stared in 2008 when I started my PhD at Ghent University, Belgium, under supervision of Dr Liesbet Goubert. I always knew that I wanted to work with children and I had a particular interest in helping children who were ill. Only at this point though did this broad interest get a focus: **paediatric pain**!

## My PhD research

Pain is a common, aversive experience in children, but it is vital to one's survival as it is a crucial signal in directing attention to potential sources of injury and motivates actions aimed at reducing, escaping and avoiding pain (Eccleston & Crombez, 1999). Child pain not only impacts the child's functioning, but may also be a strain for their parents.

When I started my PhD, there was not a lot of research on how parents respond when their child is in pain. I was motivated to understand parents' experiences better. Several studies had indicated that parent behaviours such as providing reassurance and comfort are related to more child pain and distress. In contrast, distracting the child is related to less pain and distress (Blount et al., 2008). However, little was known about why parents choose particular behaviours when faced with their child in pain.

**Catastrophic thinking about pain** is an exaggerated negative attitude towards actual or anticipated pain experiences (Sullivan et al., 1995). Based on evidence demonstrating the importance of **catastrophic thinking about pain**, we thought that parents could also have catastrophic thoughts about their child's pain. In turn, this could influence what parents feel or do in response to their child in pain. We investigated this in healthy schoolchildren undergoing a painful task such as the cold pressor task (see picture below). We also looked at families of a child diagnosed with leukemia (as part of their treatment children have to undergo a series of painful lumbar punctures and bone marrow aspirations, which are not only anxiety provoking for children but also for their parents).

In a cold pressor task children put their hand in cold water for as long as they can (with a maximum of 4 minutes) – example Birnie et al (2011)

**Parents who catastrophized about child pain experienced higher levels of distress when confronted with their child in pain, which in turn was associated with a higher engagement in protective behaviour** (e.g. tendency to stop their child performing the painful task, reassuring, comforting; Caes et al., 2011; Caes et al., 2012a,b; Caes et al., 2014a,b). This supported early findings showing that parents with catastrophic thoughts experience child pain as more distressing than low catastrophizing parents (Goubert et al., 2006; 2008). By using psychophysiological measurements of distress (Caes et al., 2012a), the results indicated that distress in parents is an automatic negative emotional response when their child is in pain. The results of our prospective study in children with leukemia (Caes et al., 2014b) even indicate that this higher level of distress in parents who catastrophize about child pain does not necessarily lessen when the parent is repeatedly confronted with a threatening, painful experience in their child.

Distress in parents probably serves a protective function as it prepares the parent for dealing with the possibility of an approaching threat to their child (Hadjistavropoulos et al., 2011). It might therefore also have important implications for caregiving behaviour (i.e. higher engagement in protective behaviour). Our findings have also been replicated in children suffering from chronic pain: **parents who highly catastrophize about child pain report a higher engagement in protective behaviours in response to their child's pain experience** (e.g. Hechler et al., 2011; Sieberg et al., 2011). Parents with catastrophic thoughts might be more likely to have a preference for protective behaviour primarily because it functions as a way to **reduce their own overwhelming feelings of distress.**

Dr Liesbet Goubert, myself and Dr Tine Vervoort, my Ghent-pediatric-pain-buddies, enjoying the reception at a conference on pediatric pain.

**Life after my PhD… Taking the plunge and moving to Canada**

I finished my PhD in June 2012 and was ready for a new adventure in research-land. I had the exciting opportunity to start a postdoctoral fellowship in Canada at the Centre for Pediatric Pain Research at the IWK Health Centre (Halifax, Nova Scotia). Although the first three years of my PhD I was convinced I would do a postdoc at Ghent University, in the last year it became clear that my chances to receive funding at the university where I had studied for the last 9 years were slim. This made me look beyond the borders of Belgium. I was quite fortunate to be part of an international training program of paediatric pain researchers (i.e. Pain in Child Health; Von Baeyer et al., 2015). Attending the yearly research institutes of this training program allowed me to establish close connections with trainees and established researchers interested in paediatric pain and ultimately to find my postdoctoral supervisor.

**How did it happen?!**

It took a lot of courage but during one of the institutes I just went up to the famous Dr Christine Chambers to introduce myself and express my interest to do a postdoctoral fellowship under her supervision. To my surprise she knew about my research and she was really enthusiastic and open to supervise me. Although it meant leaving everything I knew behind, especially my husband and doggies, I was really excited to start this new adventure.

**The goal of my postdoctoral fellowship was to broaden my research perspective and experience**. My main study investigated the role of family functioning in understanding parental responses towards their child in pain, in children with inflammatory bowel disease (IBD). IBD is a chronic condition of the gastrointestinal system with uncontrolled inflammation of the intestinal mucosa as its hallmark (Hanauer, 2006). I was interested in the finding that children with IBD reported a lower quality of life when living in a family with more difficulties (Herzer et al., 2011). However, no research had looked at why this was the case (Lewandowski et al., 2011). Therefore, we investigated the influence of family warmth or togetherness and flexibility on parental behavioural responses to child pain. In turn, we wanted to see how these parental responses impact the child's pain experience and quality of life. The results are still being analysed, so stay tuned for a next blog to learn more about our findings!

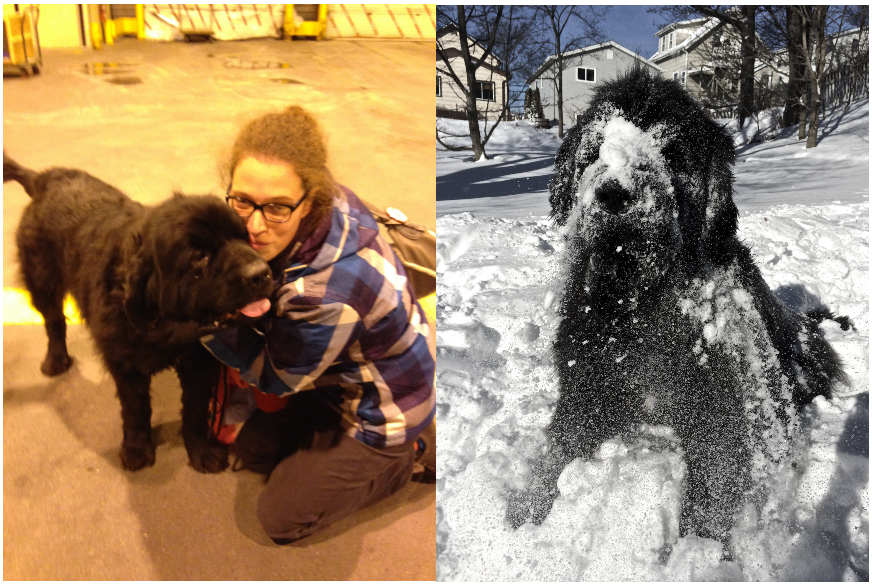
Me and Dr Christine Chambers, my postdoc supervisor.

Moving to another country not only meant that I broadened my research experience, but I also learnt a lot of new things on a personal level: Tim Horton's coffee, Timbits (sort of mini donuts) and SNOW (lots of it ☺).

Me enjoying one of many double double coffees at Tim Hortons

My first winter storm!

I had a good time during my postdoctoral fellowship and can advise everybody to **take the plunge and change institutes (even countries!) for an exciting and extremely valuable experience on both personal and academic level.** I won't lie, making the personal sacrifices was hard, but I was lucky enough to have a very understanding and flexible supervisor and a long-distance buddy in a lab member who also had the Atlantic Ocean separating her from her husband. To ease the pain a little more, we also flew our Newfoundland over to meet her roots in Canada:



Left: Hera arriving at Halifax airport after 24h of traveling! Right: Hera enjoying the snow in the backyard!

### The dreaded "REAL JOB"

However, after 2 years my funding ended and it was time to continue growing up and take the step to a '*real job.*' Although I would have loved to stay in Canada, I didn't want to limit my chances or opportunities and therefore adopted an equally flexible attitude as when I was looking for a postdoc. My only condition was that pain-related research should already be present in some form as during my postdoc I discovered that this facilitates integration in a new institution immensely!

Often people ask me how I ended up then in Galway, well by coincidence actually. One of my UK paediatric pain colleagues, who had done her masters of Health Psychology at NUI Galway, forwarded me the job application for a lecturer at NUI Galway. She put me in touch with some people to find out more about the school and one thing let to another. Before I knew it I was invited for an interview and then also got the job. The day before my interview I had taken the opportunity to meet with a couple of other faculty members with similar research interests, which was really helpful to get a feeling of the school as an outsider. This had made me extremely enthusiastic about the possible opportunities at the school and helped me in preparing for the interview! If applying for a position in a university you're not familiar with, I would definitely recommend this.

After 1 year at NUI Galway, I can honestly say I feel settled in. Everybody had warned me that the step to a permanent position is something you never feel ready for and I can now confirm: it is a real rollercoaster! 'Being busy' has taken on a whole new level. But it is a great experience: I really enjoy working with the students, especially the one-on-one supervision, and it is great to think about research projects you want to conduct without the need for them to fit with your supervisor's research line!

My main research focus will be on investigating the mutual associations between children and parental responses to child health conditions, such as pain, and how these impact the quality of life of parents and their child. I want to investigate this across development: from pre-schoolers to adolescents. I was very fortunate to receive my first grant (2015 IASP Early Career Research Grant) to start this research line in pre-schoolers. The project will take the first step in developing a method for home-based observation of everyday painful events (e.g. falling) to allow observation of parent-child interactions in a natural environment.

You might wonder what happened with the long distance relationship in the mean time. Well, there is no ocean separating us anymore, but it is still ongoing as my husband made a similar exciting jump for his postdoc by moving to Belfast, UK. Living closer together has allowed us to reunite the dogs! Both are now enjoying each other's company again and the (Northern) Irish countryside. Yes, they are equally well travelled ☺.

Our flat-coated retriever Iachi enjoying Blakes Hill

I hope that sharing my journey made it more fun to read about my research interests, but also inspires people to not be afraid to leave their comfort zone. Talking to other people about my journey made me realise that this seems to be more and more a common trajectory for academics of this century and sharing experiences helped me a lot along this exciting journey!

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