

visiting scholar grant

Exploring processes of Acceptance & Commitment Therapy (ACT) in chronic pain

ACT and chronic pain

Pain acceptance, defined as a readiness to have pain and other negative experiences, is increasingly recognized as an important component in the treatment of chronic pain. Acceptance is a central component of Acceptance & Commitment Therapy (ACT) (Hayes, Strosahl, & Wilson, 2011), a form of cognitive behavioural therapy. In ACT, acceptance is targeted to enable the pursuit of valued life activities. Values can be seen as an intrinsic motivating framework for leading a meaningful life. From the perspective of ACT, the shift in focus from pain avoidance towards valued life activities generates psychological flexibility (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Psychological flexibility is the primary aim of ACT, defined as the ability to act effectively in accordance with personal values in the presence of chronic pain. A growing body of research indicates ACT to be effective for a range of psychopathology and other problems, such as depression and anxiety (e.g. Fledderus, Bohlmeijer, Pieterse, & Schreurs, 2012; Forman, Herbert, Moitra, Yeomans, & Geller, 2007) and chronic pain (Veehof, Oskam, Schreurs, & Bohlmeijer, 2011).

N-of-1 design and research questions

Although different studies have shown that ACT is effective for chronic pain, not much is known about the functioning of ACT-processes within individuals over time. We therefore used an N-of-1 design to explore the temporal characteristics and relationships between acceptance, values and important chronic pain outcomes (interference of pain in daily life and

emotional well-being). The N-of-1 design (also 'single case design' or 'single subject design') is used in many areas of psychology. In this design, one participant is continuously assessed (often daily) on one or more variables over time. In general, the design is applied in clinical and health psychology to assess the effectiveness and patterns and processes of change in (cognitive) behavioral interventions. N-of-1 designs are used also as a low-cost method in early modeling and pilot phases of intervention testing. Repeated observations and attempts to generalize findings through replication distinguish SCED from traditional case-studies (Hadert & Quinn, 2008; Tate, McDonald, & Perdices, 2008). In our study, daily measurements were performed on PDA (mobile phone) by four chronic pain patients enrolled in an eight-week in-patient multidisciplinary treatment program. Data was gathered for 13–16 weeks, participants filled out 18 questions at the end of each day. In addition to our research questions on the temporal characteristics and relationship between important ACT-related processes and variables, we were also curious if these relationships would be unique for different individuals.

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Work plan and activities in previous and future visits

Prior to my collaboration with Derek and Marie Johnston I had already set up the research questions, design and data collection of this study, together with my supervisor Prof. Karlein Schreurs at the department of Psychology,

Health and Technology at the University of Twente (The Netherlands). As the N-of-1 design is not widely applied in psychology and not much guidelines for working with the design are available, I had been struggling with my study during the first months of 2011. Luckily, some of my colleagues called my attention to the 3-day Synergy workshop entitled 'N-of-1 designs in health psychology', by Derek and Marie Johnston and Diane Dixon. Following their workshop in Crete in September 2011 helped me tremendously in further preparing my design and research questions. As I also found that analyzing N-of-1 data is a difficult puzzle, I asked Marie and Derek at the Crete workshop if they could possibly help me with analyzing the results. They offered me the opportunity to visit them in Scotland and collaborate on both analyses and writing a paper on the data. The work plan we set up was designed to ensure prolonged collaboration. Therefore, I visited Aberdeen for one week at the end of June 2012 to start exploring the data and make the first steps in analyzing data. In February and March 2013, I will visit Aberdeen again for five weeks. We then will finish data analysis and write a paper based on the outcomes.

(Preliminary) outcomes

During my first one-week visit, I mainly worked with Derek Johnston on the actual data analysis. Together with both Marie and Derek I discussed the ACT-model and the (dis)advantages of the N-of-1 design compared to other study designs. They also arranged a meeting with colleagues from the Aberdeen Health Group who were working with the N-of-1 design or had interest in doing so. Although this meeting turned out to be a small four-member meeting due to the start of the holiday season, I learned a lot! It was very nice to be able to talk with other researchers about the caveats of the N-of-1 and to learn from their experiences in designing, analyzing and writing

a subsequent paper on this kind of data. The meeting was followed by a good and generous lunch in the city centre of Aberdeen. Looking back, I am very happy about both the scientific and personal outcomes of this visit.

Based on the outcomes of our first steps on data-analysis, I presented a poster at the EHPS Prague Conference in August 2012. Outcomes of first analyses in one participant (using the open source McKnight program for time series analysis) seemed to indicate that both processes acceptance and values-based living are related to different chronic pain outcomes. Over time, acceptance was related to pain interference in daily life, but not to emotional well-being. In turn, values-based living was related to emotional well-being, but not to pain interference in daily life. These outcomes seem to indicate that over time, different ACT-processes are an equally important part of the framework of ACT as they relate to (or even influence) different outcomes. More analyses during my five-week visit hopefully will answer questions about (dis)similarity of these patterns and processes over time in the other participants in our study. I also hope to find out if both ACT-processes can forecast chronic pain outcomes, and what time lags then possibly are involved. As for now, I would like to thank both Marie and Derek for their time, energy, generosity and friendliness! Our collaboration in February hopefully will deliver a good paper and a good learning experience. ■

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