

**Treatment Expectations and Pain Experience in Dutch and  
Non-western Non-native Patients with Non-Specific  
Chronic Low Back Pain:  
*A Cross-Cultural Study***

**Bachelor thesis**

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# **Abstract**

## **Aims and Objectives**

Previous studies have suggested that Dutch physiotherapists and non-native patients differ with regard to their clinical reality, including treatment expectations and pain experience. The majority of these studies were held from the physiotherapists' point of view. This study focuses on treatment expectations, and pain experience of Dutch and non-western non-native patients with non-specific chronic low back pain, undergoing physiotherapy treatment. In addition to this, self perceived health status is also measured. The studies' aim is to examine differences in clinical reality between Dutch and non-western non-native patients with non-specific chronic low back pain, from the patients' point of view.

## **Methods**

Treatment expectations were measured by a newly created questionnaire, containing 5 items. Each item consisted of a statement concerning treatment expectations, and a Likert-scale ranging from completely disagree – completely agree. Pain experience was measured as back pain disability by the Quebec Back Pain Disability Scale (QBPDS) and as pain intensity by three numeric-rating scales (NRSs), ranging from 0 (no pain) – 10 (worst pain imaginable). The Short-Form General Health Survey (SF-20) was used to measure self perceived health status.

## **Results**

Significant differences between Dutch and non-western non-native patients were found for treatment expectations, pain experience, and health status. ANCOVA analysis showed that these differences remained significant for one treatment expectation statement, even when controlling for employment status, education level, and pain experience. Differences in back pain disability and average pain intensity remained significant after controlling for education level and employment status.

## **Conclusion**

The study suggests that there are differences in the clinical reality of Dutch and non-western non-native patients. However, the relationship is very complex and influential factors, such as education level, employment status and pain intensity, could partially explain the differences that were found. With respect to treatment expectations, differences between Dutch and non-western non-native patients regarding the opinion that only the physiotherapist is responsible for curing the patient, remained significant after controlling for employment status, education level and pain experience. Overall the study offers some support to the idea that there are cultural differences in clinical reality between Dutch and non-western non-native patients.

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## Introduction

It is expected that in 2050 the amount of non-native citizens in the Netherlands will have grown from 19.6% to 28.7%. Based on these figures one can expect that the amount of non-native patients in the health care system and physiotherapist sector will also increase (Welbie, van Dolder, Agasi-Idenburg, Reesing, & Wittink 2009). With regard to health care, it has been suggested that cultural values and beliefs have great influence on this concept. According to Kleinman, Eisenberg, and Good (1978) communication about, and presentation of health symptoms, health care visits, length of time that people remain in treatment, and the manner in which people evaluate care, are all affected by cultural beliefs. Problems due to contradicting cultural beliefs can arise when non-native citizens - defined as someone of whom at least one parent is born outside the native country (Centraal bureau voor de statistiek [CBS]a, 2011) - enter the (native) health care system. Non-native citizens' cultural beliefs about illness, health and medical care, may be unfamiliar to native health care providers. These different beliefs and other factors, such as language barriers and different expectations, can lead to serious problems concerning the (non-native) patient – care provider relationship (Dogan, Tschudin, Hot, & Özkan 2009).

The influence of origin and culture on the treatment process of non-specific chronic low back pain patients is examined in this study. Non-specific back pain is defined as pain that can not be described to a pathological cause (Picavet, 2005). The consequences and duration of back pain can vary significantly, it becomes chronic when it is present for a period of at least twelve weeks (Faber et al., 2008). Low back pain is a common problem in the western world and has substantial social-economic consequences, such as high health care costs. Within the sector of physiotherapy, low back pain is the most common diagnoses (Faber et al., 2008).

Previous studies on cultural differences within the physiotherapeutic sector have shown that cultural differences between non-native patients and native physiotherapists can lead to problems such as language barriers, different expectations concerning treatment content, and styles of living that do not fit within the physiotherapeutic treatment process (Welbie et al., 2009). In the Netherlands there have been several studies that focused on cultural differences and related problems within the physiotherapeutic sector (Noorderhaven, 2009; Sloots et al., 2009,2010; Welbie et al., 2009). Welbie et al. (2009) examined the problems that

physiotherapists mentioned when working with non-native patients and suggested that these can be categorized into seven core problems. One of these core problems was a difference in clinical reality between non-native patients and native physiotherapists (Welbie et al., 2009). Following Kleinman (1981), clinical reality was defined as; ‘the beliefs, expectations, norms, behaviours, and communicative transactions associated with sickness, health care seeking, practitioner-patient relationships, therapeutic activities, and evaluation of outcomes’ (Kleinman, 1981, p.42).

The study of Welbie et al (2009) and the other previous studies on this topic by Sloots et al. (2009), and Sloots et al (2010), focused on cultural differences between native physiotherapists/physicians and non-native patients, from the care providers’ point of view. Besides this, the majority of the research methods that were used in these studies were of qualitative nature. To date, no studies have examined these cultural differences between Dutch and non-native patients, from the patients’ point of view. This study is based on the previous mentioned studies and conclusions, however, this study is held from the patients’ point of view and quantitative research measures are used. The studies’ aim is to examine differences in clinical reality between Dutch and non-western non-native patients with non-specific chronic low back pain, from the patients’ point of view.

## **Theoretical Framework**

### **Non-Specific Chronic Low Back Pain**

In the Netherlands there are circa 2.4 million adults that suffer from chronic low back pain (Gommer & Poos, 2010). About 90% of all back pain is non-specific, meaning that there is no specific medical or physical cause (Picavet, 2005). Low back pain is pain within the region between the lower ribs and the lower part of the buttock. Occasionally, the pain also spreads to the upper leg(s) (Faber et al., 2008). The prevalence of the ailment is high, in epidemiological studies, around 60 – 90 % of the Dutch population reported to have had lower back pain in the past (Kwaliteitsinstituut voor de gezondheidszorg [CBO], 2003). This high prevalence leads to high direct costs (medical expenses) and indirect costs due to absenteeism. Additionally, it is also a cause of disability, making it a major health problem (Sloots, 2010). In the year 2005, the costs accounted for by low back and neck pain in the Netherlands were estimated at 867.2 million euro, which was approximately 1.3% of the total

amount of healthcare costs (van Wieren, van Tulder, Koes & Poos, 2008). On a yearly basis about 6.8% of the Dutch population visits their physicians due to back pain. Little over 27% of these patients will be referred to paramedical care and most of these patients will end up at a physiotherapist (Picavet, 2005). Within the physiotherapy sector there is a significant amount of patients with either back or neck problems. In the top ten of conditions for which patients have been referred to a physiotherapist, the three most common conditions are related to back or neck problems (Swinkels & Leemrijse, 2006).

Low back problems occur at many different layers within the society. There are only minor social economic differences in the incidence of lower back problems (Picavet, 2005). Furthermore, the occurrence of low back pain among women is slightly higher than among men, however these are also small differences (Gommer & Poos, 2010). There are several professions in which the risk of low back problems is increased. These are professions that are characterized by manually transferring cargo, frequently bending and rotating of the torso, or heavy physical exertion and strain (Picavet, 2005). Additionally, there is no evidence that the incidence of chronic low back pain is higher in ethnic minorities compared to native patients (Sloots, 2010).

## **Non-native Citizens**

### *General Information*

According to the CBS (Central Bureau of Statistics) a non-native citizen is someone of whom at least one parent is born outside the native country (CBSa, 2011). There is a further distinction between first generation and second generation non-native citizens. A first generation non-native citizen is someone who is born outside the native country while at least one of their parents is also born outside the native country. A second generation non-native citizen is someone who is born in the native country, with either one parent born outside the native country, or with both of their parents born outside the native country (CBSa, 2011). Another manner of classifying non-native citizens is by assigning them to be either western or non-western non-natives. Western non-natives are citizens that are born, or of whom at least one of their parents is born in; Europe (apart from Turkey), North-America, Oceania, Indonesia or Japan. Non western non-native citizens are born, or at least one of their parents is born in; Africa, Latin-America, Asia (apart from Indonesia or Japan) or Turkey (CBSa, 2011). In 2011, there were 1.74 million first generation non-natives, and 1.69 million second

generation non-natives that lived in the Netherlands. Of the second generation non-native citizens, 968.000 had one parent who was born outside the native country and 724.000 had two parents who were born outside the native country (CBSb, 2011). (See table 1)

**Table 1. Numbers of non-native citizens in the Netherlands.**

	Total population	First generation non-native citizens	Second generation non-native citizens	One parent born outside native country	Both parents born outside native country
2011	16 655 799	1 735 217	1 691 802	967 754	724 048

Note: CBSb (2011)

### *Non-natives in the East of the Netherlands and Enschede*

The majority of all non-native citizens that live in the Netherlands are residents in the West region of the Netherlands, which consists of four provinces (CBSb, 2011). The participants in this research were almost all treated at a physiotherapist practice which is located in the East of the Netherlands. In 2010 around 3.5 million citizens lived in the East region of the Netherlands, which is made up of three provinces. Of these citizens, 285 thousand (8.1%) were non-western non-native citizens and 263 thousand (7.4%) were western non-natives (CBSb, 2011). With regard to the city in which most respondents of this study are treated, Enschede, this city had 157.848 residents in 2011. Of these residents, 112.818 (71%) were native citizens, 26.048 (17%) were non-western non-native citizens and 18.982 (12%) were western non-natives (I&O research, 2011).

### **Non-natives within Health Care & Physiotherapy**

Several differences between native and non-native patients, concerning the use of health care facilities in the Netherlands have been noted. These vary significantly, depending on the type of health care facility. For instance, the share of citizens that contact their physicians during a year is larger within the group of non-native citizens compared to native citizens (van der Lucht & Verweij, 2010). Non-native citizens also contact their physician more frequently, and the rate of admission to hospitals is also higher under non-native citizens. On the other hand, these citizens make less use of other health care services, such as dental facilities, physiotherapist treatments, home-care, and nursing homes. These figures are based on a national study in 2001-2002 (van der Lucht & Verweij, 2010). In the case of physiotherapist visits, studies in 2001 en 2003 pointed out that especially non-natives with Moroccan and Turkish backgrounds, made less use of physiotherapist facilities compared to native citizens (Foets, van der Lucht & Droomers, 2005). Later studies found that there were only minor differences in the use of physiotherapist facilities. Differences were found only in females

within the age groups of 15-25 and 45-60. Within the first age group, non-natives visited the physiotherapist less often, and within the second age group non-natives visited the physiotherapist more often (Uiters & Verweij, 2009).

### *Cultural Differences*

When examining the impact of culture on care, it is important not to confound race and culture. Culture is about learned, not inherited values and beliefs (Noorderhaven, 1999). According to Kleinman et al. (1978), the way we communicate about our health problems, how we present our symptoms, to whom and when we go for care, the length of time we remain in care, and the manner in which we evaluate that care, are all affected by cultural beliefs. Concepts such as illness or health status are not restricted by medical care only, they are also social phenomena. Furthermore, the cultures and beliefs about health, illness and medical care of non-native citizens may be unfamiliar to local health care providers (Dogan et al., 2009). Dissimilarities between non-native and native patients can negatively affect the treatment process of non-native patients, particularly because their perceptions and beliefs differ from those that are ‘common’ in the native country. Furthermore, serious problems can arise concerning the (non-native) patient – care provider relationship, due to differences in beliefs and other factors such as, language barriers and different expectations (Dogan et al., 2009).

With regard to the physiotherapy sector, several studies focussed on non-native citizens and the influence of culture. For instance, Noorderhaven (1999) found that beliefs of non-natives relating to illness, pain, diagnostics, therapy and treatment can differ from those of their (native) physiotherapists, which may cause serious impairment to the effectiveness of the treatment. The study also pointed out that differences between cultures, in what is seen as proper roles and behaviours for men and women, can easily lead to tension (Noorderhaven, 1999). Other research on differences between non-native patients and their physiotherapists showed that problems can also be found in other areas, such as language barriers, low level of general knowledge, and styles of living that do not fit within the physiotherapeutic treatment process (Welbie et al., 2009).

The aim of the latter study, which was done in the Netherlands by Welbie et al. (2009), was to make an inventory of the problems that physiotherapists experience when working with non-native patients. According to the physiotherapists that participated in this study there were



many problems, some more severe than others. Out of all these problems, seven core problems were defined, of which the first three seemed to be most important. All the problems that were mentioned by the physiotherapists were classified according to the seven core problems. These were; (1) ‘language barriers’, (2) ‘organizational problems’ (e.g. reduced punctuality in patient, extra arrangements required unrelated to treatment), (3) ‘differences in clinical reality’ (e.g. differences in expectations, strong external locus of control in patient), (4) ‘low levels of knowledge, skills and notion of the patient’ (e.g. reduced information exchange, reduced appliance of clinimetrics possible), (5) ‘differences in norms, values and manners’ (incomprehension due to different lifestyles, mutually reduced confidence), (6) ‘factors that impair recuperation’ (e.g. socioeconomic factors, unhealthy lifestyles) and (7) ‘negative feelings/emotions of the therapist’ (e.g. frustration, impatience due to barriers/problems). The physiotherapists often experienced more than one core problem at the same time, during the treatment process (Welbie et al., 2009). It is the problem ‘differences in clinical reality’ that is central in this study, therefore the concept of clinical reality will be discussed next.

## **Clinical Reality**

The theoretical assumptions that constitute to the framework for this study are based on the work of Kleinman (1981) about Social and Clinical Reality.

### *Kleinman’s health care system*

According to Kleinman (1981), in every society, health care activities are more or less interrelated, therefore, these activities should be viewed as responses to disease that are socially organized. This social organization is based on a special cultural system; the health care system. This special system, like other cultural systems, ‘integrates the health-related components of society’ (Kleinman, 1981, p.24). Examples of these components are; beliefs about causes of illness, norms governing choice and evaluation of treatments, and interaction settings. Patients and healers are basic components of this system and are part of the specific cultural meanings and social relationships within the system. Therefore, they should be understood within this context (Kleinman, 1981).

### *Social and Clinical Reality*

In accordance with Kleinman (1981), when cross-cultural studies focus on disease or patients, these concepts should be located within a particular health care system. Health care systems are said to be socially and culturally constructed. They are types of social reality which is defined as; ‘the world of human interactions existing outside the individual and between individuals’ (Kleinman, 1981, p.35). Depending on the existing social reality, certain meanings, social structural configuration, and behaviours are legitimate while others are not. This process is coordinated by a system of cultural rules. Social realities differ between societies, social groups, professions and sometimes even between families and individuals. The health-related aspects of social reality, are called clinical reality, which is defined as; ‘the beliefs, expectations, norms, behaviours, and communicative transactions associated with sickness, health care seeking, practitioner-patient relationships, therapeutic activities, and evaluation of outcomes’ (Kleinman, 1981, p.42). As mentioned before, health care systems are forms of social reality. Within a local level, these systems are created by a collective view, but can be used slightly different by dissimilar social groups. The perception and use of health resources within a local level can be influenced by factors such as class education, religion, and ethnicity. As a result this can lead to the construction of different clinical realities within the same health care system (Kleinman, 1981).

Differences in clinical reality were further investigated in the study of Welbie et al. (2009). Based on the interviews of Dutch physiotherapists, different aspects of clinical reality were mentioned and ranked according to their frequency/importance. Two of the three most frequent mentioned problems in this study were; ‘different expectations about the therapeutic process’, and ‘different pain experience’. Expectations about the therapeutic process and pain experience are concepts that can be described in many different ways.

### *Expectations about the therapeutic process*

Before previous research regarding cultural influences on expectations of patients is discussed, the concept expectations will be defined. Van Hartingsveld et al. (2010) distinguished two types of expectations; outcome expectations and self-efficacy expectations. Within the realm of health care, outcome expectations can be considered as treatment-related and self-efficacy can be considered as patient-related (van Hartingsveld et al., 2010). In order to cover relevant aspects of expectations about the treatment process, the category of treatment-related expectations can be extended by adding process-expectations (besides

outcome expectations). Process expectations are understood as ‘beliefs about the content and process of interventions’ (van Hartingsveld et al., 2010, p.470). It is this last type of expectations that is examined in this study.

With regard to low back pain treatment, there is a variety of treatment approaches that are being used by physiotherapists (Liddle, Baxter & Gracey, 2006). In general patients are advised to stay active and exercise therapy is often a major part of the treatment. Cognitive-behavioural treatment is another approach that is frequently applied in the treatment of chronic low back pain. Both this approach and exercise treatment require active involvement of the patient (van Hartingsveld et al., 2010). Health providers in the Netherlands are often of the opinion that chronic non-specific low back pain is not caused by medical factors only, but that it is influenced by psychological factors as well. Consequently, health providers often no longer aim for curing patients, and are more focused on management and care. This has led to a growing demand on the self-management skills of patients (Sloots et al., 2010).

It can be valuable for the treatment process to know the patients’ expectations because there is a close link between expectations and the dimensions of satisfaction. Patients are often not satisfied about the treatment because their expectations were not met. If care providers want to increase patients’ satisfaction it is important to know about which aspects of care they are not satisfied (Verbeek, Sengers, Riemens & Haafkens, 2004). Furthermore, it is recognized that patients that are satisfied with the healthcare encounter are more likely to act in accordance with given instructions, which can promote the effectiveness of treatment (Liddle et al., 2006).

A systematic review of qualitative and quantitative studies on back pain patients’ expectations by Verbeek et al. (2004), found that there is a gap between the expectations of low back pain patients and what is offered by health care providers. Low back pain patients, in general/independent of culture, expect an explanation for their pain (diagnoses), physical examination, and pain relief as primary objective, whereas the practice guideline for care providers recommends refraining from diagnostic tests in patients with non-specific back pain, and exercise therapy and coping with pain is often the primary treatment aim (van Hartingsveld et al., 2010; Verbeek et al., 2004). Patients also wish to know the cause of their pain, while the practice guideline stresses that there is no pathological cause to their pain known (Verbeek et al., 2004). Similar results were obtained by Grimmer, Sheppard, Pitt,

Magary and Trott (1999). Furthermore, both studies found that there were differences between more and less experienced patients. Naïve patients had fewer clear expectations, while expert patients wanted more information and were more eager to be part of the management and decision making process (Grimmer et al., 1999; Verbeek et al., 2004).

#### *Cultural influence on treatment expectations*

Even though the review of Verbeek et al. (2004) found differences in expectations that were not related to culture, the studies that were analyzed all originated from developed Western countries. A study by Sloots et al. (2010) compared the treatment expectations of non-native chronic low back pain patients that were treated in Dutch rehabilitation centres with the expectations of their native physicians. The expectations of the two groups seemed to differ with regard to some aspects. According to the (native) physicians, non-native patients expected to be provided with a specific medical diagnosis and wanted to have more insight into the cause of their symptoms. Moreover, they wanted to be cured by their physicians and expected them to find a way of relieving their pain, which should be the primary aim of treatment. Other patients were of the opinion that physical therapy was of no additional value. According to the physicians, non-native patients were more focused on external solutions of the pain (e.g. medication). Other studies found that expectations about the treatment process that differ from those of the care providers' are potentially more common under non-native patients than native patients (Sloots et al., 2010). A study by Sloots et al. (2009), found that Dutch physicians believed that non-native patients aim for pain relief more often and stronger than native patients do. Furthermore, according to their physicians, non-native patients more strongly emphasised responsibility of the physician with regard to health, illness and treatments, compared with native patients. Suggesting that these patients expect a medical treatment as apposed to treatment aiming for coping with pain, while the latter aim is often adopted by their physicians (Sloots et al., 2010).

#### *Pain experience*

A lot of research has been done on the influence of culture, race and ethnicity on pain perception and experience. For instance, Riley et al. (2002) stated that pain prevalence, severity, and impact on functioning may vary due to differences in ethnicity. Furthermore, they found that African American patients reported higher levels of pain unpleasantness, emotional response to pain, and pain behaviours, compared to White Americans. Another study found that Afro-West Indians reported lower levels of pain than Anglo-Saxons who in

turn reported lower levels of pain compared to Asians (Thomas & Rose, 1991). Furthermore, it was stated by Vlaar et al. (2007) that patients from the Mediterranean region were more sensitive to pain than patients from Northern Europe. Additionally, their study found that physical function and perception of pain intensity were significantly worse in Egyptian women in comparison with Dutch women. This is supported by ten Klooster et al. (2006) who found significant differences in pain scores, and physical functioning between Egyptian and Dutch female arthritis patients. These examples demonstrate that there is a large amount of evidence which suggests that pain perceptions and experiences can vary across ethnic or cultural groups, however there are many influential factors and possible confounders that may explain these observed differences. For instance Green et al. (2003) suggested that non-Hispanic White Americans with chronic pain report less pain severity and disability caused by pain than African Americans. However they also stated that it was not clear whether these findings were possible signs of under-treatment, over reporting, differences in pain sensitivity, or a combination of these. Furthermore Vlaar et al. (2007) found that pain intensity scores were significantly higher in unemployed women than employed women. A study on women with fibromyalgia found differences in pain levels and severity of symptoms between patients from Mediterranean and European-American origin, however, these differences disappeared when results were adjusted for age and education (Vlaar et al., 2007). Other influential factors that have been suggested are different treatment strategies, ethnic or cultural differences in perception and reporting of pain and disability (ten Klooster et al., 2006). Moreover, several biological, social, psychological and medical mechanisms that may differ between cultural or ethnic groups have also been suggested to influence reported pain (Vlaar et al., 2007). Possible explanations for these findings also have been given. It has been suggested that ethnic and cultural factors are more strongly related with the emotional experience / affective component of pain than with the sensory experience / sensory component of pain (Vlaar et al., 2007; Green et al., 2003). An important note regarding this information has to be given. A major share of the research done on the topic of cultural differences in pain experience has been held in the United States, with most of the available data comparing African Americans, Caucasians and/or Hispanics (Green et al., 2003).

### *Health Status*

Research on differences in self-rated health in the Netherlands, has found that non-native citizens perceive their health to be substantially worse than native citizens. The amount of people between 18-65 years old, that perceive their health as poor or extremely poor is higher

under non-native citizens than under native citizens. This is especially the case for non-natives with Turkish or Moroccan cultural backgrounds. These differences were found to be significant, and were independent of gender, age, and education effects, marital status, or occupation status (Deeg, 2009). Another study found similar results, most first generation immigrants reported a poorer health compared to Dutch citizens. This was especially the case for Turkish and Moroccan non-natives. Furthermore the study found that socioeconomic circumstances could only partially explain the adverse health status of non-native citizens, and racial or biological factors did not have significant explanatory value with regard to differences in health status (Reijneveld, 1998).

### **Research Questions**

Based on the work of Welbie et al. (2009) and Kleinman (1981), the main research question of this study is stated as follows: *To what extent do Dutch non-specific chronic low back pain patients differ from non-western non-native patients with regard to their clinical reality?*

Clinical reality is a complex concept which covers a variety of factors that affect the treatment process. Therefore, this study focuses on two of the three problems concerning clinical reality that were most frequently mentioned by the physiotherapists in the study of Welbie et al. (2009); ‘differences in expectations about the therapeutic process’, and ‘a different pain experience’. However, in this study differences between patients are examined, leading to the following sub questions; *To what degree do Dutch non-specific chronic low back pain patients have different treatment expectations compared to non-western non-native patients?*, and, *To what degree do Dutch non-specific chronic low back pain patients have a different pain experience compared to non-western non-native patients?*

Besides this, because general health may influence the concepts that are examined in this study, measures on self reported health status are also taken.

# Methods

## Study Design and Participants

A cross-cultural survey study was carried out. Data on treatment expectations, pain experience and health status were collected, along with personal information concerning, gender, age, educational background, ethnicity, work/study status, and disease duration. Almost all respondents in this study were patients that received treatment at the physiotherapy practice FysioGym, located in the south of Enschede in the Netherlands. Four non-native patients received treatment at a different practice, due to lack of available respondents at FysioGym. The physiotherapists were all informed about the aim of the study and inclusion/exclusion criteria. Patients were qualified to be included in the study if they were diagnosed with non-specific chronic low back pain. Furthermore, the patients needed to be either Dutch or non-western non-native citizens. The preliminary aim was to compose two groups, each consisting of 20 patients. The original Dutch sample consisted of more than 20 patients. In order to reduce the number of possible confounders, the final Dutch sample of 20 patients was matched for gender, age, and disease duration. The patients were all requested to participate in the study by their physiotherapists and filled in the questionnaires individually at the practice. Since some of the non-native patients had difficulties filling in the questionnaires individually, they were assisted by the researcher. Due to the fact that the physiotherapists took the responsibility of addressing the patients, no information on the number of patients that were requested to participate, or information concerning non-response is available.

## Measures

All instruments that were used in this study were selected based on their psychometric properties, the length of administration and the level of (language) difficulty. The latter reason seemed important as almost half of the respondents that participated in the study were not born in the Netherlands and some had restricted knowledge of the Dutch language.

### *Demographic characteristics*

The variable age was measured by stating the respondents' age in years. Furthermore, the questions on gender (male/female), study status and employment status (both yes/no), all

contained two response options. In order to identify the respondents' origin, they were asked to state their own, their fathers, and their mothers birth country. For the variable level of education, respondents were asked to state the highest level of education that they have completed. For this question, six response options were provided; 'none', 'primary school', 'secondary school', 'middle vocational education', 'higher vocational education', and 'university'. Finally, in order to measure disease duration, the respondents were asked to state how long they suffered from low back pain. Four response options to this question were provided; 'six months or less', 'six months – one year', 'one year – two years', and 'two years or more'.

### *Treatment expectations*

A literature search for studies concerning quantitative instruments to measure patients' expectations provided limited results. A systematic overview by van Hartingsveld et al. (2010) that was aimed to identify and describe the psychometric properties of all relevant published measurement instruments assessing the expectations of patients with musculoskeletal disorders (MSD) identified 24 relevant instruments. Three of these instruments were specifically developed for chronic pain, however these instruments measured outcome expectations only. According to van Hartingsveld et al. (2010) only two of the other instruments considered process expectations in addition to outcome expectations, these were the Patients Expectations Questionnaire (PEQ) (Metcalf, 2003), and the Credibility/Expectancy Questionnaire (CEQ) (Deville & Borcovec, 2000). The PEQ was developed to measure outcome expectations and generalized self-efficacy. The CEQ consisted of 6 items, however an insufficient amount of items were aimed on process expectations as most items measured outcome expectations (van Hartingsveld et al., 2010).

Due to the unsatisfactory properties of these instruments and because no other studies concerning relevant instruments were found, a new questionnaire was developed. This questionnaire was based on the findings of Sloots et al. (2009) and Sloots et al. (2010), in their studies on the problems that Dutch physicians encounter when working with non-native patients. In addition to this, the questionnaire was developed in consultation with the physiotherapists that work at FysioGym. The questionnaire consisted of 5 statements concerning expectations about the treatment process. A Likert Scale was used with 5 response options ranging from completely disagree (1) – completely agree (5).



The first statement concerns the primary aim of treatment. According to Sloots et al. (2009), non-native patients aim for pain relief more often or stronger than Dutch patients. The statement was formulated as follows; ‘the primary aim of the treatment should be: reduce my back pain’. The second and third statements concerned the importance of physiotherapeutic treatment, and physical training respectively. Sloots et al. (2010) found in their study that according to their physicians non-native patients often search for a medical treatment, while the physicians offer a treatment focused on physical training. Formulations of statements two and three were as follows; ‘treatment by the physiotherapist, like massages, are the most important part of my (back)therapy’ and ‘working out and exercises are the most important part of my (back)therapy’, respectively. Statement four considered the patients’ opinion regarding the responsibility of treatment. According to Sloots et al. (2010), non-native patients expect to be cured by their physiotherapist more strongly than Dutch patients. The statement is worded as; ‘it is the job of the physiotherapist to cure me from my back pain, and not my own job’. Finally, statement five considered the patients’ locus of control. It has been suggested that non-native patients have a stronger external locus of control than Dutch patients, and that they are more focused on an external solution (Sloots et al., 2010). Statement five is formulated as follows; ‘my own behaviour is more important to reduce my back pain than the physiotherapists’ assistance’. Because all five items were expected to measure different concepts, they were analyzed separately.

### *Back pain disability*

In order to measure pain experience the Quebec Back Pain Disability Questionnaire (QBPDS) (Kopeck, Esdail, & Abrahamowicz, 1995), was administered. This questionnaire consists of 20 items concerning daily activities. The patients were asked how much difficulties they experienced in executing the activities that day. Examples of these items are, ‘getting out of bed’, ‘walking a flight of stairs’, ‘open or close a heavy door’, and ‘carrying two bags with groceries’. A six-point verbal numerical scale, ranging from 0 (no difficulties) to 5 (unable to perform) is provided for response options. The scores on the individual items are added up, leading to a total sum score that can range from 0 – 100 points (Schoppink, van Tulder, Koes, Beurskens & de Bie, 1996). According to Schoppink et al (1996), previous studies suggested that the English and French versions of the QBPDS were highly reliable, valid and responsive. Their study supported those findings for the Dutch version of the QBPDS. Their results showed that the reliability, indicated by test-retest reproducibility, internal consistency and cross-sectional construct validity of the scale proved to be high. Additionally, the

longitudinal construct validity was moderately high (Schoppink et al., 1996). This suggests that the Dutch version of the QBPDS is a good translation of the English version, and seems to be a valid and reliable questionnaire for the assessment of the functional status of patients with low back pain (Schoppink et al., 1996). Internal consistency of the QBPDS in this study was high with Cronbach's alpha = .90

### *Pain intensity*

In addition to the QBPDS three numerical rating scales (NRSs) were added to the studies' total questionnaire to measure the self-reported pain intensity. For each NRS patients were asked to rate the level of perceived pain intensity on a numerical scale ranging from 0 – 10, with the zero representing 'no pain' and the 10 representing 'the worst pain possible'. This rating scale is similar to the Visual Analogue Scale (VAS), which is a horizontal 100-mm rating scale ranging from "no pain" (0) to "severe pain" (100) (Vlaar et al., 2007). The NRS was chosen over the VAS because the latter requires ability to understand the abstract concept of the VAS line and relate it to distance from a zero mark (Cork et al., 2004). Several studies have shown that some patients have difficulties interpreting the line and completing the VAS (Cork et al., 2004; Vlaar et al., 2007). The NRS is less abstract and relatively simple to understand. Especially when the illiteracy level is high in a population, as is the case in some of respondents' countries of origin, the NRS may be a better choice than the VAS for assessing pain (Vlaar et al., 2007). In previous studies the NRS has shown to be a valid and reliable measure of pain perception (Cork et al., 2004). In this study three NRSs were provided, the first one measuring self-perceived pain intensity during rest, and the other two during moderate and high intensity exercise. Internal consistency of the three scales was high with Cronbach's alpha = .86. Therefore, the scores on the three scales were combined and this new average score was used in further analyses.

### *Health status*

Self-perceived health status was measured by the Short-Form General Health Survey (SF-20). The SF-20 is a short multi-dimensional instrument which measures six subscales of health status; physical functioning (six items), mental health (five items), general health perceptions (five items), role functioning (two items), social functioning, and bodily pain (both one item), with a total of 20 items (Carver, Chapman, Thomas, Stadnyk, & Rockwood, 1999). The response options for each subscale vary, the scores are coded a calibrated so that all six subscales are weighted equally. All end scores range from 0 – 100. For all subscales except

bodily pain higher scores represent better health (0=worst health, 100=best health). Higher scores on the bodily pain subscale represent worse health (0=best health, 100=worst health). The scores on the subscales are indicators for quality of life (related to health) (Kempen, Brilman, Heyink, & Ormel, 1995). The subscales physical functioning, role functioning, social functioning examine possible restrictions in daily activities relating to physical (e.g. walking), role (e.g. performing a job), and social (e.g. visiting family) aspects of daily life. Mental health is measured in terms of psychological distress and consent. The subscale general health perceptions represents the respondents' estimate of their current general health, and the subscale bodily pain examines possible bodily discomfort (Kempen et al., 1995). Data concerning the internal consistency that has been found in previous studies varies, with some studies stating Cronbach's alpha coefficients ranging from .76 - .88 and others stating lower numbers (Kempen et al., 1995). In terms of validity, the convergent construct validity of the SF-20 is supported by reasonable correlation coefficients. On the other hand, weak support was found for the discriminant validity in several studies (Carver et al., 1999; Kempen et al., 1995). However, a study by Kempen et al. (1995) suggested that in general the consistency between corresponding instruments was higher compared to the consistency between non-corresponding instruments. With regard to reliability, evidence to support the test-retest reliability has been found, with correlations of .58 and .69 for the subscales bodily pain and role functioning respectively, and correlation of at least .75 for the other four subscales (Kempen et al., 1995). Overall the results suggest that the psychometric properties of the SF-20 are satisfying, and the instrument provides a global general health description in a short amount of time (Carver et al., 1999; Kempen et al., 1995). In this study, internal consistency of the four subscales (consisting of more than one item); bodily functioning, role functioning, mental health, and general health perceptions, were moderate to high, with Cronbach's alpha's of .58, .83, .87, and .87 respectively.

## **Analysis**

Analyses were performed using SPSS 16.0 for windows. Differences in the demographic characteristics of the native and the non-native respondents were tested using an independent sample *t* test for the continuous variable age, and Pearson's chi-square tests and Mann-Whitney *U* tests for the nominal and ordinal variables respectively. Differences in scores of the Dutch and non-native respondents on the SF-20, QBPDS, NRS scales and the treatment expectations questionnaire, were tested using independent sample *t* tests. The items of the

expectations questionnaire that showed significant differences between the two groups were analysed further. Correlations between these items, and demographic variables, and other clinical variables, were analyzed using Spearman's coefficients. In order to assess whether demographic or other clinical variables influenced the significant differences between the groups on these items, an ANCOVA was carried out, with employment, education level, and/or average pain scores as covariates. Finally an ANCOVA, with employment and education level as covariates, was used to assess whether differences in QBPDS scores and average pain scores between the two groups could be explained by these demographic variables.

## Results

**Table 2. Demographic characteristics of the Dutch and non-native respondents**

		<u>Native</u> (n=20)	<u>Non-natives</u> (n=20)	<i>P</i>
Age, years	Mean, (SD)	43.3 (15.8)	47.4 (10.5)	0.34 *
Gender, n (%)	Male	9 (45)	8 (40)	0.75 ‡
	Female	11 (55)	12 (60)	
Education, n (%)	None	-	4 (20)	0.030 †
	Primary	1 (5)	3 (15)	
	Secondary	5 (25)	6 (30)	
	Middle Vocational Education	10 (50)	4 (20)	
	Higher Vocational Education	4 (20)	2 (10)	
	University	-	1 (5)	
Study, n (%)	Yes	2 (10)	1 (5)	0.55 ‡
	No	18 (90)	19 (95)	
Employed, n (%)	Yes	16 (80)	9 (45)	0.022 ‡
	No	4 (20)	11 (55)	
Duration, n (%)	½ years or less	1 (5)	2 (10)	0.68 †
	½ years – 1 year	4 (20)	4 (20)	
	1 year – 2 years	3 (15)	3 (15)	
	2 years or more	12 (60)	11 (55)	

\* Independent *t*-test, † Mann Whitney *U*, ‡ Pearson's  $\chi^2$

The research sample consisted of 40 respondents (N=40) that were divided into two groups, based on their origin. In accordance with the CBS definitions, twenty respondents (n=20) were classified as native (Dutch) patients and the other twenty respondents (n=20) were

classified as non-western non-native patients. Two of the non-native respondents were classified as second generation non-natives, these patients both had one parent that was born in Suriname. All other non-native respondents were first generation non-native citizens. These non-native patients were born in Turkey (six), Syria (five), Iraq (two), Afghanistan (two), and the final three patients were born in Egypt, Suriname, and Pakistan respectively.

With regard to the demographic characteristics, analyses showed that the two groups differed significantly in their level of education and employment. The non-native group scored significantly lower on the education variable and more than half of the non-native respondents were not employed, compared to four Dutch respondents without employment. There were no significant differences in age, gender, study status, and disease duration between the Dutch and non-native groups. (Table 2.)

Table 3 shows the outcomes of the *t* test analyses with regard to SF-20, NRS, QBPDS, and treatment expectations questionnaire (TEQ) scores. Scores on five of the six SF-20 subscales differed significantly when comparing the Dutch and Non-native groups. Between these groups, there was no significant difference in physical functioning. However, the Dutch respondents scored significantly higher than the non-native respondents on the subscales role functioning, mental health, general health perceptions, and social functioning, and significantly lower on the subscale bodily pain.

These outcomes imply that the Dutch respondents consider their health to be significantly better compared to the non-native respondents, on all health dimensions except physical functioning. Pain intensity scores on all three NRS scales were significantly higher in non-native respondents compared to Dutch respondents. When the three scores were combined into an average pain score, this also resulted into a significant difference between Dutch and non-native respondents, the latter group reporting significantly more pain on average. Furthermore, scores on the QBPDS were also significantly different, again the non-native groups scored worse compared to the Dutch group. Finally, analysis of the scores on the treatment expectations questionnaire also resulted in significant differences between the two groups, in four of the five items. The two groups did not differ in their scores on statement one, stating that pain relief should be the primary aim of treatment. However, the Dutch group scored significantly lower than the non-native group on statements two ('treatment by the physiotherapist is most important') and four ('it is the physiotherapist's job to cure me, and

not my own'), and significantly higher on statements three ('exercise is most important') and five ('own behaviour is more important than physiotherapist's assistance'). (Table 3).

**Table 3. Health status, pain experience, and treatment expectation of the native and non-native patients**

	<b>Dutch</b>	<b>Non-natives</b>	<b><i>t</i></b>	<b><i>P</i></b>
	Mean (SD)	Mean (SD)		
<b>SF-20</b>				
<b>Physical Functioning</b>	44.2 (22.5)	35.8 (23.1)	1.16	.26
<b>Role Functioning</b>	47.5 (44.4)	17.5 (37.3)	2.32	.026*
<b>Mental Health</b>	69.8 (18.6)	49.8 (20.7)	3.21	.003**
<b>General Health Perceptions</b>	60.5 (25.2)	25.5 (15.0)	5.35	< .001**
<b>Social Functioning</b>	69.0 (27.1)	46.0 (26.0)	2.73	.009**
<b>Bodily Pain</b>	72.5 (21.3)	86.3 (19.0)	-2.16	.038*
<b>Pain</b>				
<b>NRS rest</b>	3.9 (2.3)	6.0 (2.0)	-3.06	.004**
<b>NRS moderate intensity</b>	5.7 (2.4)	7.7 (1.6)	-3.12	.003**
<b>NRS high intensity</b>	6.9 (2.4)	8.4 (1.7)	-2.25	.031*
<b>NRS Average</b>	5.5 (2.0)	7.3 (1.5)	-3.26	.002**
<b>QBPDS</b>				
<b>Total score</b>	38.1 (12.8)	53.7 (14.7)	-3.60	.001**
<b>TEQ</b>				
<b>1 – 'pain relief primary aim'</b>	4.4 (0.82)	4.3 (0.44)	0.72	.48
<b>2 – 'treatment physiotherapist most important'</b>	3.0 (1.23)	3.9 (0.97)	-2.71	.01*
<b>3 – 'exercise most important'</b>	4.5 (0.60)	3.8 (0.79)	3.16	.003**
<b>4 – 'physiotherapist's responsibility'</b>	1.7 (0.73)	3.5 (1.10)	-5.93	< .001**
<b>5 – 'own behaviour over assistance'</b>	3.8 (1.02)	3.0 (0.92)	2.45	.019*

\* $p < .05$ , \*\* $p < .01$

SF-20 = Short-Form General Health Survey

TEQ = treatment expectations questionnaire,

QBPDS = Quebec Back Pain Disability Questionnaire

NRS = numerical rating scale

The frequencies of the scores of the Dutch and non-native patients on the treatment expectation statement are shown in table 4. There are no major differences in the frequencies on statement one, the majority of the Dutch patients (18) and all non-native patients either agreed or completely agreed with the statement. Larger differences are apparent for statement two; seven of the Dutch patients completely disagreed or disagreed with the statement compared to only one non-native patient. Furthermore, twice as many non-native patients agreed with the statement. With regard to statement three, an interesting finding was that half of the Dutch patients completely agreed, compared to three non-native patients. Large differences were found for statement four. The majority (17) of the Dutch patients disagreed or completely disagreed with this statement, compared to three non-native patients. Furthermore, none of the Dutch patients agreed or completely agreed, whereas more than half

of the non-native patients (12) did. Finally, there were smaller differences between the groups on statement five. Remarkably, the scores of the non-native patients on this statement were exactly distributed around the mean score. Another interesting finding is that on all statements except statement five, half or more than half of the non-native patients agreed with the statement.

**Table 4. Frequencies of TEQ scores of Dutch and Non-native patients**

	<b>Dutch F (%)</b>	<b>Non-natives F (%)</b>
<b>1 'pain relief primary aim'</b>		
Completely disagree	--	--
Disagree	1 (5)	--
Not agree/Not disagree	1 (5)	--
Agree	7 (35)	15 (75)
Completely agree	11 (55)	5 (25)
<b>2 'treatment physiotherapist most important'</b>		
Completely disagree	3 (15)	1 (5)
Disagree	4 (20)	--
Not agree/Not disagree	6 (30)	4 (20)
Agree	5 (25)	10 (50)
Completely agree	2 (10)	5 (25)
<b>3 'exercise most important'</b>		
Completely disagree	--	--
Disagree	--	1 (5)
Not agree/Not disagree	1 (5)	6 (30)
Agree	9 (45)	10 (50)
Completely agree	10 (50)	3 (15)
<b>4 'physiotherapist's responsibility'</b>		
Completely disagree	9 (45)	2 (10)
Disagree	8 (40)	1 (5)
Not agree/Not disagree	3 (15)	5 (25)
Agree	--	10 (50)
Completely agree	--	2 (10)
<b>5 'own behaviour over assistance'</b>		
Completely disagree	--	1 (5)
Disagree	2 (10)	4 (20)
Not agree/Not disagree	7 (35)	10 (50)
Agree	5 (25)	4 (20)
Completely agree	6 (30)	1 (5)

TEQ = Treatment Expectation Questionnaire

In all previous mentioned analyses, scores of Dutch respondents were compared with scores of non-native respondents with origin as the only independent variable. For scores on the TEQ items, NRSs and QBPDS, possible influences of other variables, such as demographic characteristics, average pain, and QBPDS scores were also tested. Spearman's correlation coefficients between TEQ statements, NRS and QBPDS scores, and demographic variables, concerning the whole study sample are shown in table 5. These analyses were performed in order to examine which variables correlated with scores on the TEQ items, NRSs, and QBPDS. These variables were then included as covariates in further analyses. Since no

differences were found between the Dutch and non-native groups on TEQ statement one ('pain relief primary aim') in previous analyses, this statement was not included in further analyses. With regard to the TEQ items, scores on statements three, four and five, correlated significantly with average pain scores and QBPDS scores. Additionally, statements two and five, also correlated significantly with education level and employment status. Besides this, average pain scores and QBPDS scores, both correlated significantly with education level and employment status. In addition to this, QBPDS and average pain scores were also significantly associated.

**Table 5. Spearman's correlation coefficients between TEQ statements, QBPDS, NRS and demographic variables.**

	<b>NRS Average</b>	<b>Education Level</b>	<b>Employment Status</b>	<b>QBPDS</b>
	<b>r (P)</b>	<b>r (P)</b>	<b>r (P)</b>	<b>r (P)</b>
<b>Statement 2</b>	0.30 (.065)	- 0.46 (.003)**	0.36 (.02)*	0.27 (.09)
<b>Statement 3</b>	- 0.50 (.001)**	0.03 (.84)	- 0.22 (.17)	- 0.43 (.006)**
<b>Statement 4</b>	0.39 (.013)*	- 0.27 (.10)	0.26 (.11)	0.33 (.04)*
<b>Statement 5</b>	0.53 (<.001)**	0.48 (.002)**	- 0.38 (.02)*	- 0.48 (.002)**
<b>QBPDS</b>	0.76 (<.001)**	- 0.45 (.004)**	0.58 (<.001)**	--
<b>NRS average</b>	--	- 0.41 (.009)**	0.63 (<.001)**	0.76 (<.001)**

\*p < .05, \*\*p < .01

TEQ = treatment expectations questionnaire

QBPDS = Quebec Back Pain Disability Questionnaire

NRS = numerical rating scale

Results of the ANCOVA tests are shown in table 6. Differences in scores of Dutch and non-native respondents on statement 2 ('treatments of the physiotherapist are most important') disappeared when education level and employment status were included as a covariates. With regard to statement 3 ('exercise and working out is most important') when average pain and QBPDS scores were included to the analysis as covariates, the significant difference between the two groups disappeared. Differences in scores on statement 5 ('my own behaviour is more important than the physiotherapist's assistance') were not significant when controlling for education level, employment status, average pain, and QBPDS. Finally, differences between the two groups in scores on statement 4 (it is the physiotherapist's job to cure me, and not my own job') remained significant even when controlling for employment status, educational level, average pain, and QBPDS. The non-native respondents scored significantly higher than the Dutch respondents.



With regard to average pain intensity and QBPDS scores, differences between the Dutch and non-native group remained significantly different when controlling for education level and employment status. In both case the non-native group scored worse on back pain disability and intensity compared to the Dutch group.

**Table 6. ANCOVA analyses. Dutch and Non-natives scores on TEQ, QBPDS, NRS with several covariates**

	Covariates	F	P
<b>TEQ</b>			
<b>Statement 2</b>	Education, Employment	3.02	.091
<b>Statement 3</b>	NRS, QBPDS	3.24	.080
<b>Statement 4</b>	Edu, Emp, NRS, QBPDS	21.48	< .001**
<b>Statement 5</b>	Edu, Emp, NRS, QBPDS	0.31	.58
<b>QBPDS</b>			
<b>Total Score</b>	Education, Employment	6.44	.016*
<b>Pain</b>			
<b>NRS average</b>	Education, Employment	5.29	.027*

\*p< .05, \*\*p< .01

Edu = education level, Emp = employment status

TEQ = treatment expectations questionnaire,

QBPDS = Quebec Back Pain Disability Questionnaire

NRS = numerical rating scale

## Discussion

Results of this study suggest that there are differences in the clinical reality of Dutch and non-western non-native patients. However, the relationship is complex and several influential factors such as education level, employment status, and average pain, have shown to influence the clinical reality of the patients, and can partially explain the differences that were found. Even so, differences between Dutch and non-western non-native patients on some aspects of clinical reality that were tested in this study remained significant even after controlling for these variables. Overall the study offers some support to the idea that there are cultural differences in clinical reality between Dutch and non-western non-native patients.

### Treatment expectations

With regard to the treatment expectations of Dutch and non-native non-specific chronic low back patients, this study suggests that there are clear differences between these two groups in some of the treatment expectations that were tested. Especially statement four, concerning the

perceived role of the physiotherapist resulted in a large difference, with non-natives scoring significantly higher than Dutch patients when controlling for demographic variables, pain experience, and QBPDS scores. On average, non-native patients agreed with the statement; 'it is the job of the physiotherapist to cure me from my back pain, and not my own job', whereas the Dutch patients, on average, seemed to disagree with this statement. These findings are in accordance with findings from previous studies. A study by Sloots et al. (2009) showed that the majority of the Dutch physicians that were interviewed in their study had the opinion that non-native patients more often think that they are not responsible for curing themselves, and that the physician is responsible for a medical solution. From the non-native patients' point of view, the study found mixed results, with some believing that it is a shared responsibility (both patient and physician), and others believing that the physician had full responsibility (Sloots et al., 2009).

With respect to the other four statements that were part of the treatment expectations questionnaire, this study showed differences in the scores of Dutch and non-native patients on three statements; 'treatments from the physiotherapist, like massages, are the most important part of my treatment' (2), 'working out and exercises are the most important part of my treatment' (3), and 'my own behaviour is more important to reduce my back pain than the physiotherapists' assistance' (5). However, when controlling for other variables these significant differences disappeared. With regard to statement two, when level of education and employment status were included in the analysis as covariates, significant differences between Dutch and non-native patients disappeared. These findings could indicate that the expectations patients have concerning the treatment related actions of their physiotherapists are influenced by their level of education. For example, Sloots (2010) suggested that patients may have limited knowledge of the physical functioning of the body, due to a different level of education. These patients might have views concerning treatment content that differ from patients that are better educated and have more health-related knowledge, regardless of cultural/ethnic background. Other possibilities are that origin, level of education, and employment status influence the expectations patients have concerning treatment content. With respect to statement three, the significant differences that were found disappeared when controlling for average pain and QBPDS scores. This could indicate that diverse views on working out and exercise as important components of treatment may be influenced by the amount of pain a patient experiences, as opposed to the cultural background. Again, it is also possible that both variables influence patients' expectations. The differences that were found

in the scores on statement five disappeared when controlling for level of education, employment status, average pain and QBPDS. These findings suggest that the relationship between statement five - 'my own behaviour is more important than the physiotherapists' assistance' - and influential variables is not entirely clear. The data suggests that all variables, origin, pain experience, QBPDS scores, employment status and level of education, have some influence on the statement. However, it is also possible that the wording of the statement was confusing for the respondents, and that it was interpreted differently by different patients. An interesting finding of the study was that half of the non-native patients did not agree or disagree with the statement. This might indicate that the statement was hard to understand and therefore patients choose the most neutral answer. Future, more detailed research should examine this relationship further. Finally, no differences were found in the scores on statement one, mentioning pain relief as the primary aim of the treatment. Both the Dutch and the non-native patients, on average, agreed with this statement. These findings are in accordance with other studies. For example, Sloots et al. (2010) suggested in their study that patients in general, without taking cultural background in consideration, expected that pain relief would be the primary aim of the treatment and were dissatisfied with the treatment when this was not the case. Furthermore, Verbeek et al. (2004) showed in their study that pain relief is a common treatment aspect that is expected by back patients in general regardless of their cultural background. According to them, pain relief is a driving force for back patients to seek treatment and return for subsequent treatment. Additionally, dissatisfaction due to pain relief not being the primary aim of treatment was often mentioned (Verbeek et al., 2004). Findings of Sloots et al. (2009) stating that, according to Dutch physicians, non-native patients aim for pain relief more often or stronger than Dutch patients, are not supported by this study.

A final point that can be made, concerns the answers of the non-native patients. The study showed that on all items except item five, half or more than half of the non-native patients agreed with the statements. This finding could indicate that non-native patients have a preference of choosing the confirming answer and more quickly agree with the statements. More research is needed to examine this possibility.

Overall, with regard to the first research question, this study suggests that there are differences in the treatment expectations of Dutch and non-native low back patients. The only expectation in which the two groups did not differ was the one concerning pain relief as

primary treatment aim. However, it also seemed that origin was not the only variable that influenced the patients' expectation. The patients' level of education, employment status, and pain experience also seemed to be associated with treatment expectations. The statement concerning the role and responsibility of the physiotherapist was the only expectation that showed differences between Dutch and non-native patients when controlling for these variables. Even so, it is possible that there are other variables, besides the ones that have been included in this study that may influence patients' expectations as well. For instance, a study by Verbeek et al. (2004) showed that experienced chronic back patients, who have had many encounters with the healthcare system, did not expect that treatment would alleviate their symptoms as apposed to inexperienced patients. Furthermore, Grimmer et al. (1999) suggested that for low back pain patients, previous experience of physiotherapy treatment is a key determinant of treatment expectations. According to their study, naïve (first time) patients had few clear treatment expectations and counted on the physiotherapist's decisions. On the other hand, more experienced patients had different treatment expectations and wanted to be part of the decision making and treatment process (Grimmer et al., 1999). Since the patients' experience was not included in this study, the influence of this variable on the expectations of the respondents could not be tested. More detailed research on the relationship between origin and treatment expectations is needed. Future research should include other important variables, such as patients' experience, to examine their influence on treatment expectations. Furthermore, other expectations than the ones used in this study should be included in future research.

### **Pain experience**

The results of this study, with regard to pain experience, show that non-native patients scored significantly worse on pain intensity and back pain disability, compared to Dutch patients. In addition to this, the differences between these two groups remained significant after controlling for level of education and employment status. These findings suggest that origin is associated with self reported pain intensity and back pain disability. Previous studies have also showed differences between ethnic or cultural groups in pain intensity, (Vlaar et al., 2007; ten Klooster et al., 2006; Riley et al., 2002), and back pain intensity (Edwards et al., 2001). However, these studies have also suggested that the relationship between pain and origin is complicated. There are many influential factors and possible confounders that can explain differences in pain experience between ethnic or cultural groups. For instance, Vlaar et al. (2007) suggested that differences in biological, social, and psychological mechanisms

may influence the reported pain and explain the differences between cultural or ethnic groups. Examples of psychosocial variables that may differ between ethnic groups and could influence pain perception are depression, helplessness, and coping strategies (Vlaar et al., 2007). Besides this, information on the use of medication use of the patients could also influence the reported pain experience. Furthermore, the study of Edwards et al. (2001) focussed on differences pain tolerance between African American and White American patients, which are different ethnicities than those that are included in this study.

Another possible explanation for the differences between the two groups is that non-native patients focus more explicitly on pain symptoms compared to Dutch patients. Findings of Sloots et al. (2009) showed that Dutch physiotherapists often interpret this explicit presentation as exaggerating of symptoms. However, it appears that patients who have difficulties with expressing the severity of their symptoms, due to insufficient language proficiency, accentuate their pain symptoms more explicitly (Sloots et al., 2009). These findings may also apply to the non-native respondents in this study. Overall, the study shows that Dutch and non-native patients differ in their pain experience, but the relation between origin and pain experience is complex, and there are many possible influential factors.

### **Self perceived health status**

Besides pain, results of this study showed that Dutch patients' scores on other aspects of self perceived health status also differed from non-native patients. The two groups scored differently on five of the six health domains that were tested with the SF-20. The only domain in which the groups did not differ was their self reported physical functioning. This domain measures to what degree the patients health interferes with daily activities, such as sports, carrying bags and walking (Kempen et al., 1995). With regard to the measurement of back pain disability in the patients, the QBPDS was used, which measures functional status. The Dutch and non-native patients did differ with respect to their QBPDS-scores. It is somewhat remarkable that two instruments that measure similar aspects show contradicting results. On the other hand, the QBPDS is more focused on pain related physical functioning compared to the SF-20 subscale. Furthermore, the physical functioning subscale contains six items, whereas the QBPDS consists of twenty items. It seems that the two groups did not so much differ regarding the content of the SF-20 subscale, whereas the QBDPQ items considered daily activities in which the two groups did seem to differ.

With respect to the other five subscales of the SF-20, differences between Dutch and non-native patients were especially apparent on the domains of mental health, general health perceptions and social functioning. Differences in the scores of Dutch and non-native patients on the domains role functioning and bodily pain were smaller. These findings are in accordance with previous studies, especially with respect to the domain of general health perceptions. Reijneveld (1997) has found that non-native citizens in the Netherlands, report a poorer health compared to Dutch citizens. The study also stated that these differences were partially explained socioeconomic position. A study by Deeg (2009) also showed significant differences in the reported health of non-native citizens and Dutch citizens. The amount of citizens that perceived their health as poor or extremely poor, was higher under the non-native citizens, when controlling for gender, age, education level, marital status, and occupation status (Deeg, 2009).

The differences in self perceived health status of Dutch and non-western non-native patients that have been found in this study, may partially explain the differences that have been found on the concepts treatment expectations and pain experience. The exact influence of health status in this study is not known, because health status scores were not included as covariates in the analyses. However, it is possible that some of the differences between Dutch and non-native patients that were found in this study, were influenced by differences in self perceived health status. Further research is needed to examine the relationship between treatment expectations, pain experience and self perceived health status.

In sum, this study suggest that Dutch and non-western non-native patients differ with regard to the aspects of clinical reality that were tested in this study. However, the relationship is very complex, and there are influential factors, such as demographic variables, and pain experience, that can partially explain the differences that were found. With respect to the treatment expectations, the Dutch and non-western non-native patients seemed to differ most regarding the opinion that it is the physiotherapist's responsibility to cure the patient from their back pain, and not the patient's responsibility. In contrast with the Dutch patients, non-native patients agreed more strongly with this statement. This difference remained significant, even when controlling for pain experience, QBPDS scores, level of education, and employment status.

## **Limitations**

The results that have been found and discussed in this study should be interpreted with caution, as this study has some limitations. First, the studies' results are based on a small sample size. Conclusions in this study are made with caution, and further studies with larger number of respondents should confirm these. Furthermore, the respondents that participated in the study came from one part of the Netherlands and were almost all treated at the same physiotherapist practice. Therefore, findings of this study can not be generalized to the general population of the Netherlands. Another point of caution concerns the administration of the questionnaires to the patients. The presence of an administrator, for some of the non-native patients, may have influenced the answers of these patients. On the other hand, the non-native patients that filled in the questionnaires individually may have had more difficulties understanding the language, and interpreting the scales, compared to the Dutch patients, since Dutch is not their native language. Furthermore, this study did not include information concerning previous treatment. This could be a relatively significant limitation, as several studies have emphasized the influence of treatment experience, and differences between naïve and expert patients. Finally, with respect to the treatment expectations, the questionnaire that was used was not tested for its psychometric properties. The results of this study can be used to examine the questionnaires' usability, however, no conclusions can be made regarding the reliability and validity of the instrument, and the results. Despite these limitations this study offers some insight into the influence of origin and culture on treatment expectations, and pain experience of non-specific chronic low back patients. Given the growing numbers of non-native citizens in the Netherlands and the Dutch health care system, it is important that the influence of origin and culture is recognized, especially by physiotherapists. On the other hand, this study suggests that more research is needed, especially from the patients' point of view, to further examine the relationship between culture, origin and clinical reality.

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# Vragenlijst Onderzoek Rugklachten

Beste Respondent,

Mijn naam is Félicienne Minnaar. Ik studeer psychologie aan de Universiteit Twente. De afstudeer opdracht waar ik aan werk heeft te maken met gezondheidspsychologie. Dit onderzoek is gericht op cultuurverschillen m.b.t. gezondheid, pijn ervaring en verwachting van de behandeling.

Ik zou u graag vragenlijsten willen voorleggen die de algemene gezondheid, (rug)pijnklachten en verwachting van de behandeling meten. Voordat u deze vragenlijsten invult, vraag ik u eerst om wat persoonlijke informatie. De gegevens worden geheel anoniem verwerkt en deelname aan het onderzoek zal geen invloed hebben op uw behandeling bij FysioGym. U kunt vrijwillig deelnemen aan dit onderzoek. Voor vragen kunt u contact opnemen met mij via: [f\\_minnaar@hotmail.com](mailto:f_minnaar@hotmail.com)

Bedankt voor het invullen van deze vragenlijst.

## Persoonlijke Informatie

Leeftijd: .....

Geslacht (juiste antwoord aankruisen):  Man  Vrouw

In welk land bent u geboren?: .....

In welk land is uw vader geboren?: .....

In welk land is uw moeder geboren?: .....

Wat is uw hoogst **afgeronde** opleiding (juiste antwoord aankruisen):

- Geen
- Basis Onderwijs (6 - 12 jaar)
- Middelbaar Onderwijs (Vmbo/Mavo, Havo, Vwo)
- MBO opleiding (Middelbaar Beroeps Onderwijs)
- HBO opleiding (Hoger Beroeps Onderwijs, Hogeschool)
- Universiteit

Studeert u momenteel?(juiste antwoord aankruisen)  Ja  Nee

Heeft u momenteel een baan? (juiste antwoord aankruisen):  Ja  Nee

Hoelang heeft u al rugklachten (juiste antwoord aankruisen):

- ½ jaar of minder
- ½ jaar tot 1 jaar
- 1 jaar tot 2 jaar
- 2 jaar of meer

De eerste vragenlijst gaat over de verwachtingen die u heeft over de behandeling van uw rugklachten. U wordt eerst uitgelegd hoe het formulier moet worden ingevuld.

De volgende vragen hebben elk vijf antwoordmogelijkheden. Kies bij elke vraag steeds 1 antwoordmogelijkheid, wat het beste bij uw mening past.

Kruis het vakje van dit antwoord aan

1. Het belangrijkste doel van de behandeling moet zijn; mijn rugpijn verminderen:

Helemaal mee oneens	ee oneens	iet mee eens niet mee oneens	ee eens	Helemaal mee eens
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Behandelingen door de fysiotherapeut, zoals massages, zijn het **belangrijkste** onderdeel van mijn (rug)therapie:

Helemaal mee oneens	ee oneens	iet mee eens niet mee oneens	ee eens	Helemaal mee eens
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Zelf bewegen en oefeningen doen zijn het **belangrijkste** onderdeel van mijn (rug)therapie:

Helemaal mee oneens	ee oneens	iet mee eens niet mee oneens	ee eens	Helemaal mee eens
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Het is de taak van de fysiotherapeut om mij te genezen van mijn rugpijn en niet mijn eigen taak:

Helemaal mee oneens	ee oneens	iet mee eens niet mee oneens	ee eens	Helemaal mee eens
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Mijn gedrag, zoals bewegen en oefeningen doen, zijn **belangrijker** om mijn rugpijn te verminderen dan de hulp van de fysiotherapeut:

Helemaal mee oneens	ee oneens	iet mee eens niet mee oneens	ee eens	Helemaal mee eens
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

De tweede vragenlijst bevat vragen over uw algemene gezondheid.  
Er wordt per onderdeel uitgelegd hoe u het formulier moet invullen

Hieronder volgt een aantal vragen over uw gezondheid. Wilt u het hokje van het antwoord dat het beste bij uw past aankruisen?  
Slaat u alstublieft geen enkele vraag over.

1 Hoe is in het algemeen uw gezondheid?

- |            |                          |
|------------|--------------------------|
| uitstekend | <input type="checkbox"/> |
| erg goed   | <input type="checkbox"/> |
| goed       | <input type="checkbox"/> |
| redelijk   | <input type="checkbox"/> |
| slecht     | <input type="checkbox"/> |

De volgende vragen gaan over eventuele beperkingen ten gevolge van uw gezondheid. Heeft uw gezondheidstoestand u de afgelopen periode *beperkt* in één van de volgende activiteiten en, zo ja, hoe lang al?

- |                                                                                                                                        | <b>ja, al langer<br/>dan 3 maanden<br/>beperkt</b> | <b>ja, korter<br/>dan 3 maanden<br/>beperkt</b> | <b>nee, ik<br/>ben niet<br/>beperkt</b> |
|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------|-----------------------------------------|
| 2 Bent u beperkt in zeer inspannende activiteiten zoals optillen van zware voorwerpen, hardlopen, of deelname aan inspannende sporten? | <input type="checkbox"/>                           | <input type="checkbox"/>                        | <input type="checkbox"/>                |
| 3 Bent u beperkt in wat minder inspannende activiteiten zoals een tafel verplaatsen, boodschappen dragen?                              | <input type="checkbox"/>                           | <input type="checkbox"/>                        | <input type="checkbox"/>                |
| 4 Bent u beperkt in een heuvel oplopen of enkele trappen lopen?                                                                        | <input type="checkbox"/>                           | <input type="checkbox"/>                        | <input type="checkbox"/>                |
| 5 Bent u beperkt in buigen, tillen, of bukken?                                                                                         | <input type="checkbox"/>                           | <input type="checkbox"/>                        | <input type="checkbox"/>                |
| 6 Bent u beperkt in een blokje om lopen.                                                                                               | <input type="checkbox"/>                           | <input type="checkbox"/>                        | <input type="checkbox"/>                |
| 7 Bent u beperkt in eten, aankleden, douchen of een bad nemen of naar het toilet gaan?                                                 | <input type="checkbox"/>                           | <input type="checkbox"/>                        | <input type="checkbox"/>                |



Er volgen nu een aantal vragen die gaan over uw gezondheid. Kies steeds één antwoord bij elke vraag.

	<b>absoluut waar</b>	<b>grotendeels waar</b>	<b>ben er niet zeker van</b>	<b>grotendeels niet waar</b>	<b>beslist niet waar</b>
17 Ik ben een beetje ziek.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18 Ik ben zo gezond als ieder ander die ik ken.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19 Mijn gezondheid is uitstekend.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20 Ik voel me de laatste tijd slecht.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

De volgende vragen gaan over uw pijnervaring. Er wordt gevraagd hoeveel pijn u heeft ervaren bij verschillende activiteiten, **de afgelopen week**. U kunt antwoorden op een schaal die loopt van 0 tot 10. 0 betekent dat u helemaal geen pijn ervaart en 10 betekent de hevigste pijn die u zich kunt voorstellen. Kies per vraag steeds 1 cijfer, dat volgens u het beste weergeeft hoeveel pijn u ervaart. Kruis het vakje van dit cijfer aan.

1. Hoeveel rugpijn heeft u als u zich rustig houdt, zoals zitten, liggen, zeer korte stukjes wandelen

helemaal geen pijn

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

hevigste pijn denkbaar

2. Hoeveel rugpijn heeft u bij licht inspannende activiteiten, zoals boodschappen tillen, wandelen en huishoudelijke taken

helemaal geen pijn

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

hevigste pijn denkbaar

3. Hoeveel rugpijn heeft u bij zeer inspannende activiteiten, zoals zware voorwerpen tillen, hardlopen, sporten

helemaal geen pijn

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

hevigste pijn denkbaar



De derde vragenlijst gaat over uw rugklachten en de gevolgen hiervan. Uitleg over het invullen van het formulier wordt eerst gegeven.

Onderstaande vragenlijst gaat over de manieren waarop rugklachten uw dagelijkse leven beïnvloeden. Voor elke activiteit is er een schaal van 0 tot

U dient bij iedere activiteit één antwoord te kiezen (geen activiteit overslaan) en het daarbij horende cijfer omcirkelen.

<i>Heeft u <b>vandaag</b> moeite om de volgende activiteiten uit te voeren vanwege uw rugklachten?</i>	<i>Totaal geen moeite</i>	<i>Nauwelijks moeite</i>	<i>Enige moeite</i>	<i>Veel moeite</i>	<i>Zeer veel moeite</i>	<i>Niet in staat</i>
1. Opstaan uit bed	0	1	2	3	4	5
2. De hele nacht slapen	0	1	2	3	4	5
3. Omdraaien in bed	0	1	2	3	4	5
4. Auto rijden	0	1	2	3	4	5
5. 20-30 minuten (achter elkaar) staan	0	1	2	3	4	5
6. Enkele uren in een stoel zitten	0	1	2	3	4	5
7. Een trap oplopen	0	1	2	3	4	5
8. Een klein eindje lopen (300-400 m)	0	1	2	3	4	5
9. Enkele kilometers lopen	0	1	2	3	4	5
10. Naar een hoge plank reiken	0	1	2	3	4	5
11. Een bal werpen	0	1	2	3	4	5
12. Een eindje hardlopen (+ 100 m)	0	1	2	3	4	5
13. Iets uit de koelkast pakken	0	1	2	3	4	5
14. Het bed opmaken	0	1	2	3	4	5
15. Sokken (of panty) aantrekken	0	1	2	3	4	5
16. Vooroverbuigen om bijv. de badkuip of de w.c. schoon te maken	0	1	2	3	4	5
17. Een stoel verplaatsen	0	1	2	3	4	5
18. Een zware deur opentrekken of openduwen	0	1	2	3	4	5
19. Dragen van twee tassen met boodschappen	0	1	2	3	4	5
20. Een zware koffer optillen en dragen	0	1	2	3	4	5