

Dissertation Summary:
Pain Management in People with Chronic Pain
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Dedication and Acknowledgements

This dissertation is dedicated to my wonderful family, especially my parents, Steve and Heidi Godsoe, for their unflagging support, encouragement, and for inspiring me to persevere

I am pleased to thank the American Syringomyelia Alliance Project (ASAP), the ASAP registered support groups, Chiari Connection International, and Conquer Chiari for their kind cooperation. The participation of members of these organizations made completion of this dissertation possible.

Background

Chronic pain is a prevalent and devastating problem for the people who experience its suffering, associated disability and psychological distress. Furthermore, it is a major concern and for the society that also pays the social and economic cost (Ehde et al., 2003; Gatchel & Oordt, 2003; Gatchel & Turk, 1996; Katz, 1998; LeResche & Von Korff, 1999; Marcus, 2000; Swanson, 1999; Williams, 2004). This study explored whether treatment use and effective pain management can be predicted by acceptance of pain, affectivity, or attachment style in people with chronic pain.

Acceptance of pain involves two factors: a willingness to experience pain without necessarily taking action to avoid it and a shift in focus toward valued parts of life apart from pain (McCracken, 1999; Risdon et al., 2003). Acceptance does not mean resigning oneself to pain, or even believing that pain is manageable. Instead, it implies a continual balancing act between managing pain, accepting pain as a reality, and pursuing valued goals apart from pain (Hayes et al., 1999; McCracken & Eccleston, 2005; McCracken et al., 2004a; McCracken et al., 1999; McCracken, 1998; Risdon et al., 2003). Acceptance of pain is associated with better overall adjustment and positive change in quality of life

(Geiser, 1992; Gullacksen & Lidbeck, 2004; McCracken et al., 2004a; McCracken et al., 1999; McCracken, 1998; McCracken & Eccleston, 2005; McCracken & Vowles, 2008). Thus, acceptance-based approaches, such as Acceptance and Commitment Therapy (ACT) have been suggested for people with chronic pain (Dahl et al., 2005; McCracken et al., 2004a). To measure acceptance of pain, this study employed the Chronic Pain Acceptance Questionnaire (CPAQ), a 20-item measure of willingness to experience pain without trying to control it, as well as the degree to which one engages in life activities regardless of pain (McCracken et al., 2004b).

Affectivity refers to an individual's tendency to experience positive or negative emotions. Most people have had the experience of noticing that some people tend to have sunnier dispositions, while others may seem to see the glass as half empty. Affectivity can therefore be positive or negative. Positive affect is associated with better functioning for people with chronic pain (Kratz, Davis, & Zautra, 2007; Strand, Finset, & Zautra, 2003; Strand et al., 2006; Zautra et al., 2005). While negative affect is often a part of the chronic pain experience, it also tends to exacerbate pain and is associated with poorer outcomes (Crombez et al., 1999; Morley et al., 2005; Zautra, Johnson, & Davis, 2005). To measure affectivity, this study employed the Positive and Negative Affect Schedule (PANAS), a brief measure of positive and negative affect (Watson, 1988; Watson et al., 1988b)

Attachment style refers to a person's pattern of relating to and understanding his/herself and others, as well as his/her relationships with other people (Ciechanowski et al., 2001; Cozolino, 2002; Feeney & Noller, 1990). These patterns are generally established during childhood, and are relatively stable over time (Bretherton, 1992;

Schore, 2001). Attachment can be secure or insecure. That is, people can have a basic sense of trust and confidence in themselves and their relationships, or they feel a sense of mistrust, insecurity, or skepticism in their interactions (Ciechanowski et al., 2001; Feeney & Noller, 1990; Siegel, 1999). Insecure attachment does not mean disordered attachment; rather it is a normal variation (Siegel, 1999). Attachment in adults influences functioning in relationships and help-seeking behavior from professionals such as physicians (Taylor et al., 2000). To measure attachment style, this study employed the Attachment Style Questionnaire (ASQ), a 40-item measure of adult attachment style (Feeney, Noller, & Hanrahan, 1994; Fossati et al., 2003).

Methods

This study focused on people who had chronic pain associated with Syringomyelia, Chiari Malformation, and related conditions because people with these disorders often suffer from complex pain syndromes that provide a great deal of opportunity for treating and managing pain. The fact that the examiner had a pre-existing affiliation with the American Syringomyelia Alliance Project facilitated solicitation of participants, and this was an additional factor in choosing to focus on these disorders.

Before being administered in a closed format, the survey was administered in an open format to a pilot group of 12 respondents. The pilot group included subjects of a variety of ages and severities of chronic pain, and was demographically similar to the population of people diagnosed with Syringomyelia and Chiari malformation. The primary investigator solicited the pilot group's reactions to the survey items in order to determine whether they might have been unclear or misleading, or whether additional questions should be asked of subjects. The responses of the pilot group were used in

developing and editing the wording of and response alternatives to the multiple choice questions.

Participants for the survey were solicited from the ASAP list-serve and website, and subsequently the Conquer Chiari website and the Chiari Connections International list-serve. E-mails and calls were placed to the identified support groups to alert them to the survey, as well. A random number table was created using the contact information of individuals who expressed interest in participating in the survey. Participants were randomly selected from this list to be sent a link to the survey or the paper-and-pencil version.

The survey included demographic questions, an assessment of pain intensity, the Chronic Pain Acceptance Questionnaire, the Attachment Style Questionnaire, the Positive and Negative Affect Schedule, questions about pain management, and qualitative questions about the role of insurance in treatment use. The data were examined for central tendency and distribution. I performed cross-tabulations for the values of the CPAQ, the PANAS, and the ASQ according to demographic variables. Multiple regression equations were used to determine to what degree reported treatment use was correlated with acceptance as measured by the CPAQ, attachment as measured by the ASQ, and affectivity as measured by the PANAS. Effect sizes were determined for all correlations.

Descriptive Data

A total of 510 people began the survey and 412 people completed it. The majority of respondents completed the survey online. Participants ranged in age from 18 to 82, and about 81 percent were female. Pain Intensity scores ranged from 0.5 to 10.0

on a scale of 1 to 10, and the mean pain score was 4.9. While respondents reported normal levels of Negative Affect, Positive Affect scores were significantly lower than average for people without chronic pain. Participants obtained a range of scores on the CPAQ approximating the normal curve. Respondents obtained a similar range of scores on the ASQ, with the exception of one scale, Discomfort With Closeness, on which this sample obtained higher scores than the normal population.

As the examiner hoped, the respondents reported using a variety of different treatments and management techniques for chronic pain. The majority (85.9%) of respondents reported current use of medical management for their pain, and most of those (60.2%) reported using some medical treatment more than twice a day. While only 16.5% of respondents had surgery with the goal of pain relief within the past year, 60.4% of respondents reported having had surgery in the past. The high rate of medical use in this population is not surprising since diagnosis with Chiari Malformation or Syringomyelia often requires numerous visits to medical health care workers.

More than 80% of participants reported using self-management techniques for pain management, and most of those (42%) reported using self management more than once a day. It seems that for many respondents self management of pain is a part of daily life. As “self-management” can include a wide variety of techniques, further research that looks more closely at specific types of self-management would be interesting.

Response patterns suggest that this population had tried a wide variety of treatments, but had discontinued certain of them over time. While 27% of respondents reported current physical therapy, 74.3% indicated that they had used physical therapy in

the past. Although most participants reported no physical therapy, those that reported using physical therapy were most likely to report using it between 2 and 6 times a week.

Similarly, 34% of respondents reported current use of complementary or alternative treatments, while 57.5% of participants reported using complementary medicine in the past. Meanwhile, the majority of respondents who do use complementary medicine reported that they use it only several times a year. For most respondents, complementary treatments were not a central part of their pain management regimen.

Psychological pain management was the least used method among respondents, with 16.3% reporting current use and 34.5% reporting past use. Furthermore, those that reported using psychological management reported infrequent use. This lower rate of use of psychological management is likely due to a variety of factors such as insurance coverage and the perception that psychological treatments will blame the person with chronic pain for his/her suffering.

Results and Discussion

The results of this survey are consistent with a conceptualization of pain as the result of the interplay between biological, psychological, and social factors. The direction of causality for these factors is not simple as the relationship is typically bidirectional: the physical sensation of pain has an impact on psychological processes just as psychological processes have an impact on the physical perception of pain.

The context in which pain is experienced, including factors such as insurance, may have a significant impact on how pain is experienced and how it is managed. While personality factors such as attachment and approaches like acceptance may have an

impact on how a person seeks treatment, these factors will not supercede the influence of context, such as the person's insurance status.

The qualitative data gathered about the role of insurance in pain management revealed that insurance status was a significant factor in shaping pain management strategies and frequency of treatment use for many respondents. Younger respondents were particularly likely to report that their insurance had limited how often they could seek pain treatment. Respondents with higher levels of pain were more likely to experience the health insurance system as a barrier to pain management, while those with lower levels of pain more frequently reported that their health insurance facilitated adequate pain management.

A variety of themes emerged in the responses to the qualitative questions about insurance. The majority of respondents made some complaint about limits in their insurance coverage, or types of treatment or management that were not covered at all. Many of the respondents reported that they had access to a limited number of doctors in network, and particularly that they had little or no access to out of network specialists.

The costliness of insurance and of treatment even when covered by insurance was also a recurrent theme in these open-ended responses. In fact, about 12 percent of respondents noted that they had delayed or forgone treatment due to cost. 10 percent of respondents reported that they were unable to afford any insurance coverage.

However, not all respondents were entirely displeased with the role of their insurance in obtaining treatment. About 12 percent of respondents were completely or generally satisfied with their insurance coverage, while a number of participants stated that they used methods of pain management that do not require insurance.

In this study, female respondents employed a wider variety of pain management strategies, and were statistically more likely than male respondents to use complementary medicine, physical therapy, psychological pain management, and self management strategies. This may be related to receiving different gender-specific social messages about the proper way to manage injury or disease, and may also be influenced by statistically higher levels of negative affect among females in this sample, and in the general population. Despite higher levels of negative affect, female respondents did not differ from male respondents on the measure of acceptance of pain or pain intensity.

The majority of my hypotheses were supported or partially supported by the data in this survey. My hypotheses that people with higher levels of acceptance of pain would have higher levels of positive affect and lower levels of negative affect were both supported. In fact, these correlations were some of the most powerful effects observed in the data. The associations between acceptance of pain and affectivity underscore the importance of considering these factors and their potential influence on the success of acceptance-oriented interventions.

My hypothesis that people with higher acceptance of pain would tend to have secure attachment was also supported. This small to moderate correlation suggests that those with a secure attachment style may adopt acceptance of their pain more readily than those with insecure attachment. This correlation is likely related to differences in affectivity in people with secure versus insecure attachment. If this is the case, including interventions that would increase positive affect and decrease negative affect in people with insecure attachment in acceptance-based approaches to pain management may facilitate the development of a stance of acceptance of pain.

The moderate interaction observed between acceptance of pain and pain intensity was surprising in light of previous findings of little or no correlation between these two factors. In this sample, pain intensity was important in predicting an individual's level of acceptance of pain across a variety of pain intensities. Whether this is specific to populations with diagnoses of Chiari malformation and Syringomyelia is not known, and future research into whether the relationship between pain intensity and acceptance of pain varies by diagnosis would be interesting.

As predicted, there were significant correlations between acceptance of pain and patterns of treatment use, those these were not all in the expected direction. The correlation between acceptance of pain and medical treatment use varied significantly by frequency of use. While there was a moderate correlation between frequent medical treatment use and lower levels of acceptance, less frequent medical use was correlated with *higher* levels of acceptance of pain. It can be tentatively suggested that moderate medical treatment use was more likely to reflect appropriate pain management and less likely to reflect avoidance of pain. Acceptance of pain was also higher among people who did not use any medical treatment, though this was a small effect. Future research that explores patterns of medical treatment in more detail would be interesting.

Like medical treatment, use of physical therapy, psychological management, and complementary medicine were correlated with lower levels of acceptance of pain. On the other hand, use of self management of chronic pain was associated with higher levels of acceptance of pain. This was a small correlation, and was observable regardless of whether the respondents reported using self management a few times a year or every day.

It is interesting that in this sample respondents obtained relatively high scores on one scale that measures insecure attachment, Discomfort with Closeness. This causes me to wonder whether this scale might be elevated in people with chronic pain or disability. Some of the items on this scale (I prefer to depend on myself rather than other people, I find it difficult to depend on other people, While I want to get close to others, I feel uneasy about it, and Other people have their own problems, so I don't bother them with mine) reflect common themes noted by people with chronic pain in qualitative studies (Gullacksen & Lidbeck, 2004; Miles et al., 2005). These responses may reflect the process of adjustment to pain rather than a stable attachment style. Further research is recommended to clarify whether people with chronic pain and disability respond differently to these questions than people who do not have chronic pain. It is also possible that the development of chronic pain may prompt changes in some individuals' attachment models, despite the relative stability of attachment in adulthood. Whether this might occur in some cases is not clear.

My hypothesis that medical treatment use would be positively correlated with insecure attachment style was only partially support. While there was a correlation between high levels of medical use and higher scores on the insecure attachment scale Need for Approval, the findings on the Preoccupation with Relationships scale were mixed, with occasional medical treatment correlated with lower scores on this scale. It seems likely that the mixed findings in this case might be the result of the lack of direct questions about the number of medical *visits*, in addition to frequency of medical *treatment*. Some support for this was demonstrated by positive correlations between higher scores on the Preoccupation with Relationships scale and weekly psychological

pain management, and higher scores on the Need for Approval scale and frequent physical therapy, which both require visits to a health care provider.

This study suggests that those who use psychological pain management may be more likely to have an insecure attachment style. This was true across different patterns of psychological pain management. It also suggests that people who use psychological pain management tend to have lower levels of acceptance of pain, higher levels of pain intensity, and higher levels of negative affect than people who elect not to use psychological management. It is important that psychologists take these factors into consideration when developing pain treatment plans. The population of people with chronic pain who choose to use psychological pain management may benefit from interventions to decrease negative affect and increase acceptance of pain in the service of improving overall adjustment.

Respondents in this sample who reported use of complementary medicine or self management for chronic pain were statistically more likely to have secure attachment. It is not clear why this may be true, though it is possible that it may reflect an increased willingness to try methods of pain management outside of the traditional medical model in people with secure attachment. Future research could clarify this.

My hypothesis that negative affect would be positively correlated with insecure attachment was supported. Respondents with higher levels of insecure attachment were more likely to have higher levels of negative affect and pain intensity and lower levels of positive affect than those with secure attachment. It seems likely that acceptance of pain occurs as a gradual developmental process after a person begins to experience chronic pain (Gullacksen & Lidbeck, 2004; Miles et al., 2005). The development of acceptance

of pain may be facilitated by secure attachment, and delayed or impeded by insecure attachment. Furthermore, it seems likely that negative affect may interfere with acceptance. Consideration of these factors by medical and complementary health practitioners may facilitate more effective treatment delivery. Tailoring treatment delivery to individuals' acceptance of pain, affectivity, and attachment style may increase treatment compliance and ultimately improve quality of life for people with chronic pain.

In this course of conducting this study, I happened to discover a message board online on which a number of people were discussing this study and whether they would participate. Several of the people expressed reluctance to participate in the study after reading that the investigator was in the field of psychology. These individuals expressed concern that a psychologist would blame them for their own suffering, and would portray people with chronic pain in a negative light. For some of these people, this impression was apparently based on past experiences with psychologists. The expressed reluctance to participate in this study dissipated somewhat after one individual noted that I had been diagnosed with Chiari malformation and Syringomyelia. I believe the exchange on this message board is emblematic of a significant problem that psychologists have in treating people with chronic pain. People with chronic pain may not go to a psychologist for fear of being told it is "all in your head." This fear is significantly based on misunderstanding, though psychologists have in part earned this reputation. Developing a more nuanced understanding of adjustment to chronic pain could facilitate a more positive working relationship between people with chronic pain and psychologists.

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