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# The development of a back pain scale for Tswana speaking individuals

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## DECLARATION

I Michelle Ann Yazbek, declare that this thesis is my own work. It is being submitted for the degree of Doctor of Philosophy at the University of the Witwatersrand, Johannesburg, South Africa. It has not been submitted before for any degree or examination at this or any other University.

……

Michelle Yazbek

Signed this 18 th day of June 2015

## DEDICATION

For my parents who have loved and nurtured me, guided me and above all insisted on a good education for me, especially as a woman who grew up in a patriarchal culture.

For this, I am eternally grateful.

## ABSTRACT

Pain is a subjective sensation and is difficult to measure. Quantifying pain provides a measure of assessing effectiveness of treatment and behaviour of the patient's pain. In Africa unlike in the developed world, a paucity of research into the measurement of pain exists. Historically, Anglo-American scales have been used to measure pain in Africa.

**Aim:** The aim of this thesis was to develop a back pain scale for use in Tswana speaking South Africans.

**Methods:** Four hundred and forty participants from different education, gender and age groups participated in five studies. Study One developed new scales: Colour Analogue Scale(CAS green- red), modified Wong-Baker Faces Pain Scale (WBFPS three faces) , Ascending Injection Scale, Injection Size Scale, Ascending Coin Scale, Coin Heap Scale and previously used scales Visual Analogue Scale (VAS), CAS (white-red), WBFPS (six faces). Study Two tested these scales in 100 asymptomatic participants. "No pain" ""worst pain" was marked on original and reversed scales. Since no significant difference existed between the original and reversed versions, reversed versions were not taken further. In Study Three 40 back pain sufferers developed a Tswana Verbal Descriptive Scale. This was then tested together with the scales from the previous studies, in Study Four, in 250 Tswana individuals with back pain. Pain perception was marked on all scales. Study Five tested the Ascending Injection Scale and the Ascending Coin Scale (best scales from Study Four) and a right angle Triangle Scale in 50 back pain sufferers. "No pain", "worst pain" and "present pain" perception was marked on all scales.

**Results:** The Ascending Injection Scale was found to be the best understood pain scale in Tswana speaking, back pain sufferers.

**Conclusion:** The Ascending Injection Scale can be used to test back pain severity in Tswana speaking South Africans. I recommend that this scale be translated into the other black languages spoken in South Africa for testing and possible use.

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## TABLE OF CONTENTS


| | |
|---|---|
| **TITLE** | |
| **DECLARATION** | i |
| **DEDICATION** | ii |
| **ABSTRACT** | iii |
| **ACKNOWLEDGEMENTS** | IV |
| **TABLE OF CONTENTS** | V |
| **CONTENT OF CHAPTERS** | VI |
| **LIST OF DEFINITIONS AND ABBREVIATIONS** | XIV |
| **LIST OF FIGURES** | XVIII |
| **LIST OF TABLES** | XIX |
| **APPENDIX** | 223 |

**Chapter One INTRODUCTION.** **Page**

1.1Background and rationale for the study. 1

1.2 Problem statement. 4

1.3 Significance of study. 4

1.4 Operational definitions. 4

1.5 The aim of the thesis. 5

1.6 Objectives of the entire thesis. 6

1.7 Outline of the thesis. 9

**Chapter Two LITERATURE REVIEW.**

2.1 Introduction. 11

2.2 Background. 11

2.3 Pain. 11

2.4 Different types of pain. 13

2.4.1 Nociceptive pain. 14

2.4.1.1 Transduction. 15

2.4.1.2 Transmission. 15

2.4.1.3 Perception. 16

2.4.1.4 Modulation and descending inhibition of pain. 16

2.4.2 Neuropathic or neurogenic pain. 19

2.4.3 Psychogenic pain. 21

2.4.4. Idiopathic pain. 22

2.4.5 Somatic and visceral sources of pain. 22

2.5 Duration of pain. Acute and chronic pain. 22

2.6 Responses to pain. 25

2.6.1 Pain Catastrophization. 25

2.6.2 Fear of Pain. 26

2.6.3 Hypervigilance 30

2.7 Neural and psychosocial adaptations to pain. 30

2.8 “Wind-up”. 33

2.9 Different Models of Pain 34

2.9.1 The Bio-Medical Model. 34

2.9.2 The Bio-Cultural Model. 34

2.9.3 The Bio-Psychosocial Model. 34

2.9.4 The Cognitive- Behavioural Model. 39

2.9.5 Melzack’s body-self Neuromtrix Model of Pain. 40

2.10 Factors affecting the measurement of pain. 42

2.10.1 Pain Intensity. 42

2.10.2 Pain Tolerance and Pain Threshold. 43

2.10.3 Factors affecting pain perception and pain tolerance. 43

2.10.3.1The presence of pain and its effect on pain perception. 43

2.10.3.2 The presence of pain and its effect on pain tolerance. 44

2.10.3.3 Cognition, age and pain perception. 44

2.10.3.4 Cognition, age and pain tolerance. 45

2.10.3.5 Cultural factors and pain perception. 47

2.10.3.6 Cultural factors and pain tolerance. 51

2.10.3.7 Gender factors and pain perception. 52

2.10.3.8 Gender factors and pain tolerance. 56

2.10.3.9 Education levels and pain perception. 57

2.10.3.10 Education levels and pain tolerance. 60

2.10.3.11 Psychosocial factors affecting pain perception and tolerance. 60

2.11 The importance of understanding a person's pain. 62

2.12 Back pain. 63

2.12.1 Risk factors for low back pain. 64

2.12.2 Assessment of back pain. 64

2.13 Language and the translation process. 66

2.14 Cross-cultural adaptation. 67

2.15 The Pain Measurement tools 68

2.15.1 The Visual Analogue Scale (VAS). 69

2.15.2 The Wong-Baker Faces Pain Scale. 72

2.15.3 The Verbal Rating Scale. 73

2.16 The Scales tested in this thesis. 74

2.16.1 Money and Pain. 74

2.16.2 Injections and Pain. 76

2.16.3 Colour, Pain and Emotion. 77

2.16.4 Shapes and Pain. 79

2.17 Conclusion. 79

**Chapter Three STUDY ONE.**

**DEVELOPMENT OF THE SCALES FOR TESTING.**

3.1 Introduction. Aim of the study. 81

3.2 Method. 89

3.3 Ethical Considerations. 90

3.4 Translation of the scales. 90

3.6 Data Analysis. 91

3.7 Results. 91

3.8 Discussion. 94

**Chapter Four STUDY TWO.**

4.1 Introduction 97

4.2 The Aim of the study. 97

4.3 Data Analysis. 98

4.4 Results. 98

4.5. Discussion. 112

4.5.1 The spread of the scales. 112

4.5.2 The ends of all of the scales. 117

4.5.3 Other factors affecting the determination of pain perception. 121

4.6 Conclusion. 125

**Chapter Five STUDY THREE.**

5.1 Introduction. 128

5.2 The Aim of the study. 128

5.3 Method 128

5.5 Ethical Considerations. 128

5.7 Results. 132

5.8 Discussion. 136

5.9 Conclusion. 138

**Chapter Six STUDY FOUR.**

6.1Introduction. 139

6.2 The Aim of the study. 139

6.3 Method. 139

6.5 Ethical Considerations. 140

6.6.2 Data Analysis. 141

6.7 Results. 142

6.8 Discussion. 155

6.8.1 Understanding the Scales in the total group. 155

6.8.2 Gender differences in the scales. 161

6.8.3Education differences in the scales. 161

6.8.4 Age differences in the scales. 162

6.9 Conclusion. 163

**Chapter Seven STUDY FIVE.**

7.1 Introduction 165

7.2 The Aim of the study. 165

7.3 Method. 165

7.5 Ethical Considerations. 166

7.6.2 Data Analysis. 167

7.7 Results. 168

7.8 Discussion. 175

7.8.1 Pain perception. 175

7.8.2 The ends of the scales. 176

7.9 Conclusion. 177

**Chapter Eight DISCUSSION.**

8.1 Introduction. 178

8.2 The best understood scale. 178

8.6 Anecdotal data. 189

8.9 Strengths of this thesis. 193

8.10 Conclusion. 194

8.11 Recommendations. 194

**REFERENCES** 196

## LIST OF DEFINITIONS AND ABBREVIATIONS

| | |
|---|---|
| **IASP** | International Association for the Study of Pain |
| **VAS** | Visual Analogue Scale |
| **VAS1** | Visual Analogue Scale marked only with 0 and 10 |
| **VAS2** | Visual Analogue Scale marked in centimeters from 0 to 10 |
| **CAS** | Colour Analogue Scale |
| **NRS** | Numerical Rating Scale |
| **NRS-11** | An eleven point Numeric Rating Scale |
| **VRS** | Verbal Rating Scale |
| **VRS-4** | A four point Verbal Rating Scale |
| **VDS** | Verbal Descriptor Scale |
| **Asc Inj** | Ascending Injection Scale |
| **Inj Size** | Injection Size Scale |
| **Asc Coin** | Ascending Coin Scale |
| **Coin Heap** | Coin Heap Scale |
| **WBFPS 6** | Wong-Baker Faces Pain Scale (six faces) |
| **WBFPS 3** | Wong-Baker Faces Pain Scale (three faces) |
| **FPS-R** | Faces Pain Scale- Revised |
| **PCPS** | Pakistani Coin Pain Scale |
| **SOPA** | Survey of Pain Attitudes Scale |
| **CPG** | Chronic Pain Grade |

| | |
|---|---|
| **PCS** | Pain Catastrophizing Scale |
| **TPS** | Thermometer Pain Scale |
| **PCCQ** | Pain Control Centre Questionnaire |
| **MPQ** | McGill Pain Questionnaire |
| **SFMPQ** | Short Form McGill Pain Questionnaire |
| **PSFS** | Patient Specific Functional Scale |
| **BPI** | Brief Pain Inventory |
| **PBAPI** | Pain Beliefs and Perception Inventory |
| **PTM** | Pressure Threshold Meter |
| **PTL** | Pressure Tolerance Level |
| **PPT** | Pressure Pain Tolerance |
| **PT** | Pain Threshold |
| **PPI** | Present Pain Intensity |
| **CPP** | Chronic Pelvic Pain |
| **LBP** | Low Back Pain |
| **TMD** | Temporomandibular Pain Disorder |
| **AD** | Alzheimer's Disease |
| **ADL** | Activities of Daily Living |
| **BPS** | Bio-psychosocial Model |
| **CBT** | Cognitive Behavioural therapy |
| **PI** | Perfusion Index |
| **CPT** | Cold Pressor Task |

**PAG** Periaqueductal Grey matter

**RVM** Rostral Ventromedial Medulla

**Pain perception**= the conscious experience of discomfort when the pain threshold is reached.

**Pain threshold**= the point at which sufficient pain- transmitting stimuli has reached the brain.

**Pain tolerance**= the amount of pain the person can endure.

**Nociceptive pain**= pain as a result of normal activation of the sensory system by noxious stimuli.

**Neuropathic pain**= pain caused by damage to or dysfunction of nerves, spinal cord or brain.

**Psychogenic pain**= persistent pain with evidence of psychological disturbances.

**Idiopathic pain**=pain with no apparent cause.

**Somatic pain**= pain generated from deeper connective tissue such as muscles, tendons and joints.

**Visceral pain**= pain arising from internal organs.

**Acute pain**= pain lasting from seconds to three months.

**Chronic pain** = pain lasting more than three months.

**The following are Definitions for this thesis.**

**Ends of the scales**= at the left, lower end of the scale, nought depicts “no pain and at the right, higher end of the scale ten depicts “worst possible pain”.

**Spread of the scales**= the extent of the scale being used by the participants. This is calculated by subtracting the number marked by the participants for “no pain” (at the left, lower end of the scale) from the larger number (marked by the participants at the right, upper end of the scale), for “worst pain” e.g. if 1 is marked for “no pain” and 9 is marked for “worst pain”, then the spread of the scale is 9-1=8.

**LIST OF FIGURES** **Page**

**Figure 2.1** The basic structure of the pain pathway. 18

**Figure 2.2** The Fear-Avoidance Model of Chronic Pain. 29

**Figure 2.3** Flow diagram of Central Sensitization. 33

**Figure 2.4**The Bio-Cultural model of pain perception. 37

**Figure 2.5** The Bio-Psychosocial Theory of pain perception. 38

**Figure 2.6** Melzack's body-self Neuromatrix Model of Pain. 41

**Figure 3.1** The Tswana version of the Visual Analogue Scale (VAS). 81

**Figure 3.2**The Colour Analogue Scale (white to red). 84

**Figure 3.3**The Colour Analogue Scale (green to red). 84

**Figure 3.4** The Ascending Injection Scale. 85

**Figure 3.5** The Injection Size Scale. 86

**Figure 3.6**The Ascending Coin Scale. 87

**Figure 3.7** The Coin Heap Scale. 87

**Figure 3.8** The Wong-Baker Faces Pain Scale (six faces). 88

**Figure 3.9** The Wong-Baker Faces Pain Scale (three faces). 89

**Figure 7.7.1** Pain perception versus Ascending Injection Scale. 170

**Figure 7.7.2** Pain perception versus Ascending Coin Scale. 170

**Figure 7.7.3** Pain perception versus the Triangle Scale. 171

## LIST OF TABLES


**Page**

**Table 2.1**Classification of Pain. 14

**Table 2.2**Typical features of Neuropathic pain. 20

**Table 2.3**Differences between Acute and Chronic pain. 24

**Table 3.7.1**Comparison between the spread on original and reversed scales. 92

**Table 3.7.2**The correlations between the spread, indicated by the participants, of all of the original scales. 93

**Table 4.4.1**Demographic data for pain-free participants in Study Two. 99

**Table 4.4.2**Correlations between the spread of the scales for participants with an education level grade $\leq$ 12. 100

**Table 4.4.3**Correlations between the spread of all the scales for participants with an education level grade >12. 101

**Table 4.4.4**Differences in perception of the ends of the scales for the two education groups. 103

**Table 4.4.5**Differences in perception of the spread of the scales, between the two education groups. 105

**Table 4.4.6**The number and percentage of correct marking of the ends of all of the scales in both education groups. 106

**Table 4.4.7**The correlation of the spread of all the scales for gender males. 107

**Table 4.4.8**The correlation between the spread of all the scales for gender Females. 108

**Table 4.4.9**Differences in the perception of the ends of the scales for the two gender groups. 109

**Table 4.4.10**Differences in perception of the spread of the scales, between the genders. 110

**Table 4.4.11**The number and percentage of correct marking of the ends of all of the scales in both genders. 111

**Table 4.4.12** The participants preference of scales (percentage). 112

**Table 5.7.1**Demographic data for Study Three. 134

**Table 5.7.2**A comparison of the original Verbal Descriptors describing intensity of pain when split by gender. 135

**Table 5.7.3**A comparison of the shortened version of the Verbal Descriptors describing intensity of pain when split by gender. 136

**Table 6.7.1**Demographic data for Study Four. 143

**Table 6.7.2** Participants in each education level split by age. 143

**Table 6.7.3**The agreement between perceived pain and pain intensity marked on all of the scales. 144

**Table 6.7.4**The agreement between perceived pain and pain intensity marked on both Injection Scales and both Coin Scales when *+1, 0, -1* are assumed agreement. 145

**Table 6.7.5** The distribution of pain perception in the total population. 146

**Table 6.7.6**The agreement of pain perception and marked pain by gender. 147

**Table 6.7.7**Gender comparisons between all of the scales when *+1, 0, -1* are assumed agreement. 149

**Table 6.7.8** The agreement of pain perception and marked pain by education level. 150

**Table 6.7.9**Education level comparisons between the scales when *+1, 0,-1* are assumed agreement. 151

**Table 6.7.10** The agreement of pain perception and marked pain by age. 153

**Table 6.7.11**.Comparison of age groups with respect to agreement *(-1, 0, +1)* for the respective scales. 155

**Table 7.7.1** Demographic data for Study Five. 168

**Table 7.7.2** The age differences for the genders in Study Five. 168

**Table 7.7.3** The correlation between the Ascending Injection Scale, the Ascending Coin Scale and the Triangle Scale. 169

**Table 7.7.4** Gender comparisons between both of the Ascending Scales, for pain perception and the ends of the scales when *-1, 0, +1* are assumed agreement. 172

**Table 7.7.5** Education comparisons between both of the Ascending Scales, when *-1, 0, +1* are assumed agreement, for pain perception and the ends of the scales. 173

**Table 7.7.5** Age comparisons between both of the Ascending Scales, for pain perception, no pain and worst pain, when *-1, 0, +1* are assumed agreement. 174