Essays on the Experience of Pain in the Marketplace

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Abstract

This dissertation contributes to the goal of broadening marketing research on bodily pain. Paper 1 is a conceptual paper that unpacks the construct of pain and shows that it is a powerful driver of consumption that is intertwined with many marketplace offerings. Based on extant literature, an overarching framework is proposed from which to understand and study pain as it relates to consumption. Five pain themes comprise the framework, which demonstrates that consumers do not universally associate pain with affliction or suffering but also with redemption, transformation, accomplishment and pleasure in certain contexts. Paper 2 and 3 are empirical papers that take a qualitative and a quantitative approach respectively to study the role of pain as experienced during the consumption of healthcare services. The results of Paper 2 highlight the distinct functions of pain in practices of assessment and treatment provided by Physical Therapists. Specifically, pain as experienced through direct physical touch during assessment was found to facilitate a trust-building process that is integral to generating buy-in for long-term treatment solutions. Paper 3 builds on the important role that pain plays in evaluating qualities of healthcare services. Across three experimental studies exploring consumer perceptions of treatment provided by Registered Massage Therapists, an inverted U-shaped relationship was observed between the intensity of musculoskeletal pain experienced and consumer responses to pain (in the form of treatment repatronage intentions). Perceptions of treatment efficacy and practitioner competency were found to mediate this relationship while the degree to which consumers ascribe to the “no pain, no gain” belief moderates it. It was also determined that pain arising from other tissues of the body (e.g., skin and mouth) elicit a different pattern of consumer response. Collectively, these findings demonstrate that consumer perceptions of pain are more complex than is typically conceptualized in the literature, in terms of its non-linear effects on downstream service outcomes, and the potential for consumer perceptions of pain to vary according to the originating location of pain, the discrete part of the service encounter, and the overall consumption context.

Keywords: Pain, Healthcare; Services Marketing; Consumer Behaviour

Dedication

For Victoria

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Introduction

Pain is a universal human experience. Everyone feels pain at some part of their lives. In many ways, pain protects us and teaches us lessons. It is considered a normal part of life endured sometimes for the better and other times for the worse. But when it comes to research, the pervasiveness of pain maybe taken for granted. Rarely is it examined outside of the medical space and rarely are the benefits of pain explored (Bastian et al., 2014; Boddice, 2023; Morris, 1991). In the discipline of marketing and consumer behavior, extant literature that mentions pain primarily does so in relation to psychological constructs like the pain of paying (Rick et al., 2008), cognitive effort (Cheng et al., 2017; Inzlicht et al., 2018), and unpleasant emotions (Andrade & Cohen, 2007). With a few recent exceptions (e.g. Scott et al., 2017), the corporeal experience of pain has been largely ignored. Furthermore, recent work that has begun to direct marketing's attention towards the embodied experience of pain focuses almost exclusively on the role of pain in extraordinary experiences (Cova, 2021) and hedonic consumption combining both pleasure and pain (Kastanakis et al., 2022). The purpose of this dissertation is to contribute to the goal of broadening marketing research on bodily pain by unpacking the construct and showing that it is a powerful driver of consumption that is intertwined with many marketplace offerings.

While pain is most often thought of in relation to disease and medical interventions (Bourke, 2014), it may also be experienced when undergoing bodily modifications (e.g., tattooing; Roux & Belk, 2019) and cosmetic procedures (e.g., Schouten, 1991) as well as when participating in sports and exercise pursuits (e.g., Green, 2011), religious and cultural rituals (e.g., Cova & Cova, 2019) and tourism or bucket list experiences (e.g., Nørfelt et al., 2023). Considering the differences in these consumption practices, it is evident that individuals employ diverse meanings of pain in their lives. Through three essays (henceforth referred to as papers),[1] this dissertation

[1] Each of the three papers in this dissertation function as distinct and stand-alone papers. Thus, some overlap, particularly with respect to the definition of pain, may be noticed by the reader. The reader may also encounter the words "we" and "our" when reading the papers since they were based on work conducted with supervisors and coinvestigators.

outlines these diverse meanings and highlights the many opportunities that they afford for studying pain and consumption. The papers can be summarized as follows.

Paper 1 is a conceptual paper that provides a broad overview of pain and clarifies the construct for the discipline of marketing. The paper begins with a historical review that highlights the influence of religion, secularism, and scientific discovery on the ways in which groups of people made sense of pain over time. Then, using evidence from extant literature, an overarching framework is proposed from which to understand and study pain as it relates to consumption. Five pain themes comprise the framework, which demonstrates that consumers do not universally associate pain with affliction or suffering but also with redemption, transformation, accomplishment and pleasure in certain contexts. The paper concludes with a discussion of how marketplace actors might consider the ways in which the themes of pain affect consumption journeys including whether consumption goals emphasize eliminating or enhancing pain. This forms the basis for a rich stream of potential future research that can add value to a variety of marketing and consumer research topics including identity and perceptions of the self, social capital and conspicuous consumption, managing consumer expectations and touchpoints on the consumption journey, and customer satisfaction and evaluation of service providers.

Paper 2 and Paper 3 are empirical papers that take two different analytical approaches to exploring the construct of pain in a specific consumption setting. For each of these papers, the focus is on understanding how consumers interpret pain experienced *during* the delivery of healthcare services and the implications that this has for service providers. It is important to note that the pain examined in these studies is coproduced with healthcare professionals and is experienced in addition to and often distinct from the preexisting pain that motivates consumers to seek out medical attention. Together, the results of the two papers challenge the longstanding assumption that all pain experienced during healthcare delivery is universally perceived negatively by consumers (Andiappan, 2023). Instead, a more nuanced approach to understanding pain is proposed considering discrete parts of the healthcare encounter (Paper 2), the bodily location of the healthcare intervention (Paper 3), and the specific type of healthcare service (Paper 2 and 3).

Specifically, Paper 2 describes the distinct functions of pain in practices of assessment and treatment provided by physical therapists, healthcare professionals that primarily focus on rehabilitation from physical injuries (Pagliarulo, 2021). Based on a variety of ethnographic data including interviews with physical therapists and physical therapy patients, observations of clinical practice and autoethnographic insights from my ten years as a practising physical therapist, it is concluded that the role of pain moves from a homogeneous expectation in the assessment to a heterogenous preference during treatment. Whereas pain in the assessment tends to be viewed positively by both patients and practitioners who agree that it functions as an important way to build trust through demonstrating the competency of the practitioner and validating patient concerns, only a subset of the study informants expressed a desire for pain during treatment. Thus, healthcare providers may need to manage differing patient expectations of pain not only during discrete parts of the overall service interaction (i.e., assessment and treatment), but also among different patients. Furthermore, mismatches may occur between patient and practitioner beliefs regarding the value of pain, particularly during treatment. The paper concludes by discussing ways in which physical therapists and other healthcare professionals may overcome these mismatches, preserve trust, and generate buy-in for long-term treatment solutions. Overall, the results of Paper 2 suggest that pain may function as an important, but so far underappreciated source of information that consumers use to make judgements about the qualities of healthcare providers and the services they provide.

Paper 3 explores this further with a quantitative study investigating the impact of pain on repatronage intentions, that is, the willingness to return for additional treatments, with registered massage therapists, healthcare professionals that provide hands-on treatment to the musculoskeletal system (Imamura et al., 2012). Across three experimental studies, an inverted U-shaped relationship is observed between musculoskeletal pain and repatronage intentions. That is, moderate pain was associated with higher repatronage intentions and was preferred to light and intense pain by healthcare consumers experiencing treatments targeting the musculoskeletal system. Perceptions of treatment efficacy and practitioner competency are found to mediate this relationship while the degree to which consumers ascribe to the “no pain, no gain” belief moderates it. Furthermore, we find that pain arising from other tissues of the body (e.g., skin and mouth) elicits a different pattern of consumer response. Collectively, these

findings demonstrate that consumer perceptions of pain are more complex than is typically conceptualized in the literature, both in terms of its non-linear effects on downstream outcomes like treatment repatronage intentions and the potential for consumer perceptions to vary according to the originating location of pain. Furthermore, both papers 2 and 3 suggest that future research explore whether pain functions similarly in other facets of healthcare and related services.

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Paper 1.

Pain and Consumption

1.1. Introduction

Pain, basic bodily discomfort, is a ubiquitous and inevitable part of human existence. While it is a powerful driver of consumption and intertwined with many marketplace offerings, its role in consumption is often ignored (Kastanakis et al., 2022). Pain is most often referenced in association with injuries, diseases, and medical interventions (Bourke, 2014; Morris, 1991). But pain may also be experienced when undergoing bodily modifications (e.g., tattooing) and cosmetic procedures (e.g., Schouten, 1991), as well as when participating in sports and exercise pursuits (e.g., Le Breton, 2000), religious and cultural rituals (e.g., Cova & Cova, 2019) and tourism or bucket list experiences (e.g., Nørfelt et al., 2023). Considering the differences in these consumption practices, it is evident that pain has both positive and negative associations. Indeed, consumers employ diverse meanings of pain in their lives, including those that emphasize the individual and social benefits of enduring and overcoming pain (Bastian et al., 2014; Cova, 2021; Liu et al., 2018; Scott et al., 2017). Yet, despite consumers seemingly paradoxical consumer goals of using the marketplace to both eliminate and seek out pain, there is no overarching theory to explicate how pain shapes consumption experiences. The present research begins to rectify that by theorizing pain as an important construct for marketing researchers and presenting a framework for understanding the diverse meanings of pain that consumers employ in consumption activities.

Using evidence from extant literature, we identify five pain themes that represent distinct ways in which consumers interpret their pain experiences. We demonstrate how these themes emerged through history along with their own discourses that reflect the meanings consumers attached to pain and how these meanings affect consumption behaviors. We term the five pain themes: *Redemptive Pain, Affliction Pain, Transformation Pain, Accomplishment Pain, and Pleasurable Pain*. The *Redemptive Pain* theme is commonly observed in religious and spiritual consumption where pain is viewed as a way to achieve moral purification, atone for wrongdoings, and enhance

one's connection to God (Bastian et al., 2011; Glucklich, 2003; Nelissen & Zeelenberg, 2009; Wailoo, 2014). In contract, *Affliction Pain* represents the medicalization of pain and the dominant belief symptom when consumers seek out medical products and services to investigate and cure their pain (Cronström et al., 2019; Wall, 2000). Evidence of the third theme, *Transformation Pain,* is found in the tattooing, esthetic, and cosmetic surgery marketplaces where individuals undergo painful procedures to achieve self-renewal, social acceptance, and increased self-esteem (Atik & Yıldırım, 2014; Schouten, 1991). Similarly, the *Accomplishment Pain* theme brings consumers important social benefits and is observed when consumers view pain as part of the journey to achieve glory, fame, and/or fortune, a narrative that is particularly common in the competitive sports and exercise market (Dubreuil & Dion, 2019; Green, 2011). Finally, evidence of the *Pleasurable Pain* theme is found in the tourism and hobby industry where individuals associate pain with arousal, adventure, and fun, and may be motivated to endure pain to collect memorable experiences (Keinan & Kivetz, 2011), reconnect with their bodies (Scott et al., 2017), or temporarily escape the burdens of self-awareness and everyday worries (Cova, 2021). Based on these themes, we discuss when and why consumers approach or retract from pain, whether consumption goals emphasize eliminating or enhancing pain, and implications for marketers and scholars alike.

By advancing the conceptualization of pain for marketing scholarship, we make several important contributions. First, we are the first to propose an overarching framework from which to understand and study pain as it relates to consumption in diverse marketplace settings. To date, research on the construct of pain in marketing has been limited, with those few exceptions focusing on extraordinary experiences and extreme, high-risk consumption practices (e.g., Scott et al., 2017). Yet, pain is an ever-present part of the human condition and infiltrates decision making for a vast amount of consumption decisions beyond hedonic experiences. Thus, additional work is needed to conceptualize the role of pain in consumption. By introducing the pain themes, we encourage broad scholarship on pain and provide a roadmap for marketing researchers to change focus from predominantly studying its occurrence in hedonic and extraordinary experiences to investigating how consumers' underlying beliefs about pain affect foundational consumption constructs such as the self, dependence, value, exclusivity, and others.

Second, our work responds to calls for more conceptual work in marketing that breaks boundaries and extends what is studied within our discipline (Chandy et al., 2021; Hulland, 2020; MacInnis et al., 2020; Vargo & Koskela-Huotari, 2020). Since pain is a new phenomenon of inquiry for marketing scholarship, the time is ripe for laying theoretical groundwork to guide future research. In doing so, we address definitional issues and provide construct clarity to unite otherwise fragmented studies on pain (MacInnis, 2011). In defining pain and how it relates to consumption, we focus on bodily discomfort that is distinct from grief, sadness, fear, loss, and heartbreak. At the same time, we recognize that the experience of pain is always personal and influenced by a confluence of biological, psychological and social factors (Carlino & Benedetti, 2016; Gatchel et al., 2007; Moseley & Arntz, 2007; Rysewyk, 2017; Vervoort et al., 2018). Thus, pain may be most accurately described as the intersection of mind, body, culture (Morris, 1991), and as we argue, consumption.

Through the five pain themes, we show how the predominant and mainly Westernized discourse that describes pain as a medical problem, represents only one way of understanding pain (Boddice, 2023; Bourke, 2014; Glucklich, 2003; Raja et al., 2020; Scarry, 1985; Wailoo, 2014). Furthermore, we demonstrate that consumers do not universally associate pain with suffering but also redemption, transformation, accomplishment and pleasure in certain contexts. As such marketplace actors might consider how the underlying meanings consumers associate with pain affect their consumption journeys. These overarching questions form the basis for a rich stream of potential future research in marketing. After introducing the pain themes, we outline how the study of pain can add value to marketing research on a variety of topics including identity and perceptions of the self, social capital and conspicuous consumption, managing consumer expectations and touchpoints on the consumption journey, and customer satisfaction and evaluation of service providers.

Finally, since pain can be intimately linked to decreased quality of life (Hartvigsen et al., 2018), our work responds to calls for marketing research to focus on consumer well-being and creating a better world (Chandy et al., 2021). Pain is the most common reason for visiting healthcare providers and a symptom of many chronic illnesses including heart disease, cancer, or diabetes, which impact more than 60% of Americans (Bauer et al., 2014). Furthermore, the incidence of pain involving the musculoskeletal system (e.g., osteoarthritis and low back pain) is also on the rise with low back pain

alone accounting for an economic loss of $20-50 billion per year due to lost hours worked in the United States (Dieleman et al., 2020; Martin et al., 2008). Thus, an understanding of *Affliction Pain*, along with the additional themes of pain, is paramount to improving societal well-being. It is only in understanding consumers' experiences of pain that researchers and marketers can develop market-based solutions that encourage consumers to identify the most beneficial interventions to address pain. However, many of these solutions require additional bodily pain and other discomforts. For example, pain associated with exercising to achieve a healthy weight, or painful medical interventions to treat illnesses, or rehab from physical ailments and injuries, mental illness, and addiction (Bauer et al., 2014). Thus, central to promoting consumer health is recognising consumers' interpretations of pain as not only the driver of consumption, but also consumers' anticipation of pain in the consumption itself that implicitly shapes their desire or fear of these potential interventions. By understanding the different ways consumers interpret pain, marketplace actors can identify limiting consumer beliefs and when necessary, reframe pain in positive and productive ways.

1.2. What is Pain?

Nothing is more quintessential to the human experience than pain. Pain is inseparable from life for all but a very few born with a rare and dangerous genetic mutation that does not allow them to feel pain (Nagasako et al., 2003). At the most basic level, pain can be classified as an uncomfortable bodily sensation that serves an evolutionary role by providing individuals with information about potential dangers in their surroundings (Wall, 2000). At a more complex level, the subjective experience of pain is intertwined with societal traditions that shape how individuals understand the world around them (Boddice, 2023; Morris, 1991). Indeed, the way in which groups of people made sense of pain over time was heavily influenced by trends in religion, secularism, and scientific discovery. Thus, to fully envision the construct of pain for marketing research, we first present a historical account of pain before reviewing modern understandings of pain and presenting the pain themes derived from extant literature.

1.2.1. Early Understandings of Pain

In many early civilizations, pain was understood to be the result of angering the gods or the influx of demons or evil spirits into the body (Rysewyk, 2017). In Viking and Norse traditions, pain, and even death, was deliberately inflicted on individuals to pacify the gods and bring about good fortune (Price, 2008). When treatments were sought for pain, they were often performed by shamans, witch doctors and religious healers who were thought to have magical or divine powers (Vervoort et al., 2018). One such treatment, called trepanning, consisted of drilling a hole into the skull to release evils, and was popular throughout Europe, Asia, and the Americas, particularly in the Neolithic prehistorical period beginning around 9500 BCE (Faria, 2013). Another popular treatment was bloodletting, which involved releasing blood from a patient through various methods including a physician cutting into a vein or using leeches, to prevent or cure illness and disease.

From the Middle Ages into the 19th century, the Catholic Church (and other prominent religious institutions) promoted associations between pain and sin (Greenstone, 2010). The predominant belief was that pain and illness reflected an immoral nature while good health was associated with moral purity (Bourke, 2014). This was clearly reflected in many verses in the Judeo-Christian bible. For example, the book of Corinthians explains that pain prepares individuals for entry into Heaven: "For this light momentary affliction is preparing for us an eternal weight of glory beyond all comparison." (2 Corinthians 4:17). The book of Psalms further elaborates that afflictions reveal spiritual needs: "Before I was afflicted, I went astray, but now I keep Your word." (Psalms 119:67). And the book of Corinthians explains that believers should endure pain to show their ministry to God: “In everything we do, we show that we are true ministers of God. We patiently endure troubles and hardships and calamities of every kind” (2 Cor. 6:4). As these verses illustrate, early understandings of pain suggested it was good for the soul and any pain relief was often believed to be the result of miracles, or spiritual intervention (Paley et al., 2023). Thus, it is not surprising that prayer, rituals, and ceremonies, including exorcism, were commonly used in this era to address pain, gain forgiveness for sin and achieve eternal redemption (Doleys, 2014).

1.2.2. Modern Understandings of Pain

In the 16th century, René Descartes' theorization of pain as a disturbance that passed along nerve fibers to the brain (Vervoort et al., 2018) along with the separation of the church and state catalyzed the shift from religious understandings of pain to notions of pain as a medical problem (Morris, 1991; Rey, 1995). Pain was no longer conceptualized as a God-given form of moral catharsis, but something that could be eradicated with advances in biomedical sciences (Bourke, 2014). Thus, instead of turning to religious leaders for pain management, modern understandings of pain shifted consumers to reliance on healthcare practitioners, medical procedures, and pharmaceuticals (Bourke, 2014).

By the 1800s, the specify theory of pain was introduced, which explained that pain was stimulated by receptors that were independent of touch and other sensations (Rey, 1995). However, it wasn't until 1900 that neurons were discovered, and in the 1960s, Melzack & Wall's (1965) influential gate control theory of pain was introduced, which demonstrated that pain involved not only ascending information from receptors to the brain, but also downward or descending neural regulation that could modulate the conscious experience of pain. By 1975, the International Association for the Study of Pain was founded along with a dedicated research journal called *PAIN*, that focused solely on the study of pain (Collier, 2018). Four years later, the association created its first official definition of pain as: "an unpleasant sensory and emotional experience associated with [or resembling that associated with] actual or potential tissue damage or described in terms of such damage" (International Association for the Study of Pain, 1979). Almost 40 years later, the definition was revised to include the words in the square brackets reflecting important advances in pain theory, particularly the notion that pain could not be inferred solely from activity in sensory neurons (Raja et al., 2020).

Research on pain now establishes that it is influenced by not only genetic predispositions to processing and sensing pain (Miaskowski, 2009), but also personality, affect, and memories of past painful experiences (Hadjistavropoulos et al., 2011) as well as perceptions, beliefs and expectations of pain based on interactions with the physical environment and relationships with family, friends, and role models (Gatchel et al., 2007; McMahon et al., 2013). Together, these factors determine whether an experience of pain occurs, how that experience is interpreted, and what behavioral responses follow

including the decision to ignore, ameliorate or enhance one's pain experience (Bastian et al., 2014; Bingel & Tracey, 2008). Consequently, the experience of pain has been shown to vary both between and within individuals, even when exposed to the same standardized painful stimulus (Crow et al., 2013). Moreover, research has established that pain could be generated or perpetuated by previously conditioned cues in the environment, the expectation of pain, and pain catastrophizing, or the tendency to ruminate about and magnify pain (Loeser & Melzack, 1999; Meints et al., 2019). This implies that the same stimuli can evoke different experiences of pain based on many personal factors and that pain can take on varied meaning.

Corresponding with these modern understandings were new medical treatments for pain. Beginning with the use of ether and chloroform as surgical and obstetric anesthetics in the mid-1800s (Bourke, 2014), pain therapies further evolved through the 19th century with the use of morphine for injured soldiers, and the creation of the "Pain Killer" drug, a branded pharmaceutical that was marketed solely for the purpose of treating pain as opposed to products that treated the numerous conditions that resulted in pain (Petty, 2019). By the end of World War II, pain management was predominately pharmacologic (Bernard et al., 2018); and today, the expectation of complete pain resolution facilitated by modern medicine and its practitioners continues to dominate attitudes towards the treatment of pain, particularly in Western societies (Bourke, 2014; Rysewyk, 2017). However, the medicalization of pain represents only one interpretation of pain evoked by consumers.

Our review of the history of pain illustrates that pain has been associated with vastly different meanings over time. Consumers give meanings to pain that are deeply rooted in social and cultural frameworks and these meanings greatly influence the experience of those in pain and the language used to describe it (Boddice, 2023; Morris, 1991; Rysewyk, 2017). These meanings further shape what authorities they approach to manage the pain, and which interventions are seen as legitimate (Bourke, 2014; Scarry, 1985; Wailoo, 2014). Thus, the different meanings of pain that exist today likely have profound effects on consumption. Although it may be impossible to account for the infinite ways in which pain is construed in the subjective conscious of those experiencing it, extant literature provides a foundation to unpack the complexity of the construct of pain by grouping together common themes.

1.3. Pain Themes: Five Interpretations of Pain in Consumption Based on Extant Literature

Building on our historical review of the construct of pain and based on an interpretive analysis of research in marketing and beyond, we now present evidence of five pain themes that individuals utilize to interpret their experiences with pain in consumption activities. Our approach to developing the pain themes is not new to consumer research. Thematic analysis of extant literature is found in a great deal of past conceptual work, including articles that are well-recognized and highly regarded (e.g., Belk, 1988). By taking this approach, we recognize that the essential task of synthesizing the literature involves both induction and interpretation such that the product of the synthesis emerges from prior work, as opposed to an outcome that is specified prior to the analysis (Dixon-Woods et al., 2006). This approach is particularly appropriate at early stages of construct development when construct clarity is lacking and extant research has been conducted in disparate areas, often with a mix of research methodologies (Dixon-Woods et al., 2006; Noblit & Hare, 1988; Suddaby et al., 2017). Pain research in marketing and consumer behavior clearly fits into this category.

Until quite recently, pain was an overlooked construct in marketing and rarely the direct focus of inquiry. Mentions of pain in marketing literature appear decades ago but often in passing and in association with extreme or fringe consumption practices (Arnould & Price, 1993; Chamberlain et al., 2018; Kozinets, 2002; Ladwein, 2006; Loewenstein, 1999; Schouten, 1991; Tumbat & Belk, 2011). Indeed, recent work by Cova & Cova (2019) and Scott et al. (2017) represent the few empirical studies where pain is the direct construct of interest. Meanwhile, marketing scholars stress the importance of studying pain not only because it is an underexplored construct in marketing, but also because of changes in consumption patterns reflecting an increasing consumer interest in experiences involving pain (Cova, 2021; Kastanakis et al., 2022; Liu et al., 2018). These pioneering articles and the interdisciplinary literature referenced within these papers provided the foundation to develop the pain themes.

In the following section, we discuss each theme in detail starting with the two themes reflected in our review of the history of pain. Table 1.1 provides an overview of each of the five pain themes and Table 1.2 shows evidence to support the themes from extant literature. The first theme, stemming from religion and spiritual teachings, views

pain as a punishment that must be endured to atone for ones' sins, enhance ones' spirituality, and grow in ones' connection to God. The second, originating from the medical sciences, views pain as a medical problem that can be cured with modern medicine and its practitioners. We term these themes *Redemptive Pain* and *Affliction Pain* respectively. We then discuss three other themes reflected in extant literature: *Transformation Pain*, which views pain as part of the process to achieve a self- or socially-defined ideal; *Accomplishment Pain*, which views pain as something to be overcome and endured to achieve success, glory, and admiration; and finally, *Pleasurable Pain*, which views pain as part of novel, memorable and pleasurable experiences that involve play, adventure, arousal and fun. Overall, the five themes vary in their implications for the consumers' sense of self, how others are prioritized and conceptualized relative to the pain experiences, and how marketplace actors facilitate or eliminate pain during consumption.

Table 1-1. Overview of the Pain Themes

	Redemption Pain	Affliction Pain	Transformation Pain	Accomplishment Pain	Pleasurable Pain
Definition	Pain is endured for moral purification and/or connection to (the) God(s).	Pain is threatening to health and quality of life and needs to be investigated and eliminated.	Pain is a byproduct of attaining self or societally defined ideal.	Pain is part of the journey to achieve glory, fame, success and/or fortune.	Pain is part of memorable, novel, and pleasurable experiences that allow individuals to reconnect with their bodies and escape the burden of self-awareness.
Typical Consumption Contexts	Pilgrimage, religious and tribal rituals, spiritual and religious consumption, corporal punishment	Medical and paramedical consumption	Tattooing, piercing, plastic surgery, aesthetic services (e.g., waxing, facial), and medspa services (e.g., Botox and other injectables)	Competitive sports, war, work	Tourism, high-risk leisure, painful hobbies
Evoked Meanings of Pain	Penance, forgiveness, moral purification, revival, virtue	Suffering, dysfunction, abnormality, evil	Self-enhancement, self-expression, self-acceptance, societal acceptance	Perseverance, grit, strength, commitment, heroism, fortitude, pride	Play, adventure, arousal, fun
Core Idiom	Carry or bear one's cross.	In a world of hurt.	Pain is beauty.	No pain, no gain.	Hurts so good.

	Redemption Pain	Affliction Pain	Transformation Pain	Accomplishment Pain	Pleasurable Pain
Historical Evolution	Predominant belief in pre-modern times where religious and spiritual beliefs played a central role in society. Persists to this day in ideals of corporal punishment and in subcultures of religious and spiritual groups.	Emerged with the advent of modern medicine, particularly in the 19th century with the separation of the church and state as well as increasing secularism and commercialization of the medical and pharmaceutical industry.	Prevalent throughout history, but increasingly accessible (and acceptable) in modern times with commercialization of beauty and other aesthetic services.	Prevalent throughout history, but strongly rooted in the protestant work ethic mentality of the 19th century.	Rooted in masochism and associated with small subcultures throughout history, has gained popularity in modern society with the absence of war and increases in disposable income, globalization, and the shift to use the marketplace for varied experiences over utilitarian goods.
Key Consumer Behavior and Business References	Bastian et al. (2011); Cova & Cova (2019); Higgins & Hamilton (2019); Husemann & Eckhardt (2019)	Berry et al. (2022); Berry et al. (2015); McColl-Kennedy et al. (2012;2017); Ouschan et al. (2006); Sweeny et al. (2015); Thompson (2005); Torres & DeBerry-Spence (2019)	Atik & Yildirim (2014); Liu et al. (2010); Patterson & Schroeder (2010); Pentina & Spears (2011); Rodner et al. (2022); Roux & Belk (2019); Thompson & Hirschman (1995); Schouten (1991)	Dubreuil & Dion (2019); Kerrigan et al. (2014); Kuuru & Närvänen (2019); Powers & Greenwell (2017); Quinlan Cutler (2014)	Arnould & Price (1993); Belk & Costa (1998); Celsi et al. (1993); Cova (2021); Kastanakis et al. (2022); Keinan & Kivetz (2011); Kozinets (2002); Liu et al. (2018); Norfelt et al. (2023); Scott et al. (2017); Tumbat & Belk (2011)

	Redemption Pain	Affliction Pain	Transformation Pain	Accomplishment Pain	Pleasurable Pain
Example Interdisciplinary References	Eade & Sallnow (2000); Jegindø et al. (2013); Nelissen & Zeelenberg (2009)	Bullo (2020); Cronstrom (2019); Hearn et al. (2016); Munday et al. (2020); Pouli (2014); Robinson-Reilly (2016); Whitburn et al. (2017)	Güzel (2018), Pagliarini (2015); Sweetman (1999)	Cherrington et al. (2020); Green (2011); Grima et al. (2022); Lev (2019); Lev (2023); Loewenstein (1999); NcNarry et al. (2020); Peluso (2011)	Baumeister (1988); Dunkley et al. (2020); Newmahr (2010); Rozin et al. (2013)

Table 1-2. Evidence from Extant Literature Supporting Pain Themes

Pain Theme	Evidence from Extant Research (Context, Citation)	Explanation
Redemption Pain Pain that is endured for moral purification and/or connection to (the) God(s).	"On the Camino de Santiago, acute toe pain tended to foster in me a feeling of sacrifice. I felt I was suffering because this would help me to transcend the human condition. I was not looking to escape pain. It was a kind of martyrdom journey that produced spiritual effects (with, it is worth emphasizing, no sado-masochist implications). Acute toe pain subsumed my sense of self and even if this was not my motive for doing the walk, it gave me religious feelings. As someone educated in the Catholic faith, I often felt like some kind of martyr. Whenever things got tough I couldn't help but see images of martyrs in my head. On the Camino de Santiago, toe pain plunged me into a world of sacrifice." (Pilgrimage, Cova & Cova, 2019, p. 577).	Pain transforms into a spiritual experience where pilgrims welcome pain to connect with their faith (like martyrs).

Pain Theme	Evidence from Extant Research (Context, Citation)	Explanation
	"What people were displaying was not their suffering but their wounds, their stigmata. Toe pain was a great leveller and produced a community of equal sufferers. Tolerating the 'punishment' of toe pain is a test of one's spiritual virtue, reaffirming one's identity to oneself and others. Displaying and staging the pain a person felt was a sign of both spirituality and belonging." (Pilgrimage, Cova & Cova, 2019, p. 575).	Enduring pain brings virtue and connection to other pilgrims.
	"The archbishop described the sick pilgrim as being closer to Christ than the other pilgrims, and it was said that the sick were honoured by this service because 'they make up all that has still to be undergone by Christ for the sake of his body the church'. This rite described sickness both as a sign of sin, and also as a means of participating in the Passion of Christ." (Pilgrimage, Eade & Sallnow, 2013, p.39)	Pain is a sign of sin but brings pilgrims closer to God and allows for sanctification.
	"The children were encouraged to bear their suffering 'cheerfully', because it made them Christ-like. 'Real miracles' were said to consist of eliminating sin, and it was the expiatory role of physical suffering which was given the most explicit emphasis." (Pilgrimage, Eade & Sallnow, 2013, p.43)	Pain is valued because it makes pilgrims Christ-like.
	"I couldn't feel my body; I was walking with God. It felt like it was not me but Lord Murugan who was walking inside me; Yes. I did not feel the walking, the dancing. When I was looking around, it was like looking at myself from the outside." (Thaipusam Kavadi ritual in Mauritius, Jegindø et al., 2013, p.180)	Pain brings ritual participants closer to God.
	"I saw complete darkness. There was only the sounds; I saw God in front of me, and I had a conversation with him." (Thaipusam Kavadi ritual in Mauritius, Jegindø et al., 2013, p.180)	Pain brings ritual participants closer to God.
	"The pain was getting worse and all I kept on saying to Peter was 'I want the epidural ... if this is the pain I'm having at 3cm what is it going to be at 8cm?'" (Childbirth, Whitburn et al., 2017, p.5)	Pain as something that needs to be control with medical intervention.

Pain Theme	Evidence from Extant Research (Context, Citation)	Explanation
Affliction Pain Pain is threatening to health and quality of life and needs to be investigated and eliminated. Pain may be endured as part of pain relief.	"I saw the bags, I looked at the needle, I thought what the hell's going on here. I was scared. When the nurse comes near me with a cannula needle, I freeze because of the pain." (Cancer Treatment, Robinson-Reilly et al., 2016, p.1183)	Pain as a threatening and frightening part of medical encounters.
	"[The pain is like] a heavy burning weight of lava inside my shoulder, sitting on the scapula dripping down and wrapping around my ribcage, precariously balanced such that any excess activity upsets the balance and sends it pouring down my arm and leg and exploding up into my skull." (Chronic Pain, Munday et al., 2020, p.822)	Pain is uncomfortable and interferes with quality of life.
	"[The pain is] like some little devil in the corner. Yeah, you know like that little exorcist thing in the corner ...You just think of a bad thing ... why is someone torturing me?" (Spinal Cord Injury, Hearn et al., 2016, p.979)	Pain as a torturous punishment inducing psychological distress, fear, and further physical pain.
	"I was considering surgery because I believed that was how it was treated. That's what you do when you have osteoarthritis and have pain, you replace your knee joint." (Osteoarthritis, Cronstrom, 2019, p.1030)	Medical intervention is the solution to eliminate pain.
	"Four months ago – my doctor gave me a steroid injection...and that was wonderful...For a while...but it's wearing off now…so I mean . . . I suppose it varies how long it last for people...but that was really good...and in a way it has boosted me...because I know there can be a relief...previous to that it was just pain all the time, really . . . but it's a nice thought that if he eventually gives me another one . . . that helps definitely." (Osteoarthritis, Pouli, 2014, p.604)	Medical intervention is the solution to eliminate pain.
	"I quite enjoyed the pain from tattooing. People always say that if there are ten levels of pain, then labor is top and tattooing is seventh. ... That feeling is good. ... after the tattoo was finished, the feeling was very special, it seemed like something very special had happened to me, something had been added to my body. I told myself I had finished something important. ... they [her friends] really felt that I had shown a lot of courage." (Tattooing, Liu et al., 2010, p.298)	Pain is part of the process to construct a new self-identity. The mastery of pain generates pride internally and appreciation from others.

Pain Theme	Evidence from Extant Research (Context, Citation)	Explanation
Transformation Pain Pain is a byproduct of attaining self or societally defined ideal that enhances social belonging.	"I chose this area to awaken something that had fallen asleep in me. Through pain, I can experience reality; that's to say . . . when I get tattooed, I like the pain in the sense that I like to know that my body is physically there and that it exists." (Tattooing, Roux & Belk, 2018; p. 494)	Pain reawakens the self and helps consumers feel alive.
	"Obviously, you endure it! There is this psychology. In fact, people don't tell it that way, but bigger tattoos demonstrate how much pain you have been exposed to. Actually, it becomes kind of a show." (Tattooing, Atik & Yildirim, 2014, p. 216).	Enduring pain symbols toughness, overcoming personal limits and testing one's threshold for pain that increases self-confidence when displayed to others.
	" . . . people can buy an expensive outfit or, you know . . . a leather jacket, but, you can buy a tattoo, but you've still gotta put up with the pain and the process.... There's a lot more that goes into it." (Tattooing, Sweetman, 1999, p.60).	Pain is necessary to achieve the self-expression outcome.
	"This tattoo would not have meant the beauty had I not gone through the pain." (Tattooing, Pagliarini, 2015, p.193)	Pain is necessary to achieve the self-expression outcome.
	"It's beautiful–the fact that the process was painful (it took many hours) is a reminder that some of the most beautiful things about us are the result of overcoming our most painful experiences." (Tattooing, Pentina & Spears, p.85)	Pain is part of achieving beauty and transformation.
	"A friend has been operated on by Dr Ahmet, hers was very painful and it was really difficult after the operation as well. With [Dr] Ufuk, it is all so easy, he says you can even travel back by bus. That means there is a difference between the operations and I think the operation by Dr Ahmet is more serious and detailed." (Plastic Surgery, Güzel, 2018, p.92)	Pain is viewed as the marker of having had an operation and of having had a successful operation.

Pain Theme	Evidence from Extant Research (Context, Citation)	Explanation
	"I don't get it. Pain, [a] burning [sensation], nothing happened. It's as if the doctor said they sutured it [the hymen], but fooled me." (Plastic Surgery, Güzel, 2018, p.91)	Pain is viewed as the marker of having had an operation and of having had a successful operation.
Accomplishment Pain Pain is part of the journey to achieve glory, fame, success and/or fortune.	"Thibault Privat is part of the club because of the blood he has shed. We also need players like Bardy to put their heads where others wouldn't even put their foot. Courage means facing ferocity [...]. We glorify the players who take painful hits ... for us! They are fighting for us. They are suffering for us. They defend our territory, our colors." (Rugby, Dubreuil & Dion, 2019, p.37)	Pain is considered a sacrifice for the team; those who endure pain are considered heroes, role models, and experience glory.
	"In rugby, the expression "No pain, no gain" takes on its full meaning. It is also said that "It is a sport of bullies played by gentlemen.." "We'll total them in scrum." There are many expressions [...]! I remember that in Clermont for the last final, they made a t-shirt "Let's tramp on their faces"» [...]. There is always a reference to war, at least to combat." (Rugby, Dubreuil & Dion, 2019, p.37)	Pain is viewed as a sacrifice for the game and for the team.
	"The experience of pain can be marvellous when it has to do with hard training in which I'm challenging my body, my muscles." (Endurance Sports, Roessler, 2006, p. 42)	Pain provides a signal that the body is being challenged.
	"Today, the bodily pain the day after is a benchmark for an excellent workout. It literally makes my whole day, the more I feel my sore muscles the more I enjoy the sensation. It is probably the most rewarding feeling one can get. I am absolutely addicted this feeling." (Weight Training, Lev, 2023, p.306)	Pain is a reward because it indicates accomplishment.
	"Not all pain is bad. There is also good pain. If you want to be a real distance-runner, you should know that. Look at all the runners here on the team. Everyone is in pain, but they learn how to deal with it. Don't be spoiled; you must run the pain. You will feel better after." (Running, Lev, 2019, p.10)	Pain is accepted in sport and brings pleasure afterwards.

Pain Theme	Evidence from Extant Research (Context, Citation)	Explanation
	"After training I walked over to my friend's apartment, which was only a few blocks from the MMA school. Perhaps it was the non-academic audience; maybe it was the skepticism in his tone when he asked if it would help me in a fight after I told him I was researching (and training in) MMA; but within minutes I had rolled up my pant leg and took off my sweatshirt to show him the bruises that covered my shin and bicep, some fading from past contact, others in the process of darkening, that made up an ever-changing map of past contact. Part of me was actually taking pride in this . . ." (Mixed Martial Arts, Green, 2011, p.384).	Overcoming pain creates a sense of accomplishment and pride, particularly when remnants of pain are visible as badges of honor or 'war wounds' to demonstrate one's toughness to others.
	"Bruises and breaks conveys to fellow members one's knowledge of the game, one's skilled or 'expert' status, and one's overall toughness." (Roller Derby, Peluso, 2011, p. 44).	Overcoming pain creates a sense of accomplishment and pride, particularly when remnants of pain are visible as badges of honor or 'war wounds' to demonstrate one's toughness to others.
	"Well I mean now that I can hike through extreme pain. And kind of like the motivation, I can get through. I haven't been travelling a lot so this trip has been a new experience for me in that kind of sense. But to just know that I can still go through physical pain like that and still hike." (Hiking the Inca Trail, Quinlan Cutler et al. 2013, p.160).	Overcoming pain by pushing oneself through extreme physical exertion creates a sense of accomplishment, perseverance, triumph and pride.
	"Weary, partially injured, but pleased we eventually made our way back to the car. Ready for our road trip back to the normality of screaming children, laptops and Tescos. It was that thought that prompted me 'I wonder if we could just stay here and do it all again'" (Tough Mudder, Scott et al., 2017, p.35)	Pain provides a novel experience that facilitates escape from daily life.

Pain Theme	Evidence from Extant Research (Context, Citation)	Explanation
Pleasurable Pain Pain that is part of memorable, novel, and pleasurable experiences that make one feel alive.	"…the risks and rules of the event: "You voluntarily assume the risk of serious injury or death by attending this event." A walk on the wild side, the Burning Man festival is a radical departure, a feast for all the senses." (Burning Man, Kozinets, 2002)	Pain is a somatic experience that individuals pursue as part of novel experiences that involve risk of injury or death.
	"She doesn't want to be hurt. She wants to be given the sensation of pain. No. I want to provide the sensation of pleasure. If that pleasure is pain transmogrified into pleasure, I'm very happy to provide it." (Sadomasocism, Newmahr, 2010, p.398)	Pain is part of arousing and pleasurable experiences.
	"SM is the seeking of pleasure, I think, in a way, by people who can translate pain into pleasure, and by people who can translate the act of giving pain . . . or seeing that the other person . . . is having pleasure." (Sadomasocism, Newmahr, 2010, p.399)	Pain is part of arousing and pleasurable experiences.
	"These bloggers indicate that spending New Year's Eve at Times Square 'is just one of those things you need to do, once;' 'It is totally worth doing once, but you'll want to die afterwards;' and 'It is a once-in-a-lifetime kind of experience...having done it once I don't think I would ever see the need to fight the crowds and security, etc. to do it again.'" (New Year's Eve at Times Square, Keinan & Kivetz, 2011, p.939)	Pain is part of novel and memorable experiences.

1.3.1. Redemptive Pain

The *Redemption Pain* theme reflects the notion that pain should be endured for moral purification and/or connection to (the) God(s). This belief was prevalent for much of time when religious and spiritual beliefs played a central role in early societies. When consumers interpret pain with the *Redemption Pain* theme, they evoke meanings of pain associated with penance and atonement, particularly for their sins. Pain is viewed as a path to virtue as reflected in the commonly used idiom to "carry [or bear] one's cross." This sentiment formed the basis for individuals rejecting medical treatments, particularly in the 19th century when the use of anesthetics and pain relievers gained ground. Since suffering was considered good for the soul and pain was taught to be God-given, many feared that eliminating pain would be construed as an offense against God's will (Glucklich, 2003; Gray & Wegner, 2010).

Redemption Pain is uniquely associated with consumer perceptions of self in that it is an important way that consumers bring themselves closer to divine entities. Indeed, evidence of the *Redemption Pain* theme is found in accounts of consumers participating in painful ceremonies and rituals for the purpose of redemption and cultural traditions linked to religious and spiritual beliefs. For example, in Hinduism, pain is an intrinsic feature of the Thaipusam Kavadi ritual, a ceremony where participants endure a 13 km pilgrimage often carrying heavy wooden arcs or drag chariots by hooks attached to their skin (Jegindø et al., 2013). One participant explains their experience participating in this painful ritual: "I saw complete darkness. There was only the sounds; I saw God in front of me, and I had a conversation with him" (Jegindø et al., 2013, p.180). As reflected in this quote, the pain was not the focus of the participants' experience but a facilitator for drowning out the senses allowing them to connect with spiritual entities. This reflects a key distinguishing factor of the *Redemptive Pain* theme, that is, that pain, whether self-inflicted or the result of another affliction, brings one closer to God. This sentiment is further reflected in descriptions of another popular ritual involving pain, the pilgrimage,

> The archbishop described the sick pilgrim as being closer to Christ than the other pilgrims, and it was said that the sick were honoured by this service because 'they make up all that has still to be undergone by Christ for the sake of his body the church'. This rite described sickness both as a sign of sin, and also as a means of participating in the Passion of Christ. (Pilgrimage, Eade & Sallnow, 2013, p.39)

As shown in this account, pain caused by sickness is not only viewed as a sign of sin or immortality, but also as a path to achieve morality. By suffering pain with grace, believers can strengthen their faith and connect with the divine.

Redemptive Pain is also uniquely associated with consumer relationships in that it connects individuals to others who have sacrificed for religious reasons. For example, another pilgrimage account describes how experiencing toe pain brought about feelings of martyrdom:

> On the Camino de Santiago, acute toe pain tended to foster in me a feeling of sacrifice. I felt I was suffering because this would help me to transcend the human condition. I was not looking to escape pain. It was a kind of martyrdom journey that produced spiritual effects (with, it is worth emphasizing, no sadomasochist implications). Acute toe pain subsumed my sense of self and even if this was not my motive for doing the walk, it gave me religious feelings. As someone educated in the Catholic faith, I often felt like some kind of martyr. Whenever things got tough, I couldn't help but see images of martyrs in my head. On the Camino de Santiago, toe pain plunged me into a world of sacrifice. (Cova & Cova, 2019, p. 577).

As this quote demonstrates, pain in a seemingly inconsequential appendage (the toe) takes on a profound spiritual meaning which is used to elevate the individual closer to the divine as a kind of martyr. This notion, along with the notion that shared pain strengthens social bonds (Hobson et al., 2018), is reflected in the following quote:

> What people were displaying was not their suffering but their wounds, their stigmata. Toe pain was a great leveler and produced a community of equal sufferers. Tolerating the 'punishment' of toe pain is a test of one's spiritual virtue, reaffirming one's identity to oneself and others. Displaying and staging the pain a person felt was a sign of both spirituality and belonging. (Pilgrimage, Cova & Cova, 2019, p. 575).

Here pain is related to the suffering of the divine, a stigmata, that pilgrims share, which enables a sense of oneness with each other.

In summary, *Redemptive Pain* is characterized by spirituality. From this perspective, pain provides two unique benefits to the consumer: it brings the bearer closer to the divine and closer to other spiritually like-minded consumers. For these reasons, pain is welcomed and used as a tool to enhance consumer sense of self and relationship with others.

1.3.2. Affliction Pain

The *Affliction Pain* theme reflects the notion that pain is threatening to health and quality of life and needs to be investigated and eliminated. This belief gained popularity with the advent of modern medicine as well as increasing secularism and commercialization of the medical and pharmaceutical industry. As the influence of the church waned and scientific inquiry advanced, a philosophical shift took place in society whereby instead of believing that individuals could be saved through pain, the predominant belief became that the world should be saved from pain (Shilling & Mellor, 2010). The responsibility for managing and enduring pain was no longer placed on the individual, but on medical practitioners and their tools. Through the *Affliction Pain* lens, pain is viewed as a negative and all-encompassing experience as reflected in the core idiom associated with this theme: “In a world of hurt.”

Affliction Pain is uniquely associated with consumer perceptions of self in that individuals applying this perspective may not only fear and villainize pain but also see it as something that is external from, or foreign to themselves. For example, when explaining their pain, one research informant refers to a common symbol of evil, a devil: “[The pain is] like some little devil in the corner. Yeah, you know like that little exorcist thing in the corner ...You just think of a bad thing ... why is someone torturing me?” (Hearn et al., 2016, p.979). Another account emphasizes the experience of fear when undergoing treatment that involved pain: “I saw the bags, I looked at the needle, I thought what the hell’s going on here. I was scared. When the nurse comes near me with a cannula needle, I freeze because of the pain” (Robinson-Reilly et al., 2016, p.1183). As these quotes reflect, *Affliction Pain* may be viewed as a necessary, or purposeful evil, albeit scary, when undergoing treatment (Andiappan, 2023), and an unnecessary evil, or afflictive evil when living day-to-day life in pain (Munday et al., 2020). Nonetheless, both evils signal an important distinguishing factor of the *Affliction Pain* theme which is that pain is seen as a threat that degrades the self and thus, experiencing pain is a cause for concern. As Norris (2009) adequately summarizes it: “pain is unnecessary, a challenge, or the enemy– something to be eliminated” (p.24).

Affliction Pain is also uniquely associated with consumer relationships in that consumers often rely on modern medicine and its practitioners to relieve their pain. This is reflected in the words of informants that describe how their pain can be eliminated with

various procedures and medical interventions. For example, one individual explains how her pain can be eliminated with surgery: “That’s what you do when you have osteoarthritis and have pain, you replace your knee joint” (Cronstrom, 2019, p.1030), while another describes relying on a steroid injection for the same condition:

> Four months ago – my doctor gave me a steroid injection...and that was wonderful...For a while...but it’s wearing off now . . . so I mean . . . I suppose it varies how long it last for people...but that was really good...and in a way it has boosted me...because I know there can be a relief...previous to that it was just pain all the time, really . . . but it’s a nice thought that if he eventually gives me another one . . . that helps . . . definitely. (Pouli, 2014, p.604).

The informant reveres the doctor as the deliverer of pain relieve but expresses a dependence on this external pain manager. Similar accounts are seen with childbirth such as this woman in labor who requests an epidural to manage her pain: "The pain was getting worse and all I kept on saying to Peter was ‘I want the epidural ... if this is the pain I’m having at 3cm what is it going to be at 8cm?’" (Whitburn et al., 2017, p.5). These quotes illustrate that when consumers interpret pain consistent with the *Affliction Pain* theme, they shift the onus of the pain management to others. In other words, pain is seen as something that should be externally eliminated by a professional authority, procedure, or chemical intervention.

In summary, *Affliction Pain* is characterized by scientific advances that view pain as a medical problem with a medical solution. The management of pain is outsourced to medical practitioners, and their tools, which may create a dependence on others to treat pain. From this perspective, pain is often associated with disease and is viewed as a threat to one’s quality and/or length of life. For these reasons, *Affliction Pain* is primarily seen as a negative experience and thus, it is often feared.

1.3.3. Transformation Pain

The *Transformation Pain* theme reflects the notion that pain is part of achieving a socially or self-defined bodily ideal. Evidence of this belief is prevalent throughout history where individuals “have undergone extreme discomfort, pain, and risk to conform to culturally prescribed standards of beauty” (Schouten, 1991, p. 413). Examples include the binding and permanent deformation of the bones of the feet or the cranium, and constriction of the torso (Featherstone, 1999; Polhemus, 1998). Although these practices

do not enjoy the same popularity today, the commodification of beauty and aesthetic services witnessed over the 21st century has increased access to and acceptability of various body transformations to "achieve various social goals, and convey a meaningful message of values, beliefs and lifestyle" (Pentina & Spears, 2011, p. 75). However, much like the early body modifications described above, these transformations are rarely achieved without enduring at least some pain, which may deter some consumers from seeking these services. Yet, other consumers adopt the common saying "pain is beauty" and accept that pain is a by-product of attaining a self- or societally defined ideal.

Transformation Pain is uniquely associated with consumer perceptions of self in that it symbolizes self-enhancement, self-expression, and to some, an important part of the process of constructing, defining, or redefining oneself (Güzel, 2018; Schouten, 1991; Watson, 1998). Pain in cosmetic procedures can provide individuals with proof of the welcomed transformation. For instance, one consumer worried that their procedure had not been done correctly or even at all because they could not feel pain: "I don't get it. Pain, [a] burning [sensation], nothing happened. It's as if the doctor said they sutured it [the hymen], but fooled me" (Güzel, 2018, p.91). Another consumer in the same study described pain as being associated with higher value procedures:

> A friend has been operated on by Dr Ahmet, hers was very painful and it was really difficult after the operation as well. With [Dr] Ufuk, it is all so easy, he says you can even travel back by bus. That means there is a difference between the operations, and I think the operation by Dr Ahmet is more serious and detailed (Güzel, 2018, p.92).

These quotes illustrate the important contrast between the *Affliction Pain* and *Transformation Pain* themes. In the former, pain is largely considered threatening and something to be explained and eliminated, whereas in the later, pain may serve as evidence of the change that individuals are actively seeking out. Furthermore, *Transformation Pain* may be considered discretionary pain that is self-inflicted and valued as part of making the transformation more meaningful. This is eloquently described by two consumers who purchased a tattoo as follows: "This tattoo would not have meant the beauty had I not gone through the pain" (Pagliarini, 2015, p.193), and "It's beautiful–the fact that the process was painful (it took many hours) is a reminder that some of the most beautiful things about us are the result of overcoming our most painful experiences" (Pentina & Spears, p.85). In both recounts, pain takes on personal and prideful meaning associated with beauty.

Transformation Pain is also uniquely associated with consumer relationships in that it is the cost of conforming to certain ideals of beauty and self-expression that goes over and beyond typical ways that consumers use the market to signal certain attributes to others. This is described by one consumer in their thoughts on tattooing: ". . . people can buy an expensive outfit or, you know . . . a leather jacket, but, you can buy a tattoo, but you've still gotta put up with the pain and the process.... There's a lot more that goes into it" (Sweetman, 1999, p.60). A similar sentiment is described in terms of the physical toughness that is considered a prerequisite to commit to such a body modification: "Obviously, you endure it! There is this psychology. In fact, people don't tell it that way, but bigger tattoos demonstrate how much pain you have been exposed to. Actually, it becomes kind of a show" (Atik & Yildirim, 2014, p. 216). This last quote underscores the social importance of pain in body modifications as not only a form of corporeal self-expression (Patterson & Schroeder, 2010), but also an outward symbol of internal qualities that define one's identity in the eyes of others (Liu et al., 2010; Schouten, 1991; Watson, 1998).

In summary, *Transformation Pain* is characterized as a by-product of attaining a self- or societally defined ideal. From this perspective, pain provides evidence of constructing, defining, or redefining oneself, which can enhance consumer self-esteem. Furthermore, through pain, consumers increase social capital by conforming to certain ideals of beauty and demonstrating inner qualities like toughness. For these reasons, pain is endured to enhance consumer sense of self and social acceptance.

1.3.4. Accomplishment Pain

The *Accomplishment Pain* theme reflects the notion that pain is part of the journey to achieve glory, fame, success and/or fortune. Historically, this theme is rooted in competition as evidenced by the displays of violence commonly observed in ancient societies such as gladiatorial combats, beast fights, and other 'blood sports' (Kyle, 2014). Across time, those that displayed the qualities of bravery, passion and perseverance in the face of pain have been rewarded by society for their valor and worshiped as heroes, particularly in the context of war and sports (Bourke, 2013; Wailoo, 2014). This mentality has not disappeared in modern times as the *Accomplishment Pain* theme continues to dominate attitudes in certain cultural contexts and holds a strong association with the Protestant Work Ethic (Cheng et al., 2017). This is reflected in the

core idiom demonstrating this theme: “No pain, no gain,” which indicates that one must experience suffering to make progress and succeed (Jia & Wyer, 2022).

Accomplishment Pain is uniquely associated with consumer perceptions of self in that it is viewed as corporeal proof of their hard work. For instance, one exercise enthusiast highlights the positive qualities of post-workout pain as follows: “The bodily pain the day after is a benchmark for an excellent workout. It literally makes my whole day, the more I feel my sore muscles the more I enjoy the sensation. It is probably the most rewarding feeling one can get. I am absolutely addicted to this feeling” (Lev, 2023, p.306). Similarly, overcoming pain during intense physical pursuits brings a sense of self-pride and self-efficacy. This is exemplified by one consumer after hiking the Inca trail:

> Well I mean now that I can hike through extreme pain. And kind of like the motivation, I can get through. I haven’t been travelling a lot so this trip has been a new experience for me in that kind of sense. But to just know that I can still go through physical pain like that and still hike” (Quinlan Cutler et al. 2013, p.160).

The hiker uses pain as a self-revelation of their own steadfast capacity. Similarly, Loewenstein (1999) explains that “a big part of the purpose of a [mountaineering] trip is to test one’s own mettle, and pain and discomfort provide the grist for such tests,” (p.324) and that “pain and discomfort are, to some degree, the *point* of the trip” (p.325). These quotes demonstrate an important distinguishing factor of the *Accomplishment Pain* theme whereby overcoming pain brings a sense of self-pride and self-efficacy so much so that without pain, the value of the endeavor may be compromised as exemplified in the last quote. Indeed, for many, challenging the limits of the body and overcoming pain is seen as the main motivation for participating in various sports and physical pursuits (Breton, 2000; Lev, 2019).

Accomplishment Pain is uniquely associated with consumer relationships with others in that enduring pain is a sign of membership to and a source of pride within certain groups. For instance, one athlete explains how pain becomes a normalized and collective experience of runners: “Not all pain is bad. There is also good pain. If you want to be a real distance-runner, you should know that. Look at all the runners here on the team. Everyone is in pain, but they learn how to deal with it. Don’t be spoiled; you must run the pain. You will feel better after.” (Lev, 2019, p.10). The athlete illuminates an

acceptance of pain in sporting culture whereby athletes learn to embrace pain for the greater good of the team and the spirit (and show) of the competition. Indeed, enduring pain, particularly without showing signs of suffering, brings respect from fans and teammates alike as explained by this rugby fan:

> In rugby, the expression 'No pain, no gain' takes on its full meaning. It is also said that 'It is a sport of bullies played by gentlemen…' 'We'll total them in scrum.' There are many expressions! I remember that in Clermont for the last final, they made a t-shirt: 'Let's tramp on their faces.' There is always a reference to war, at least to combat (Dubreuil & Dion, 2019, p.37).

Thus, in rugby, pain is revered as a glorified element of the consumption experience. This sentiment is further shared by those who feel pride for the players who fight for the team:

> Thibault Privat [professional rugby player] is part of the club because of the blood he has shed. We also need players like Bardy to put their heads where others wouldn't even put their foot. Courage means facing ferocity [...]. We glorify the players who take painful hits ... for us! They are fighting for us. They are suffering for us. They defend our territory, our colors (Dubreuil & Dion, 2019, p.37).

Evoking allusions to war, this rugby fan describes pain as visible evidence of players' loyalty to the greater group. Similarly, painful outcomes are used as evidence of cultural desirable character attributes in the following quote: "Bruises and breaks conveys to fellow members one's knowledge of the game, one's skilled or 'expert' status, and one's overall toughness" (Peluso, 2011, p. 44). This highlights an important characteristic of the *Accomplishment Pain* theme whereby others are both a source of pride and an admiring audience for the spectacle of pain. When pain is overcome it is viewed positively and as these quotes demonstrate, evidence of enduring pain or 'war wounds' increase social capital, however, it is important to distinguish *Accomplishment Pain* from other types of pain that may be experienced by athletes such as that associated with serious injury and inability to continue competing (Loland et al., 2006; McNarry et al., 2020; Pelters, 2024). This latter type of pain would likely be viewed as *Affliction Pain*, even by athletes that are socialized to accept pain.

In summary, *Accomplishment Pain* is characterized by a consumer mentality whereby one must endure physical discomforts to make progress and succeed. From this perspective, pain provides two unique benefits to the consumer: it provides

corporeal proof of their hard work, which builds consumer self-efficacy, and it is a sign of membership to and source of pride within certain groups, particularly in sport and athletic communities. For these reasons, pain is embraced and used as a tool to enhance consumer sense of self and relationship with others.

1.3.5. Pleasurable Pain

The *Pleasurable Pain* theme reflects the notion that pain is a welcomed part of memorable and novel experiences that are associated with play, adventure, and arousal. Evidence of individuals pursuing *Pleasurable Pain* spans across history, most notably as part of sexual masochism, defined as "a person's intense desire to be exposed to painful experiences in sex play" (Kapoor & Belk, 2022, p. 206). Historically, sexual masochism was associated with small subcultures and sometimes viewed as fringe or deviant (Baumeister, 1997; Cowart, 2021; Dunkley et al., 2020). Yet, the popularity of seeking out *Pleasurable Pain* has grown in modern times as demonstrated by not only an increase in those experimenting with and joining sexual masochism communities (Stein, 2021), but also those seeking other (non-sexual) experiences that involve pain. Examples of the latter include eating extremely spicy food, riding roller-coasters and other intense amusement park rides, or purchasing painful massages (Liu et al., 2018; Rozin et al., 1982). Consumers also commonly purchase *Pleasurable Pain* in the context of tourism (Nørfelt et al., 2023), particularly with respect to extraordinary experiences, which are described as emotionally charged, and infrequent activities usually completed over a relatively short duration of time (De Keyser et al., 2020). The mix of pain and pleasure during such experiences is reflected in the core idiom associated with the *Pleasurable Pain* theme, "hurts so good."

Pleasurable Pain is uniquely associated with consumer perceptions of self in that it allows consumers to reconnect with their bodies and escape from the burdens of heightened self-awareness, stress and boredom witnessed in modern times, particularly in the Western world (Baumeister, 1988; Cova, 2021; Scott et al., 2017, 2019). Brown et al. (2018) further elaborate that individuals may pay for these experiences because pain is largely void from modern life. Consider that war and violence are alien to most contemporary, wealthy societies. Furthermore, pain has been greatly reduced with advances in medicine and the widespread availability of pain relievers (Brown et al., 2018). As such, consumers with disposable income search for ways to feel alive,

specifically with their bodies. This sentiment is reflected in recent empirical work. For instance, a participant in the Tough Mudder, a grueling military-style race with painful obstacles, expresses their desire to repeat the experience:

> "Weary, partially injured, but pleased we eventually made our way back to the car. Ready for our road trip back to the normality of screaming children, laptops and Tescos. It was that thought that prompted me 'I wonder if we could just stay here and do it all again'" (Scott et al., 2017, p.35).

As this quote highlights, despite the tiredness and wounding resulting from the painful, physical event, the competitor yearns for the escape the event affords. When pain is experienced in this context, it provides proof of corporeal existence that when combined with the thrill and risk of the experience makes consumers feel alive in a way that their daily lives cannot immitate. Similar trends are reflected in other pursuits. For example, the rules of Burning Man, a week-long festival held in the Black Rock Desert, emphasize the extreme conditions of the event: "You voluntarily assume the risk of serious injury or death by attending this event. You must bring enough food, water, shelter and first aid to survive one week in a harsh desert environment" (Kozinets, 2002, p. 20). Yet, the festival is promised to allow individuals to escape reality and connect with the corporeal self: "A walk on the wild side, the Burning Man festival is a radical departure, a feast for all the senses" (Kozinets, 2002, p. 21). In this way, the discomforts experienced during this event facilitates sensory stimulation that is largely void from everyday life in modern, post-industrial times (Costas & Kärreman, 2016).

Pleasurable Pain is also associated with consumer relationships in that pain can be part of enriching life experience that are shared with others. This is reflected in the following three quotes describing the motivation behind why some consumers endure the uncomfortable, but memorable experience of spending New Year's Eve at Times Square: "[It] is just one of those things you need to do, once;" "It is totally worth doing once, but you'll want to die afterwards;" and "It is a once-in-a-lifetime kind of experience...having done it once I don't think I would ever see the need to fight the crowds and security, etc. to do it again" (Keinan & Kivetz, 2011, p.939). Finally, in addition to accumulating memorable and novel experiences, some consumers regularly engage in activities that involve pain that are contingent on the participation of others. This notion is best supported with evidence from the sexual masochism communities that describe how pain is transformed into pleasure (Dunkley et al., 2020). This is

described eloquently by one consumer: “SM is the seeking of pleasure, I think, in a way, by people who can translate pain into pleasure, and by people who can translate the act of giving pain . . . or seeing that the other person . . . is having pleasure” (Sadomasocism, Newmahr, 2010, p.399). This quote highlights the important role of the other in what is referred to as the ‘act of giving pain.’ Another consumer elaborates on this point by distinguishing between hurting through pain versus stimulating arousal with pain: “She doesn’t want to be hurt. She wants to be given the sensation of pain. No. I want to provide the sensation of pleasure. If that pleasure is pain transmogrified into pleasure, I’m very happy to provide it” (Sadomasocism, Newmahr, 2010, p.398). This highlights an important distinguishing factor of the *Pleasure Pain* theme, that is, pain, is not equal to harm or suffering, but a sensory experience that is viewed positively and welcomed whether through an interaction with other consumers as seen in the act of giving pain, or through sensory experiences as seen in consumers voluntarily exposing themselves to extraordinary experiences, adventures, and various bucket list activities that may be shared with others but not always dependent on others to inflict the sensation of pain.

Overall, *Pleasure Pain* is characterized by play, adventure, and arousal. From this perspective, pain is not viewed as harm or suffering, but as the opposite, pleasure. For these reasons, pain is a voluntarily approached and sought after sensory stimulus that enhances consumers’ life experiences and connections with others through the consensual infliction of pain as in sexual machoism, or the shared experience of pain through extraordinary experiences.

1.4. Summary and Comparison of the Pain Themes

The five pain themes demonstrate distinct ways in which consumers interpret pain, which results from complex interactions with “other bodies and social environments” (Bourke, 2014, p. 16). By viewing pain through the lens of culture and consumption, we challenge the notion that pain is intrinsically negative and unacceptable (Glucklich 2001) and recognize that pain is “harnessed to cultural frameworks that embrace it as positively productive of meanings, identities, and societal relationships” (Shilling & Mellor, 2010, p. 523). The pain themes provide evidence of this by showing that there are perspectives on pain in which it is viewed positively and others where it is viewed negatively. This has important implications for marketplace experiences that

involve pain since the pain theme that a consumer adopts likely influences not only the types of products and services that they purchase, but also their expectations and evaluation of the consumption experience itself.

In comparing the pain themes, it is evident that consumers tend to approach pain that is expected, controlled, and intentional whereas they avoid pain that is unexpected, uncontrolled, and unintentional. Consider that the examples of *Pleasurable Pain* discussed involve situations where pain is voluntarily sought and welcomed (e.g., participating in extraordinary experiences), whereas the examples of *Affliction Pain* involve various medical conditions, illnesses and injuries that are unwillingly inflicted and may threaten consumers' quality and/or length of life. Furthermore, *Affliction Pain* may be initially unexplained, which prompts consumers to investigate the pain, usually through the medical and paramedical marketplace. Therefore, it is not surprising that accounts of *Affliction Pain* in the literature are generally negative and involve a search for a cure or relief of the pain that is aversive and unwelcome. In contrast, *Pleasurable Pain* is described in the context of situations where those experiencing pain understand the source of the pain and they freely choose their exposure, intensity, and duration of pain. This is also the case with *Accomplishment Pain, Transformation Pain*, and certain instances of *Redemption Pain* (e.g., self- flagellation, participation in rituals) whereby the pain, or risk of pain, is self-inflicted.

In such instances, not only are individuals willingly seeking out pain, but they are often able to manipulate the pain that they experience, at least to some extent. Should an individual not like the pain they are experiencing (or not be able to tolerate it), then they may be able to change how they are experiencing it. This allows individuals to experience pain in a way that is consistent with their own personal criteria of what amounts to a safe, productive, and/or enjoyable pain experience. A prime example of this is in sexual masochism practices where a 'safe word' is often established so that individuals are able to indicate that the painful experience is no longer within one's comfort zone (Cowart, 2021). Similarly, in many of the contexts in which *Accomplishment Pain* and *Transformation Pain* are experienced, individuals may withdraw from the painful activity (e.g., stop playing a sport, lower the intensity of exertion, or change the parameters of a tattoo or cosmetic procedure). In contrast, while consumers can use various products and services to reduce *Affliction Pain*, the pain they experience may be related to the progression of a disease or the natural stages of

healing that make managing pain much more difficult. As such, pain experienced in association with the *Affliction Pain* theme may involve much less agency over the pain when compared with the other pain themes.

Finally, unlike the *Affliction Pain* theme, which tends to represent situations where pain is feared and associated with suffering, the other four themes provide examples of where pain facilitates important benefits. As demonstrated by the *Redemptive Pain* theme, pain was embraced as explained by religious and spiritual teachings long before the interpretation of pain was dominated by the medical sciences, which focused on the elimination of pain. Furthermore, consistent with the *Transformation Pain* theme, pain has a long history in shaping consumers' identity such that through pain, individuals can achieve ideals of beauty and self-expression through body modifications that are deemed culturally acceptable. Consumers may further gain social capital through the spectacle of *Accomplishment Pain,* which also affords other benefits such as enhanced self-efficacy through challenging the limits of the body. Finally, when pain is viewed through the *Pleasurable Pain* lens, consumers are drawn to pain and associate it with arousal, adventure, and fun. In summary, the positive aspects of pain tend to outweigh the negative when pain 1) facilitates pleasure, 2) enables self-regulation and enhancement, and 3) promotes affiliation and relational focus in social groups (Bastian et al., 2014). The pain themes provide a framework for identifying and understanding how these benefits are enjoyed through consumption and provides ample opportunities for future research.

1.5. Opportunities for Marketing Research on Pain and Consumption

The different ways in which pain is interpreted has implications for marketplace actors that sell painful experiences, and researchers looking to explore how pain impacts consumption. We now discuss promising opportunities for future research on pain and consumption based on how pain shapes perceptions of self, impacts relationships with others, influences the marketplace management of consumer experiences, and effects consumer decision-making based on individual-level differences.

1.5.1. Pain and Perceptions of the Self

Previous work in consumer behavior has primarily focused on how objects are used to construct consumer identity narratives (Ahuvia, 2005; Belk, 1988; Reed et al., 2012).Yet, our work underscores the importance of the corporeal experience, particularly pain, in understanding how consumers perceive themselves and construct their identities. Whereas *Affliction Pain* signals threats to the self, *Redemptive Pain* morally purifies the self and connects the self to God, *Transformation Pain* redefines the self, *Accomplishment Pain* proves self-efficacy, and *Pleasurable Pain* validates the existential self. Future research should explore if accomplishments or transformations of the self can occur without pain. Furthermore, is pain so essential to human existence that it is the undisputed proof of it? Thus, pain may play a critical role in consumer understanding of self and future research should investigate the role of pain in strengthening consumers' identity (Scott et al., 2019).

The moral framing of pain (as good or bad, virtuous or evil) also has implications for our understanding of consumer perceptions of self and identity work. As Haidt (2003) explains, morality is a feature of our evolutionary design and "our most sacred attribute, a trait that is often said to separate us from other animals" (p.1). The moral framing, whether individuals see pain as evil or virtuous has important implications for consumer decision-making including considerations sets for the interventions that individuals will accept to deal with pain. Consistent with the *Redemptive Pain* theme, when pain is seen as virtuous, it is considered something to be endured, whereas consistent with the *Affliction Pain* theme, when pain is seen as an evil, it is considered something to be eliminated. In the shift from religious to medical conceptualizations of pain over time, pain was no longer viewed as beneficial to the self but erosive. These changing attitudes towards pain combined with aggressive marketing tactics, particularly aimed at doctors, fueled widespread use of OxyContin and other opioids that turned into a public health crisis marked by hundreds of thousands of deaths in recent years (Humphreys et al., 2022). While prescribing doctors were initially framed as saviors eliminating pain and consumers as morally compliant when adhering to pain management regimens, the opioid epidemic immediately shifted the morally good doctors and patients to wrongdoers and in some cases, criminals, for their enabling and use of these addictive substances (Bourke, 2014; Corrigan et al., 2006). More could be done to understand this rapid shift in moralization of consumption behaviors.

Likewise, future research should explore whether individuals are more likely to resort to dangerous remedies and expect quick fixes when pain is viewed with the *Affliction Pain* theme. Additionally, do those that identify strongly with the *Redemptive Pain* theme reject medical interventions altogether such that they only seek out religious and spiritual ways of managing their pain? How can marketplace actors influence consumer search strategies for managing pain that are bounded by moral framing? Research on consumer morality to date has mostly focused on societally focused consumption such as donations, environmental stewardship (e.g., Winterich et al., 2009; Xie et al., 2015). Yet, our discussion brings up another important avenue to consider, which is moralizing a bodily experience, pain.

1.5.2. Pain and Relationship to Others

Our review suggests that pain shapes consumer relationships with others ranging from service providers, healthcare practitioners, friends, family and onlookers of consumption. Understanding pain can not only provide important insights into how consumers decide on which practitioners they are willing to involve in their customer journey but can also alter how core marketing constructs such as freedom/dependence, social belonging and consumer pride, and exclusivity are conceptualized.

In marketing, dependence is generally conceptualized as a cognitive appraisal based on economic lock-in or limitations in alternative providers (Henderson et al., 2021). Yet, consumer beliefs about their own dependence on external interventions to maintain or achieve the desired freedom from or control over pain, may depend on which pain theme dominates their perceptions of their bodily appraisals. For instance, although both the *Redemptive Pain* and *Affliction Pain* themes generally view pain as unexpected and unwanted pain, in *Redemptive Pain*, the individual is responsible for enduring the pain (it is their cross to bear), whereas in *Afflictive Pain*, the responsibility for the pain lies with others, especially the medical system. Pain is externally eliminated by a professional authority, procedure, or chemical intervention, positioning others as an essential source of relief from pain (Shilling & Mellor, 2010). This shift in perspective may have important implications for how consumers interact with medical interventions and practitioners, whether they perceive themselves as passive or active recipients of care, and their level of dependence on others. It may also explain some of the negative consequences observed when consumers do not readily embrace an active role in the

management of chronic diseases, which require patient compliance with treatment plans and lifestyle changes, which the medical professional cannot do for the patient (McColl-Kennedy et al., 2017; Sweeney et al., 2015). Thus, incorporating the biological experience into consumers' perceptions of freedom and dependence in consumption contexts where pain is involved could have important implications for marketing.

Furthermore, our examination of the literature suggests that which pain theme dominates consumers' perceptions can shape basic assumptions related to social belonging and connections between consumers. For example, through rituals and ceremonies, *Redemptive Pain* connects co-consumers who share in sacrifices. Future research could examine the role of rituals in creating collective narratives around pain. Similarly, pain can bond individuals that participate in *Pleasurable Pain* endeavors (Bastian, Jetten, & Ferris, 2014; Bastian, Jetten, Hornsey, et al., 2014). While marketing and consumer research has traditionally focused on belonging through purchasing goods and engaging in practices that give them membership to brand communities (Muniz & O'Guinn, 2001; Schau et al., 2009), future research can explore how the bodily experience of pain facilitates or deters individuals from engaging with a brand.

Moreover, most consumer research on how consumers achieve status focuses on conspicuous consumption and the purchase of luxury goods (O'Cass & McEwen, 2004). These goods, however, must be immediately visible to garner admiration from potential onlookers (O'Cass & McEwen, 2004). Pain, in contrast, is largely inconspicuous since while there may be signs of pain (e.g., cuts and bruises), the individual experience of pain is not replicable in others (Raja et al., 2020). Yet we find instances where *Transformation Pain* (e.g., tattooing) enables consumers to showcase their inner qualities (e.g., toughness, creativity) to audiences of the transformed self. Similarly, *Accomplishment Pain*, requires an admiring audience for associating pride with pain. Thus, future research could examine how painful consumption experiences becomes an important medium for making the inconspicuous inner qualities of the consumer conspicuous and how pain can be made more conspicuous through purchase decisions and associations with brands or narration. For instance, Tough Mudder is a brand that allows individuals to explain to others the challenges that they endured (Scott et al., 2017) and social media may help to narrate (and expose) pain (Escalas, 2007). Future research may explore how other brands expose or flaunt pain to build social capital. Additionally, studies are needed to explore if there are instances where pain is

an important part of building status (e.g., plastic surgery), but consumers want to minimize or downplay the pain that was endured (Rodner et al., 2021), thus, keeping the consumption more inconspicuous (Eckhardt et al., 2015). This also leads to another interesting stream of research which involves investigating when consumers desire the social benefit that pain provides (e.g., a more youthful-looking appearance), but are too scared of the associated pain to achieve it.

Exclusivity, typically conceptualized as limited access to certain goods (Barone & Roy, 2010), may also take on unique meaning with regards to how it is garnered from completing painful experiences. Pain may represent a unique biological barrier to certain types of consumption, thus creating exclusivity among marketplace offerings that involve pain through limited tolerance or motivation to endure it. In fact, pain implies some level of exclusion of the masses (i.e. am I tough enough to climb the mountain, participate in the Tough Mudder, or endure the pain of tattooing or other body modifications?). Acknowledging the role of pain in exclusivity, which is generally something marketers create through limited supply, can expand our understanding of the core marketing construct.

Overall, our findings highlight the notion that understanding how the consumer interprets the pain they experience requires an understanding of the fabric of culture that pain is embedded within. For example, with respect to *Redemptive Pain*, pain is valid because of its connection to the divine, which is culturally defined. Similarly, tattoos and cosmetic procedures are sought out in the contexts of subcultures of society that embrace these practices. Here pain can affect perceptions of value for money paid and proof of the magnitude of a consumers' transformation. Many opportunities exist for empirical research to explore this further for all five pain themes.

1.5.3. Managing Painful Marketplace Experiences

The pain themes serve as a starting point to investigate how the bodily experience of pain influences what products and services individuals buy, when and where they buy them, and why more pain may be preferred to less with respect to consumption. Additional research may explore how managing the qualities of the pain experience itself impacts core marketing and business metrics like customer satisfaction, repurchase intentions, and word of mouth. Likewise, studies may explore how pain can

be used through touchpoints with customers to optimize value, which is traditionally viewed as the difference in benefits and costs to consumers. Current research views costs largely in terms of time, money, and effort (Cheng et al., 2017), but may be ignoring other important corporeal costs including the experience of physical pain.

For some consumers, pain is viewed as a cost, but as demonstrated through the pain themes, pain may also be viewed as a benefit. Indeed, pain may be construed as evidence of value for money paid as seen with the *Transformation Pain* theme, or as corporeal evidence of "hard work" as seen with the *Accomplishment Pain* theme. Thus, future research may explore how marketplace actors may manipulate pain and its meanings to provide opportunities for consumers to respond to and adjust pain to achieve an experience that correspond to individuals' unique desire for pain. Furthermore, does a greater consumer perception of control over pain result in a greater appreciation of, or at least acceptance of pain, and how does this impact consumer evaluations of painful marketplace experiences? This may be particularly relevant for marketplace offerings marketed with the *Pleasurable Pain* theme in the sense that when consumers adopt this interpretation of pain, they are expecting the sensation of pain without harm.

Moreover, since pain is often the result of interactions between service providers or other consumers, future research may investigate the influence of marketplace actors on consumer expectations of pain. For example, how does the perceived competency or bedside manner of healthcare professionals impact the consumer experience of pain, and subsequent evaluations of the service provider or qualities of the service itself (e.g., perceived treatment efficacy)? How do the service providers' attitudes towards pain impact the consumers' attitudes and the overall service experience? And how are situations managed when there is a mismatch between consumers' desire for receiving pain and service providers' willingness to inflict pain? Finally, why and how might marketplace actors facilitate the reframing of pain from one theme to another? For example, reframing pain from the *Affliction Pain* to *Accomplishment Pain, Redemptive Pain* or *Transformation Pain* themes may be helpful in certain situations when enduring pain is common (e.g., battling cancer or undergoing rehabilitation following joint replacement surgery). This may involve practices of storytelling and ritualization. For instance, *Redemptive Pain* requires storytelling by integrating bodily sensation with the divine whereas *Accomplishment Pain* uses storytelling around heroism and overcoming

obstacles. Thus, future research should investigate how marketplace actors can use the stories and discourses (e.g., idioms) associated with the pain themes to help individuals cope with pain in healthy ways.

1.5.4. Pain and Individual-Level Characteristics

A final area of research could explore how certain characteristics of individuals influence consumers' willingness to experience pain, how they interpret that pain (e.g., which of the pain themes they adopt), and how likely they are to shift between different meanings of pain (e.g., the pain themes) in response to contextual factors and the actions of marketers. This might involve developing ways to measure the extent to which individuals ascribe to each of the different pain themes (i.e. as trait characteristic), and thus, explore how stable the pain themes are in the minds of consumers. This approach may be particularly relevant for influencing marketing actions directed towards certain groups of consumers. For instance, athletes, who are socialized to endure pain, may be more likely to utilize *Accomplishment Pain* themes in consumption settings outside of the sporting arena. Likewise, consumers that are highly religious or spiritual may default to an interpretation of pain consistent with *Redemptive Pain* in diverse settings. Future research should explore whether such individuals are less likely to adopt other pain themes, even when put in situations where a different pain theme would be expected. Additionally, assessing consumers' general preferences for pain may reflect other underlying psychological characteristics that influence which products and services are utilized to eliminate and enhance pain.

A few individual-level factors hold promise for future research on pain and consumption. For instance, there is recent evidence to show that promotion (vs. prevention) focused individuals prefer services that combine pleasure and pain (Liu et al., 2018). Similarly, paying for extraordinary experiences involving pain has been linked to sensation seeking (Cheung et al., 2016) and benign masochism, which is thought to be a trait characteristic associated with "*enjoyment* of negative bodily reactions and feelings in the context of feeling safe, or pleasure at 'mind over body'" (Rozin et al., 2013, p. 439). As explained in the history of pain section, the *Accomplishment Pain* theme is rooted in the Protestant Work Ethic, which has been shown to influence whether individuals adopt a cost-benefit heuristic, whereby a cost (e.g., monetary, consumer effort) is associated with success or efficacy (Cheng et al., 2017). Future

research should explore how these and other individual-level variables influence how much pain is not only tolerated by consumers, but also expected and even valued when using the marketplace to achieve consumer goals.

1.6. Limitations, Expanding and Applying the Pain Themes

While our review of the literature identified five pain themes are that are commonly utilized by consumers, we do not suggest that these are the only interpretations of pain possible, especially since pain is a highly subjective and personal experience (Raja et al., 2020). Future research could explore if other, perhaps more subtle, pain themes are at work as well as the fluidity of the five themes discussed in this paper. For example, are there instances where individuals utilize one of the five themes in an unexpected consumption setting, and what are the benefits or drawbacks of doing so? Consider that although extant literature largely associates medical settings with meanings of pain consistent with the *Affliction Pain* theme, other consumer interpretations of pain may be possible. This point is evident in the fact that not all women request pain relief measures during childbirth (Whitburn et al., 2017). Similarly, situations like sporting events that are initially framed in terms of *Accomplishment Pain* may shift to *Affliction Pain* when a serious injury is encountered resulting in consumer feelings of fear and worry that are characteristic of the *Affliction Pain* theme. In this way, while our review of the literature identified consumption contexts in which the five pain themes are commonly encountered, future research may explore when, why and how consumers shift between different pain themes in the consumer journey. If the five themes represent dominant or overarching themes, additional work may explore what subthemes may surface as consumers make sense of pain experienced in marketplace activities.

1.7. Conclusion

Our review of extent literature shows that how consumers interpret and react to pain is highly dependent on the conditions under which it is experienced. Interpretive analysis revealed five themes representing five different interpretations through which consumers give meaning to and make sense of pain. This underscores the notion that pain cannot be reduced to a set of biological responses (Morris, 1991). Instead, pain

must be understood within the larger cultural and historical meaning systems that are learned through socialization (Bendelow & Williams, 1995; Boddice, 2023). Pain, as Leder (1990) explains, is a “manner of being-in-the-world... [that] reorganizes our lived space and time, our relations with others and with ourselves” (p. 73), such that it is given different meanings depending on the time, place, and the person (or group of persons) involved. Overall, our work highlights opportunities for an underappreciated area of study in marketing that links the body with the psyche. While the latter is the focus of much research, the pain themes presented here widens our understanding of the different ways in which pain is valued by consumers and encourages researchers to explore bodily pain as an integral aspect of consumption that can impact important business outcomes.

1.8. References

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Paper 2.

Managing Customer Expectations about Pain in Professional Healthcare Services

2.1. Introduction

Pain is a complex, subjective, and often invisible phenomenon that is fundamental to the human experience. While pain serves an important evolutionary function to protect from danger, it is considered a plague on modern societies (Cohen et al., 2021). In North America, one in four people live with chronic pain, and pain originating from the musculoskeletal system such as low back pain is the leading cause of disability worldwide (Campbell et al., 2019; Hartvigsen et al., 2018; Wu et al., 2020; Yong et al., 2022). With so many individuals experiencing pain, it is no surprise that the global pain management market represents almost 75.41 billion USD for drugs and devices,[2] 117.6 billion USD for physical therapy,[3] and 54.6 billion USD for massage therapy.[4] Yet, the problem of pain is far from being solved. The opioid crisis, which resulted in hundreds of thousands of overdose deaths in recent years, is a prime example of how the mismanagement of pain has harmed our societies (Azad et al., 2020; Bernard et al., 2018; Rummans et al., 2018). Furthermore, despite the increasing prevalence of pain relieving drugs and therapies, the incidence of pain continues to rise worldwide (Yong et al., 2022). With the large demand for pain-relieving products and services, the massive current and potential market, and the significant impact that pain has on consumer well-being, marketing scholars have an important, but so far undercapitalized, role to play in understanding and addressing pain.

The purpose of the present paper is to investigate how consumers and healthcare practitioners interpret pain experienced while consuming healthcare services to address musculoskeletal pain. With musculoskeletal conditions ranging from arthritis to ankle sprains and back aches impacting almost every consumer at some point in their

[2] https://www.mordorintelligence.com/industry-reports/pain-management-market

[3] https://www.persistencemarketresearch.com/market-research/physical-therapy-services-market.asp

[4] https://www.futuremarketinsights.com/reports/massage-therapy-services-market

lives (Arden & Nevitt, 2006; Woolf & Pfleger, 2003; Wu et al., 2020), such services are highly sought after. Yet, what is interesting about these services is that, unlike pharmaceutical interventions, they may involve additional pain in the assessment and treatment of the pre-existing pain. This represents an interesting paradox. How do consumers make sense of additional pain in these scenarios? How does pain influence the relationship between consumers and service providers, and how do healthcare practitioners manage patient expectations about pain so that consumers listen to their advice and comply with treatment plans?

The goal of the present research study is to shed light on these questions by studying Physical Therapists, regulated healthcare professionals with advanced post-graduate training in the treatment of musculoskeletal pain and dysfunction, and their patients (Jette & Delitto, 1997; Sun et al., 2018). By exploring the perspectives of both consumers and practitioners, this study examines the social construction of pain through two different, but interdependent points of view, and provides a holistic understanding of the meanings that are ascribed to pain when consuming these complex healthcare services. Supported with ethnographic data from in-depth interviews and observation as well as autoethnographic data based on the first author's ten years of experience working on the front lines as a Physical Therapist, the findings of this study provide practical insights for healthcare practitioners to manage consumer expectations of pain. In addition, the study makes several contributions to broadening marketing scholarship on consuming pain.

First, the study expands our understanding of how consumers react to and make sense of paying for services that cause additional pain for the treatment of pre-existing pain. This is something that has yet to be explored by marketing or management researchers. While marketing scholars have recently become interested in the conscious, market-based consumption of pain (Cova, 2021), these investigations have been limited to the study of extraordinary experiences such as religious pilgrimages (Cova & Cova, 2019) or participating in the Tough Mudder, a military-style, obstacle course race (Scott et al., 2017). These experiences represent only a small fraction of the many marketplace offerings that involve physical pain. By studying Physical Therapy, a commonly frequented healthcare service, the present study broadens what is known about the consumer experience of pain outside of extraordinary experiences where

consumers have different goals but are nonetheless paying for an experience involving pain.

Second, the present research advances our understanding of the complex inference strategies that are used by consumers in healthcare settings, where the quality of services received are particularly difficult to evaluate, even after they have been consumed (Berry & Bendapudi, 2007; Eisingerich & Bell, 2007). Compared with medical products, the nature of professional healthcare services, including the inherent power dynamics and information asymmetries that exist between patients and practitioners, adds additional complexities for the average consumer to navigate (Berry et al., 2004). Our results suggest that pain may function as an important cue that consumers use to make judgements about the qualities of healthcare practitioners and the services they provide. Specifically, pain as experienced through direct physical touch may facilitate a trust-building process that is integral to generating buy-in for long-term treatment solutions. This adds a unique dimension to our understanding of trust, a construct that has already been linked to customer retention for healthcare providers (Berry et al., 2022; Spake & Bishop Jr., 2009).

Finally, the study responds to multiple calls for impactful business and marketing research on consumer experiences in healthcare settings (Berry, 2019; Danaher & Gallan, 2016; Moorman et al., 2024). Our research falls under the umbrella of transformative consumer research, which seeks to contribute to the well-being of market actors and consumers (Anderson & Ostrom, 2015; Mick, 2006; Mick et al., 2011). We recognize that academics and practitioners must collaborate and engage with a range of stakeholders to address complex social problems such as the opioid crisis mentioned in the introductory paragraph (Nenonen et al., 2017). A greater understanding of how consumers interpret the pain they experience when receiving healthcare services has downstream influences on not only customer satisfaction and loyalty, but also adherence to medical advice. Therefore, the present study has implications for increasing patient compliance, reducing public healthcare spending, and improving the health of our societies (Anderson & Ostrom, 2015; Dieleman et al., 2020). Indeed, our results demonstrate how the interpretation of pain can be positively influenced through the co-construction of meaning in patient-practitioner interactions. This suggests a fruitful research agenda for future work on the consumption of pain and demonstrates how

consumer expectations about pain can be managed such that even when a customer is caused discomfort, it does not have to negatively impact the service experience.

2.2. The Nature and Uniqueness of Healthcare Services

Although healthcare services share several commonalities with other types of services (i.e. intangibility, inseparability, variability, perishability), they are unique in that they are increasingly complex, long-lasting, and emotionally charged (Berry et al., 2022). Healthcare services tend to be high stakes, particularly when consumers and their care providers confront serious illness, morality, and the risks associated with medical interventions (Berry et al., 2017). Such situations are often fear-provoking and stressful for consumers who assume a vulnerable position (Berry et al., 2015). Patients must not only relinquish their privacy when discussing personal issues with healthcare professionals, but also expose their bodies to examination and treatment that can be intrusive and invasive (Berry & Bendapudi, 2007). Consequently, healthcare consumers may perceive a lack of control over their bodies, psyche, and the service process itself (McColl-Kennedy et al., 2017). These feelings are perpetuated by the technical complexity of healthcare services and the knowledge asymmetry between the patient and the provider that often creates a sense of uncertainty (Laing & Lian, 2005; McColl-Kennedy, Danaher, et al., 2017).

As a result of these factors, healthcare has been characterized as a credence service (Gruber & Frugone, 2011; Mortimer & Pressey, 2013) meaning that the quality of the service is difficult for consumers to determine even after it has been experienced (Darby & Karni, 1973). Because the average consumer cannot objectively evaluate healthcare interventions themselves, they may anchor on other factors to assess the service such as the appearance of the clinical facility and how they are treated, commonly referred to as the health professionals' "bedside manner" (Berry & Bendapudi, 2007). With increasing commercialization of healthcare, these non-clinical factors are gaining the attention of researchers and practitioners in the interest of enhancing patient experience (Berry, 2019; Blasi et al., 2001; Constand et al., 2014; Testa & Rossettini, 2016). In particular, the role of practitioner communication and empathy has received a great deal of attention in recent years.

While important, this focus on the subjective or "talking" part of healthcare encounters has resulted in other aspects of the patient experience being ignored. One such aspect is the objective or physical assessment, which is thought to be disappearing in medicine due in part to advances in medical technologies that no longer require health practitioners to use their hands (Hyman, 2020). Patients report frustration with the "hands-off" nature of healthcare today, a trend which accelerated with the use of telehealth during the COVID-19 pandemic (Duan et al., 2020; Rodman & Warnock, 2021). This frustration underscores the need to revisit corporeal aspects of the patient experience and examine the meaning and value that patients attribute to practices that involve physical touch between the patient and the healthcare professional. Pain, cocreated through professional practices in healthcare, represents a key example of a corporeal experience worthy of investigation.

2.3. Pain and Healthcare Services

Pain is widely acknowledged to be the most common reason for visiting healthcare practitioners, and the goal of most healthcare interventions is to eliminate or reduce pain by treating the underlying cause of the pain and/or the pain itself (Ballantyne et al., 2018; Benzon et al., 2008). While this *preexisting* pain tends to be the focus of the efforts of healthcare practitioners, it is important to acknowledge that pain is also experienced *during* many healthcare encounters. Consider that healthcare providers often inflict pain on their patients as part of assessment and treatment using their hands and various medical instruments (Andiappan, 2023). This pain represents a highly concrete and bodily experience for patients that may impact not only patient-provider relationships, but also consumers' engagement with and decision-making processes around healthcare interventions. For example, fear of an uncomfortable exam or painful treatment may affect patients' willingness to engage in the healthcare service exchange including their honest and detailed descriptions of their symptoms, the medical interventions they consider undertaking, and their compliance with practitioners' recommendations (Berry and Bendapudi, 2007; Lanseng and Andreassen, 2007; Naidu, 2009). This is well documented in dental care where the fear of pain may result in individuals not seeking out and undergoing necessary procedures (e.g., Watkins et al., 2002). Furthermore, a patient may begin a treatment protocol but may subsequently fail to complete it because of the pain experienced. Such a scenario is common in non-

pharmaceutical interventions for musculoskeletal pain including physical therapy (Taulaniemi et al., 2020; Thompson et al., 2016).

Since patient engagement and compliance with clinical recommendations are critical to the success of health interventions, investigation of the pain experienced during healthcare encounters has important implications for consumer health. Yet, this pain is rarely the focus of research efforts. Instead, most research on pain explores the nature of patients' preexisting pain, or the management and experience of pain in daily life. Those few studies that investigate pain experienced while consuming healthcare tend to focus on the reduction or complete elimination of pain during medical procedures and hospital stays (Dolin et al., 2002; Hylands-White et al., 2017). Such an approach to research on pain makes an implicit assumption that all pain experienced during healthcare encounters is viewed negatively by patients. However, as evidenced by individuals varying acceptance of pain relief interventions, particularly during situations that are commonly considered to be highly painful (e.g., childbirth; see Whitburn et al., 2017), this may not always be the case.

The tendency of extant literature to conceptualize all pain experienced during healthcare encounters as negative ignores advances in pain theory that recognize pain as a complex and contextually dependent phenomenon (Carlino & Benedetti, 2016; Raja et al., 2020). Consumers attribute diverse meanings to pain including those that recognize the benefits of experiencing pain (Bastian et al., 2014). Furthermore, when exposed to a standardized painful stimulus, researchers observe differences both among and between individuals on their reports of the characteristics (e.g., intensity, type – sharp, dull) of the pain experienced (Crow et al., 2013; Moseley & Arntz, 2007). These differences can be attributed to variations in intrapersonal and interpersonal influences that effect pain perception in humans. Intrapersonal influences include genetic predispositions to sensing pain, memories of past painful experiences, and emotions felt while experiencing pain, while interpersonal influences refer to the impact of the environmental, social, and cultural context in which pain is experienced (Kastanakis et al., 2022). Together these influences determine whether pain is experienced, what that experience looks like, and behavioral responses to pain including attempts to eliminate, enhance, or ignore it (Carlino & Benedetti, 2016; Lynch et al., 2022).

Given the complexity of pain perception, it would be myopic to assume that all experiences with pain during healthcare encounters are viewed the same way. Since healthcare is a credence good, pain may provide important corporeal information to healthcare consumers that help them to understand healthcare interventions and evaluate those providing them. Thus, while pain is often viewed as a necessary evil (Andiappan, 2023), it may have an underappreciated role to play in certain aspects of the overall service encounter (e.g., in treatment vs. assessment), and types of healthcare interventions (e.g., surgery vs. massage therapy). These nuances in pain experiences and their implications have yet to be explored. The purpose of the present study is to spearhead this much needed research by investigating the phenomenon of pain as experienced during a high-touch professional service, which is a service that is highly dependent on the co-presence and physical contact between provider and client (Lord Ferguson et al., 2022). High-touch services are common to healthcare and include regularly consumed offerings such as physical therapy, the research setting for this study. While complex emotions including sadness, anxiety, and fear may be involved in such a service encounter, these emotions are not the focus of the present research.

Through our investigation, we aim to uncover the meanings attributed to pain by answering the following research questions: 1) How is the physical pain experienced through professional diagnosis and treatment interpreted by healthcare consumers seeking pain relief and the practitioners that serve them?, 2) how does the meaning ascribed to pain influence healthcare consumers' experience of the service?, and 3) how does physical pain influence practitioner practices of diagnosis and treatment?. By answering these research questions and offering access to the perspectives of both patients and healthcare providers, the study demonstrates the important role that pain plays in the overall healthcare service experience including the underappreciated benefits that experiencing pain provides consumers in this context.

2.4. Methods

An interpretivist lens is taken for the present research study with an ontological stance recognizing multiple realities or truths and an epistemological view of knowledge creation as being socially constructed (Creswell & Poth, 2016). In line with a qualitative approach, this study seeks to investigate the personal experiences of the research participants and to understand the realities that they have created for themselves

(Gephart, 2004). Since extant literature on marketing and pain consumption in healthcare service settings is sparse, an inductive approach is taken where the purpose of the inquiry is to develop a deep understanding of the lived experience of the phenomenon and generate insights to guide a future research agenda.

2.4.1. Research Setting

Physical therapists and patients providing (receiving) treatment in a large Western Canadian city was the research setting for this study. The choice to study physical therapy was made based on access to this unique professional community since the first author is a registered and practicing physical therapist in the region. Physical therapy, also known as physiotherapy, is treatment to increase and maintain an individual's mobility, function, and overall quality of life (College of Physical Therapists of Ontario, 2021). Physical therapists provide bodily rehabilitation to patients of all ages affected by a variety of common injuries including back strains and ankle sprains (Pagliarulo, 2021; Smith & Eagle, 2024). In Canada, most physical therapy services are provided in private clinics where physical therapists are primary care providers to a diverse patient population who injure themselves while playing sports, at the workplace, in a car accident, or somehow throughout the course of everyday life (Perreault et al., 2014). The present study focuses on the experiences of these physical therapists (and patients) providing (receiving) one-on-one treatment at private clinics where patients can access physical therapy services without being triaged by another healthcare provider.

2.4.2. Data Collection

In-depth interviews with physical therapists and patients served as the primary data source for this study that was supplemented with ethnographic data including observation with field notetaking and autoethnographic data (diary entries and reflections) based on the first author's ten years of membership as a practitioner in the physical therapy community. Interviews were completed with 26 participants: 16 physical therapists (40% female) and 10 patients (60% female; see Table 2.1 and 2.2). The average number of years practicing for the physical therapist participants was 11.4 years, and the average age of the patient participants was 43.3 years old.

Interviews were conducted via the Zoom video conferencing software for 45 to 60 minutes using a semi-structured interview guide. A theoretical sampling framework was adopted to select research participants, where data was collected that would maximize opportunities to develop concepts in depth (Corbin & Strauss, 2014). Instead of comparing the influence of several variables on health service experiences with and without pain, the purpose of the present study was to explore only those health service experiences that involve physical pain as experienced during the physical therapy service experience. After selecting from an initial pool of volunteer participants, a snowball technique was used whereby participants were asked to identify individuals from their own networks whom they believed would be suitable for participating in the study (Parker et al., 2019).

Table 2-1. Interview Participants: Physical Therapists

#	Pseudonym	Gender	Years in Practice
1	Jordon	Male	6
2	Nick	Male	8
3	Angelia	Female	25
4	Joe	Male	10
5	John	Male	4
6	Tara	Female	5
7	Ethan	Male	7
8	Tim	Male	1
9	Stacey	Female	12
10	James	Male	19
11	Aaron	Male	11
12	Kevin	Male	11
13	Laura	Female	35
14	Carlo	Male	7
15	Cathy	Female	7
16	Alana	Female	14

Table 2-2. Interview Participants: Patients

#	Pseudonym	Age	Gender	Occupation
1	Martin	44	Male	Consultant
2	Lesley	23	Female	Receptionist
3	Ron	57	Male	Manager
4	Lauren	24	Female	Student
5	Henry	42	Male	Small Business Owner
6	Sarah	33	Female	Fitness Professional
7	Kim	36	Female	IT Professional
8	Hailey	64	Female	Nurse
9	Karen	55	Female	Teacher
10	Jim	25	Male	Marketing Professional

2.4.3. Data Analysis

The interviews were recorded and then transcribed using a professional transcription service. All data analysis was carried out using the NVivo software program (Version 12) and followed the procedures described by Corbin and Strauss (2014). The criterion of theoretical saturation was used such that when the analysis of new data became redundant, we stopped collecting data (Corbin & Strauss, 2014). Throughout the research process, several steps were taken to increase the quality and rigor of the qualitative investigation. First, researcher self-reflexivity was achieved through regularly writing memos from the start to the end of the study, which provided an opportunity to screen for biases that might influence data collection and analysis (Tracy, 2010). Second, the constant comparison method was used, where data was analyzed and collected concurrently (Corbin & Strauss, 2014). Taking this systematic approach to data collection and analysis increased the reliability of our work, however, because the constant comparison method “implies an intimate and enduring relationship between researcher and [research] site” (Suddaby, 2006, p. 240), researchers, particularly those with membership to the community of study, must account for their high level of involvement in the research process. As such, a third assurance of rigor in the present study involved including multiple researchers in the analysis of the data. In doing so, the data was examined with both insider and outsider knowledge that together enhanced the

quality of the work produced, guarded against bias, and provided another level of triangulation that increased the credibility of the results.

2.5. Results

Our data reveal pain is not experienced in the same way across physical therapy service encounters. Specifically, pain experienced during physical therapy assessment and pain felt during physical therapy treatment are experienced as distinct and serve separate functions. For our analysis, we use the term diagnostic pain to refer to any pain that accompanies the diagnostic process of assessing the patient and understanding the cause of the pre-existing pain; and the term therapeutic pain to indicate any pain experienced as part of the application of treatment techniques used in physical therapy. The results are presented as follows. First, we outline the functions of diagnostic and therapeutic pain, then we identify ways in which physical therapists and patients may differ in their interpretations of pain during assessment and treatment, and finally, we describe a practical strategy identified by research participants for how physical therapists manage patient expectations about pain.

2.5.1. Functions of Diagnostic Pain

In observing and speaking with both patients and physical therapists, diagnostic pain was found to be an accepted and welcomed part of the overall service encounter. Through diagnostic pain, practitioners demonstrate their clinical competency by being able to “find the spot” or the source of the patients’ pain and validate patient concerns (see Table 2.3 for illustrative quotes from both physical therapists and patients demonstrating these two functions of diagnostic pain). Consequently, diagnostic pain functions as a key antecedent to building trust in the patient-practitioner relationship that was described as critical for securing buy in for treatment compliance. This sentiment was repeated frequently by our study informants, but was most eloquently explained by one physical therapist as follows:

> So pain is wonderful in that regard because if I never put my finger in your wound, you never will fully trust I know what's going on with you. So I think it's part of the whole, you know, like the trust process in my humble opinion, and the pain gives us a wonderful opportunity to educate and say, ‘Here's what I think is cracking and is going on in

> there, and here's what we're trying to do and accomplish.' (Physical Therapist 3)

While this quote references imagery that may be considered crude, the power of "putting a finger in the patients' wound" cannot be underappreciated. Indeed, in speaking informally in practitioner communities, the moment when the physical therapist finds and elicits a patients' pain is often described as magic. Having established trust by "finding the spot," physical therapists then have license to move other parts of the service provision including educating patients on the source of the pain as explained in the last part of the quote above. In this way, diagnostic pain positively influences the patient-practitioner relationship and sets the tone for the rest of the clinical encounter.

Furthermore, when practitioners touch their patients' pain, they can show that they not only understand their patients' problem, but also how to solve it. In response, patients often express a combination of surprise and admiration. This is described by a physical therapist as follows:

> "I think it's a positive thing when you are able to elicit the pain through some of the testing you're doing. That is a big part of, I think, building that trust with the patient as well, because often they're like, 'Oh, can you feel that' Or they're like, 'Oh wow, you found that.' And they instantly kind of raise your expertise level based on that. And that goes to building trust and listening a bit more to what your advice and your interventions are going to be" (Physical Therapist 10).

This quote provides further support that patients equate the ability to elicit pain through physical touch with diagnostic accuracy and thus, the competency of the healthcare professional. In clinical practice, this commonly manifests as comments from patients applauding the physical therapist for "finding the spot." This is a daily occurrence in the first authors' experience as a physical therapist whereby patients express gratitude and respect when their pain is touched and manipulated. Recently one patient shared that the reason they keep coming back to the same physical therapist for different injuries over the years was because they trusted them to be able to find, and thus treat their pain. Thus, diagnostic pain has downstream implications for not only improving patient compliance with the recommendations of physical therapists (as described in the last part of the quote above), but also long-term loyalty to healthcare service providers for separate service provisions, in this case, different injuries or conditions that require physical therapy treatment.

The importance of diagnostic pain to the patient-provider relationship is further highlighted by situations in which pain is not elicited by the physical therapist. For example:

> If someone came in with a knee pain and I went through all my tests and nothing hurt, they'd probably be like, 'Did he do the right thing? Does he know what's going on if he wasn't able to elicit a response?' We'll put it that way. I think some people might be like, 'He didn't get the spot,' or 'they don't know what's happening because they weren't able to get to that discomfort' (Physical Therapist 2)

In describing this difficult clinical encounter, this physical therapist underscores the notion that diagnostic pain is critical to securing trust. Since patients tend to anchor on the pain as a concrete and corporeal sign of competency, patients may question the physical therapist's expertise and abilities when pain is absent from the diagnostic process. This can negatively impact the patient-practitioner relationship, evaluations of the service, and compliance with treatment as described by another physical therapist:

> Well, I guess if you couldn't, they would be very disappointed and probably wouldn't buy into what you tell them. I can't say I seem to have that problem, but I guess I'm pretty good at finding pain. But I think the vast majority of patients think that if you haven't elicited their pain, then that you're missing it, so to speak, until you develop that trust and whatnot (Physical Therapist 13).

This sentiment was echoed by patients, who confirm that they would question the clinical competency of the physical therapist if they failed to elicit diagnostic pain. For example, one patient explains: "If I didn't experience pain at the very beginning, I would be like, 'Oh, I think she's in the wrong spot'" (Patient 9), while another elaborates "I [would] feel [like] they weren't doing the correct job. I'm almost always in pain, so if something isn't hurting, then you're not looking in the right place" (Patient 10).

These quotes speak to how much patients value diagnostic pain so much so that they are willing to accept and endure pain, even if uncomfortable. In the words of one patient:

> Obviously, when you take your elbow and dig it into somebody's back or whatever muscle group, yeah, it hurts. I know it's going to hurt, but I hope it hurts because it means you're in the right spot, and that's what I want. Not that I want to feel the pain, but it's telling me that they know what's going on. They found the spot (Patient 7).

This quote demonstrates that the value of the pain is not necessarily in the experience of the pain itself, but in what it is telling the patient about the healthcare practitioner and thus, the quality of the overall service. One patient goes so far as to note their skepticism of physical therapists that propose a diagnosis before performing a hands-on, physical assessment:

> …someone who makes a judgment before they've even laid hands on you. I think that's a red flag. Kind of like, 'Oh, really? You don't want to poke around a little first?' The only way someone's really going to see how severe it is by trying to gently manipulate you in finding of like, 'Oh wow, you can't bend your back,' or, 'You can't move that knee' (Patient 2).

This quote underscores the notion that patients want to be touched and want to have their pain manipulated. Many physical therapists recognize this, and one explains:

> But for them to fully understand that we're acknowledging it, I think because we are physical practitioners, they're expecting us to put our hands on it, to be able to engage with, 'Okay, well, is it this area or this area?' 'Okay. Oh yes. I feel that.' And then for them to think, 'Okay, now he understands that I'm putting my hands on that area.' And yeah, I think that just allows them to feel heard (Physical Therapist 8).

Thus, as evidenced by this quote, diagnostic pain allows patients to "feel heard." Understanding the weight that patients place on touching the pain, the same physical therapist describes a practical strategy used at their clinic use to strength the therapeutic relationship with their patients:

> At least from one of my clinics, I practice at, one of the rules we have is like, we always have to touch the meaningful area, that the client is complaining about. And that makes sense because then the patient feels heard. They feel understood and the sooner that we can do that, they realize, 'Okay, we're on board with what they're saying. We hear what they're saying.' … So, it's not enough just to talk about it. You actually have to put your hands on the area (Physical Therapist 8).

The last two lines of the above quote underscore the importance of diagnostic pain in that patients expect practitioners to not only talk about their problem, but also to put their hands on the area. There appears to be merit to this strategy since patients describe it as validating when physical therapists touch their pain. For example, one patient explains: "I feel that the therapist really understood my needs more or my injury more if they themselves had seen it and touched it" (Patient 9). As these quotes illustrate, both

patients and practitioners are aligned on the purpose and value of diagnostic pain in building trust and strengthening the patient-practitioner relationship.

2.5.2. Functions of Therapeutic Pain

Unlike diagnostic pain that is found to be a universally accepted and vital part of the clinical encounter, attitudes towards therapeutic pain were mixed. Specifically, the research informants exhibited different 'appetites' for pain with some preferring to experience pain during treatment, others tolerating it only if deemed medically necessary, and still others completely rejecting it as part of physical therapy treatment (see Table 2.4 for illustrative quotes from physical therapists and patients demonstrating these distinct beliefs about therapeutic pain). Physical therapists describe those patients that welcome pain as ascribing to the "no pain, no gain" mentality. Many interview quotes support this notion including these two: "All the time that I see those people and I think for them it's that they really believe that motto, 'no pain, no gain.' I think that to them it is doing something, something's happening..."(Physical Therapist 14); and "with some people, again, getting to know the type of patient and what their expectation is, sometimes you want to elicit a more pain because that's what's going to be their buy-in, right? The no pain, no gain type of idea" (Physical Therapist 4). As these quotes illustrate, for those that ascribe to the "no pain, no gain" mentality, therapeutic pain is associated with treatment efficacy and value for money paid. This sentiment is further elaborated on by another physical therapist:

> So, for those clients, they probably would be looking for something where they felt they would be okay feeling sore the next day and they would think, "Okay, well, yeah, good work is being done. And this is something that, I'm paying for a service, I'm expecting to get something." And they certainly get something when they feel pain. And if I didn't feel anything, I'd be like, "Okay, what's happening? I can't feel a difference." (Physical Therapist 8).

This quote shows that pain provides corporeal evidence of the quality of work that is being done to patients' bodies and demonstrates that pain during treatment is an important part of "feeling a difference." The quote also hints at the negative consequences of not eliciting pain when patients are expecting it. Specifically, if the patient is paying for the service and expects therapeutic pain, failure to meet these expectations could result in confusion, frustration and customer dissatisfaction.

Patients echo this sentiment by describing how they interpreted therapeutic pain as productive, equate it with the efficacy of the treatment, and reject treatments that do not involve pain. For example, one patient explains: “I've had massages that were so soft, and I'm like, ‘No, no. I want the elbows in there. Eat me. I want to feel like you really worked me’” (Patient 3). Similarly, another patient notes: “So when I've been hiking on the weekend, that hip is taking the brunt of it. All the gentle work in the world isn't going to dig in and get through to that muscle” (Patient 8). To these patients, pain is welcomed so much so that additional pain (over and above) the preexisting pain that motivated the treatment is viewed as the path to recovery. This is articulated well by this patient:

> I feel like it's sort of one of those things where it has to get worse before it gets better or you have to go through something before you come out better. So I would probably think that maybe he is not getting the right spot or something's off. I wouldn't think that he's doing what he needs to do to fix me (Patient 2).

The last part of this quote is particularly powerful because it underscores the notion that if these patients do not feel pain, they may question the efficacy of the treatment. In practice, patients who want to experience pain during treatment often vocalize this by saying “you can push harder,” “I have a high pain tolerance,” or “that’s the spot, really get in there.” One study informant used the words “Yeah, that was the right spot. And the harder it hurts, the better the spot” (Patient 7). Similarly, another patient notes: “The pain in that situation feels productive, like we're moving towards something. It's not just there to ruin everything” (Patient 10). While this patient explicitly explains that therapeutic pain is favorable, not all patients interpret pain positively.

Our data demonstrates that some patients would rather not experience pain, but are willing to tolerate it during treatment. One physical therapist describes this group of patients as follows: “They may not believe like ‘no pain, no gain,’ but they're just simply okay with it. They're okay with the fact that, ‘Okay, I'm going to feel a little sore, but kind of like that delayed gratification, I will in fact feel better’” (Physical Therapist 5). Another physical therapist elaborates on this further: “So I think people already kind of have a mindset that it's not going to be super comfortable, but a lot of them are like, ‘I can go through some discomfort here to be better later’” (Physical Therapist 2). Unlike the patients that enthusiastically welcome therapeutic pain, these patients view pain during treatment as a necessary evil. In other words, they would prefer if the treatment wasn’t painful, but will endure pain if deemed necessary for the greater good of achieving pain

relief (from their preexisting pain). This sentiment is explained in the words of patients as follows: “Yeah, pain will be expected. I don't want to have it, but I know it's going happen” (Patient 1), and "I don't think you can walk in anywhere and expect to be like, ‘fix me, but I don't want to be uncomfortable’" (Patient 3). Another patient describes slowly coming to this acceptance with therapeutic pain over the course of their treatment plan:

> It's funny because I've lost that feeling or that memory of being in pain, going to physio and dreading it. I know I did. I used to dread it because it would hurt and it would be uncomfortable, but I don't anymore. I don't know if it's just because I know that whatever pain I'm going to experience, it's because it's helping and it's part of the process (Patient 7).

This quote illustrates not all patients that seek out physical therapy want to feel pain during treatment, but that they may tolerate it and see the value it in when it is clinically necessary.

Finally, another group of patients were identified who do not want to experience pain in treatment. This group is described by one physical therapist as follows:

> ...in other population of people, they feel that they should not be in pain during the treatment. And I think certain population of people believe that no, no, no. I came here to feel better. I didn't come here to be in more pain or in the same pain. I should be actively feeling better as you keep going (Physical Therapist 5).

As this quote demonstrates, to these patients, pain is considered detrimental to the physical therapy process. Unlike those patients that ascribe to the “no pain, no gain” mentality, these patients view pain as unproductive. Furthermore, for these patients, experiencing pain may result in fear as explained by one of the study informants:

> Then definitely there's other clients where I get the feeling that eliciting too much pain in treatment without enough, makes them very fearful of whatever we're doing, whether it's movement like exercise, or manual therapy, or needling" (Physical Therapist 14).

Thus, whereas a lack of therapeutic pain may negatively impact the service experience for those that ascribe to the “no pain, no gain” belief, the opposite effect occurs for those patients that do not want to feel pain in treatment. In other words, when therapeutic pain is non-existent, it may improve satisfaction with the service for this particular group of patients, whereas for those that ascribe to the “no pain, no gain” belief, a lack of pain

may result in dissatisfaction with the service. This variability among patients is summarized by one physical therapist as follows: “And I think it varies between patients as well. Because some people hear any pain, and they're like, "Oh my God, what's gone wrong?” (Physical Therapist 16). In practice, such a situation may occur if a patient has never experienced physical therapy or other similar services (e.g., massage therapy or chiropractic care) and as such, they are unfamiliar with treatments that may involve pain. Furthermore, discussions of these types of patients in clinical communities often involve how to overcome their fear of pain, which may deter them from seeking further treatment.

2.5.3. Managing Patient Expectations about Pain in Physical Therapy

Based on the results presented so far, diagnostic pain is generally expected by patients and signals clinician competency, which strengths the patient-practitioner relationship and builds trust. Our data suggests that both patients and physical therapists are aligned on the importance of diagnostic pain to the assessment process. However, therapeutic pain was found to be preferred by some, but not all patients. Furthermore, our data demonstrates that patients and physical therapists may not always agree on the value or appropriateness of therapeutic pain. In other words, there may be a mismatch between physical therapists’ willingness to give therapeutic pain, and patients willingness to receive it.

While some physical therapists eagerly indulge in patient preferences for painful treatment, others reject the notion that patients must feel pain to achieve clinical outcomes. This tension is evident in the following quote where a physical therapist describes a common dialogue that they have with patients that prefer therapeutic pain: “Yeah, there's definitely a subset of patients that ... I use the analogy, they're not going to think you did anything unless you use a sledgehammer. Then I'll tell people, ‘Well, you don't need a sledgehammer for a finishing nail’” (Physical Therapist 13). As this quote illustrates, physical therapists may challenge their patients’ views on therapeutic pain and attempt to re-educate them. However, another physical therapist describes how this can be an uphill battle due to longstanding beliefs about the profession:

> I think people understand that when you go to physio, you will be in some level of pain, discomfort, like you mentioned, no pain, no gain that kind of thing. And I think that physios really get that rap a lot. And

> whenever I hear that, I really want to break that down and I don't want that at all. That is not the right mentality in my mind (Physical Therapist 5).

As demonstrated through this quote, physical therapists may feel frustrated by the belief held by the average lay person that going to physical therapy involves pain. However, this idea continues to be perpetuated by some physical therapy providers as evidenced by this story that a study informant shared:

> Yeah, it's funny because for years in the waiting room of the physiotherapy clinic, they had this t-shirt up there that I think they sold it and it said something really weird about pain and physiotherapy and how people are addicted to pain or something like that or I'm not doing my job unless you're hurt. And I remember talking to my current physio who bought into the clinic at some point and he's like, 'You know what? I hated that shirt. It was so wrong because it's not ... You come here because you're in pain and we're not here to make it worse.' ... because we joked about being addicted to the needles too. Oh yeah, you're just here for the needles. And he doesn't like that kind of joking because he is like, 'No. We're here to make you feel better' (Patient 7).

The last part of this quote further underscores the notion that this belief is not shared by all physical therapists and may be considered outdated. Furthermore, such a belief somewhat undermines the service provision and the relationship between pain and treatment outcomes. One physical therapist elaborates on this:

> I think a lot of them, again, based on that erroneous pain model is that they think that you're helping them. It's a good pain. It'll feel better later, all those generic kind of [ideas]. Although true sometimes, it's often irrelevant as far as the outcome of the treatment, whether the pain really has any bearing on the effectiveness of the treatment (Physical Therapist 13).

As demonstrated here, physical therapists have a more comprehensive understanding of when pain is necessary in treatment, if at all, based on their expert training. This is evident when observing clinical interactions where pain is elicited and the patient reduces this pain to effective treatment, but then the physical therapist redirects in explaining the cause and role of pain.

While education can be an effective tool to reframe patients' expectations about pain, many of the study informants describe the challenges of addressing longstanding preexisting patient beliefs. In practice, it is time consuming and if not given in the right dose, education may overwhelm a patient. Informal conversations among physical

therapists reveal the balancing act that takes place when it comes to managing patients' treatment preferences with what the practitioner deems to be most appropriate based on their training and current research evidence. Consequently, a give-and-take strategy was cited as the most common and successful way for physical therapists to manage patient expectations. This was described as follows:

> If it's more of a mismatch around what they're going to get out of physiotherapy, I will try for a while to kind of do both. Again, give them at least a little bit of what they're expecting, and then try and layer on what I would perceive as is more what they need. And I find most of the time that is effective (Physical Therapist 7).

As this quote illustrates, when there is a mismatch between what the patient expects and what the physical therapist deems clinically necessary, they may provide a combination of care that accommodates their patients' preferences. This may involve painful treatment as well as other therapies that the patient requests. In practice, so long as the intervention that the patient requests is not contraindicated, physical therapists view the opportunity to indulge their patients' treatment preferences as one that builds rapport. One physical therapist uses the term "Physio Candy" to describe this strategy:

> I call it the physio candy. I just give them little piece of candy that they want. So they're coming in for, for example, a passive modality that I don't think is going to beneficial. That's okay. We'll spend our five minutes, do this passive modality. It builds a little bit of patient rapport. Sure, it might even have a bit of placebo effect. They're happy and they get what they want. But again, they're only going to get that piece of candy if they do what I want and that can be, be it manual therapy, needling, hands-on exercise, whatever it is (Physical Therapist 4).

Many of the other informants resonated with "Physio Candy" including this physical therapist who elaborates on the concept as follows:

> Yeah, so I like the outcome of like, go with somebody, meet them where they're at, meet them in the middle, maybe more on their side for the first little while. Give them that little bit of candy, if you will. And then hopefully eventually you feel like you can drip in bits of information that are more in line with their condition, or their hopeful treatment plan (Physical Therapist 12)

By providing some candy, the physical therapist can leverage rapport to reframe patient beliefs and secure buy-in for other treatment options. As the last part of the quote highlights, "Physio Candy" may be used as a tool to bridge the mismatch between patient and physical therapist beliefs about the most effective treatments.

However, in practice, the physio candy solution may not always work. The context in which physical therapists practice plays into this, especially the fact that these physical therapists work in private practice where patients often pay out of pocket for their services and expect the physical therapist to give them what they want. This is evident in the following quote: "… I mean, that's very prevalent in 21st century society. It's like, 'I paid you, do it'" (Patient 3). The growing demands of patients who insist on dictating treatment parameters is a common point of frustration that is discussed in communities of physical therapists. While practitioners acknowledge that decision-making should not be unilateral, the pressures of running a successful business with happy customers is becoming more difficult for physical therapists who are trying to offer services in line with the most current research evidence. This sentiment is summarized well by one informant:

> And I think that what I've learned over the past four years of being a physio, is that there's no real perfect answer. And what you can do with one client has to be very flexible with what you're going to do with another client. Because ultimately, you are running a business and battling with your clients every day to say 'No, this is what the research says in 2022,' your caseload is not going to be well maintained all the time. And so, you really have to kind of integrate it in a wise way, I think. But I think it's still a real work in progress all the time to find that balance (Physical Therapist 6).

As reflected in the quote, physical therapists must be adaptable to maintain a busy schedule, which is the source of their livelihood. In practice, rejecting patients' expectations, whether they are for painful treatment or some other intervention, is not a sustainable strategy within the marketplace that they operate in. Table 2.5 provides additional evidence of quotes describing mismatches between patient and practitioner beliefs about therapeutic pain and demonstrating how physical therapists address these mismatches.

Table 2-3. Quotes Demonstrating Functions of Diagnostic Pain.

Subtheme	Physical Therapist Quotes	Patient Quotes
Competence When physical therapists elicit pain in the assessment, it demonstrates expert knowledge to the patient.	“I think people like to get to the point where they're like, ‘Okay, he knows exactly what's going on. There's no beating around the bush. There's no guessing in a diagnosis. He can feel this. He can sense this. He knows exactly where that is.’ I think that's important to people." (Physical Therapist 2)	"It means that he knows, he's interpreting my pain and he knows how to apply it or fix it. He knows what to do to help me." (Patient 2)
	"If someone came in with a knee pain and I went through all my tests and nothing hurt, they'd probably be like, "Did he do the right thing? Does he know what's going on if he wasn't able to elicit a response?" We'll put it that way. I think some people might be like, "He didn't get the spot," or they don't know what's happening because they weren't able to get to that discomfort." (Physical Therapist 2)	"Or someone who makes a judgment before they've even laid hands on you. I think that's a red flag. Kind of like, "Oh, really? You don't want to poke around a little first?" The only way someone's really going to see how severe it is by trying to gently manipulate you in finding of like, "Oh wow, you can't bend your back." Or, "You can't move that knee."" (Patient 2)
	“So pain is wonderful in that regard because if I never put my finger in your wound, you never will fully trust I know what's going on with you. So I think it's part of the whole, you know, like the trust process in my humble opinion, and the pain gives us a wonderful opportunity to educate and say, ‘Here's what I think is cracking and is going on in there, and here's what we're trying to do and accomplish’” (Physical Therapist 3)	"I got crushed in the ribs in a hockey game six months ago and had a practitioner poke at the spot, and it hurt. When they found the spot ... Sure, it's probably important. I wasn't unhappy that they found the spot when they found the spot. I did a bit of levitation for a moment. We had narrowed it down and say, "This is where it probably is. This is probably what it's ..."" (Patient 5)

Subtheme	Physical Therapist Quotes	Patient Quotes
Competence When physical therapists elicit pain in the assessment, it demonstrates expert knowledge to the patient.	"Because again, it's one of those things of, yeah, you're on the spot that hurts. That means you know what you're doing, that means you know how to get me better type of idea." (Physical Therapist 4)	"Obviously, when you take your elbow and dig it into somebody's back or whatever muscle group, yeah, it hurts. I know it's going to hurt, but I hope it hurts because it means you're in the right spot, and that's what I want. Not that I want to feel the pain, but it's telling me that they know what's going on. They found the spot." (Patient 7)
	"I think that in the assessment, I think they're thinking that holy, I'm in pain and also they're probably thinking, okay, he was able to elicit my pain. So I think that that gives them confidence in me that I know what's going on because I did the right assessment to elicit something." (Physical Therapist 5)	"Yes. If they don't make it hurt when they're pushing, digging around or treating, it's like, yeah, you're not finding the right spot." (Patient 7)
	"I mean, I do think it builds a little bit of trust of like, oh, they've kind of, they're figuring out where my pain is and they've identified where it is." (Physical Therapist 9)	"I know that I've got some fairly dense muscle tissue and that if you don't dig in and I'm not feeling it, then it's probably not the right spot." (Patient 8)
	"I think it's a positive thing when you are able to elicit the pain through some of the testing you're doing. That is a big part of, I think, building that trust with the patient as well, because they often they're like, "Oh, can you feel that?" Or they're like, "Oh wow, you found that." And they instantly kind of raise your expertise level based on that. And that goes to building trust and listening a bit more to what your advice and your interventions are going to be." (Physical Therapist 10)	"I think by her examining and, for lack of a more elegant way to say it, poking around in there, it was also to establish where it was that she needed to manipulate a bit more. Like where was the trouble spot, so to speak." (Patient 9)

Subtheme	Physical Therapist Quotes	Patient Quotes
Competence When physical therapists elicit pain in the assessment, it demonstrates expert knowledge to the patient	"Well, I guess if you couldn't, they would be very disappointed and probably wouldn't buy into what you tell them. I can't say I seem to have that problem, but guess I'm pretty good at finding pain. But I think the vast majority of patients think that if you haven't elicited their pain, then that you're missing it, so to speak, until you develop that trust and whatnot." (Physical Therapist 13)	"I would say if I didn't experience pain at the very beginning, I would be like, "Oh, I think she's in the wrong spot."" (Patient 9)
	"Again, that validation, they're like, "Yeah. This person knows what they're doing," or like you said, "That's the spot."" (Physical Therapist 14)	"I feel they weren't doing the correct job. I'm almost always in pain, so if something isn't hurting, then you're not looking in the right place." (Patient 10)
Validation When physical therapists manipulate the painful area, patients feel that their pain is understood.	"At least like from one of my clinics, I practice at, that one of the rules we have is like, we always have to touch the meaningful area, that the client is complaining about. And that makes sense because then the patient feels heard. They feel understood and the sooner that we can do that, they realize, "Okay, we're on board with what they're saying. We hear what they're saying." And then we can go on and treat something else. So, it's not enough just to talk about it. You actually have to put your hands on the area." (Physical Therapist 8)	"I've actually had this. It makes me feel like, "Oh, am I making this up? Am I actually injured or is it all in my head?" Because sometimes I don't experience the pain in that moment. I'll book an appointment because I've been pain. Then I get to that point in time knowing I should still keep the appointment, but I'm not in pain and will go through all of the tests. I'm like, "Do they think I'm lying?"" (Patient 4)

Subtheme	Physical Therapist Quotes	Patient Quotes
Validation When physical therapists manipulate the painful area, patients feel that their pain is understood.	"But for them to fully understand that we're acknowledging it, I think because we are physical practitioners, they're expecting us to put our hands on it, to be able to engage with, "Okay, well, is it this area or this area?" "Okay. Oh yes. I feel that." And then for them to think, "Okay, now he understands that I'm putting my hands on that area" ... And yeah, I think that just allows them to feel heard." (Physical Therapist 8)	"So if you're trying to guide a physio, especially on your back, to an area that hurts and they tap it and it's tender and pinpoint it, I guess it's reassuring in some way, because you're like, 'Okay, they know exactly where I'm talking about.'" (Patient 6)
	"I think also having your hands on somebody and going through objective testing, and that sometimes means producing pain, I think is gigantic for building therapeutic alliance, too. For somebody to feel like they've been really thoroughly assessed with hands-on care, and sometimes that means pushing on the sore part, I think people like that. And I think that it kind of meets their expectations of feeling heard, feeling listened, and feeling really, really checked out thoroughly." (Physical Therapist 12)	"So again, it was validating in the sense that I wasn't dreaming it and people would look at you, well, you don't have this giant cast or you don't have a big sling or whatever. So you said validation. I was thinking of ... Like I said, I never thought of it that way, but I guess it was because it proved that I wasn't dreaming it and someone else believed me that, yes, it hurts." (Patient 9)
	"I guess once you've explained that and then put hands on and touched somebody that's sore, I think that could be validating because they then know that you understand too where their pain is and why it is that they're there." (Physical Therapist 16)	"I feel that the therapist really understood my needs more or my injury more if they themselves had seen it and touched it." (Patient 9)

Table 2-4. Quotes Demonstrating Functions of Therapeutic Pain

Subtheme	Physical Therapist Quotes	Patient Quotes
Efficacy Pain during treatment is welcomed, considered productive and associated with treatment efficacy and value for money paid.	"With some people, again, getting to know the type of patient and what their expectation is, sometimes you want to elicit a more pain because that's what's going to be their buy-in, right? The no pain, no gain type of idea." (Physical Therapist 4)	"I feel like it's sort of one of those things where it has to get worse before it gets better or you have to go through something before you come out better. I think knowing my body and knowing that I have always been in some type of discomfort or pain, I would probably think that he's not doing something right. But that's just my personal body. I don't know if other people always feel pain or discomfort during their sessions. I know I always have, I've always had some type of something that doesn't feel great. So I would probably think that maybe he is not getting the right spot or something's off. I wouldn't think that he's doing what he needs to do to fix me." (Patient 2)
	"So when patients are in pain during treatment, there are a population of people like, oh yeah, yeah, yeah, keep going, keep going. That feels great because they actually either find it cathartic or they actually find it pleasurable to be in pain, almost as if they feel like the pain is productive pain or I think a lot of massage therapists use candy pain and they find that that pain needs to be done in order to feel better." (Physical Therapist 5)	"I've had massages that were so soft, and I'm like, "No, no. I want the elbows in there. Eat me. I want to feel like you really worked me."" (Patient 3)
	“So, I might have someone who was a professional skier in the 70s and goes under the no pain, no gain kind of thought of things where they're like, ‘I want you to absolutely destroy me during this session, because that's good. And that's what's going to make me feel recovered.’” (Physical Therapist 6)	"Yeah, that was the right spot. And the harder it hurts, the better the spot." (Patient 7)

Subtheme	Physical Therapist Quotes	Patient Quotes
Efficacy Pain during treatment is welcomed, considered productive and associated with treatment efficacy and value for money paid.	"They could relate to the pain as being effective, like effective therapy. If they're not feeling much, they may not see the value of what is the therapist doing. If I can't feel a difference, or they're like just gently laying their hands on me, they may not understand, "Well, that's not doing anything to release the muscle." Or to undo adhesions or whatnot." (Physical Therapist 8)	"So when I've been hiking on the weekend, that hip is taking the brunt of it. All the gentle work in the world isn't going to dig in and get through to that muscle." (Patient 8)
	"So, for those clients, they probably would be looking for something where they felt they would be okay feeling sore the next day and they would think, "Okay, well, yeah, good work is being done. And this is something that, I'm paying for a service, I'm expecting to get something." And they certainly get something when they feel pain. And if I didn't feel anything, I'd be like, "Okay, what's happening? I can't feel a difference."" (Physical Therapist 8)	"I did have one physio who would very, very gently work with you. But she was very, very nice, so I was definitely able to talk to her about the fact that she was scared of causing any pain whatsoever. And she was helping, would apologize if your muscle twitched at all. So that definitely, I don't think was an approach that was helpful [because] whenever my calf muscle would twitch, she'd completely stop." (Patient 10)
	"I think for them, however they've learned it, they've learned that they need to feel it for them to feel like they're going to get better. If they don't feel anything, that it's not necessarily helping them get better." (Physical Therapist 11)	"The pain in that situation feels productive, like we're moving towards something. It's not just there to ruin everything." (Patient 10)

Subtheme	Physical Therapist Quotes	Patient Quotes
Efficacy Pain during treatment is welcomed, considered productive and associated with treatment efficacy and value for money paid.	"I think a lot of them, again, based on that erroneous pain model is that they think that you're helping them. It's a good pain. It'll feel better later, all those generic ... Although true sometimes, it's often irrelevant as far as the outcome of the treatment, whether the pain really has any bearing on the effectiveness of the treatment." (Physical Therapist 13)	"I've been in treatment for 10 years or more than that. And I have found that treatment that helps tends to cause pain at one point, whether it's deep tissue or touching painful muscles or needles or something, pain is elicited. If I go to massage therapy and it's super calm and relaxing, I don't get pain relief from it. It's just relaxing. And I find the very similar thing with physio that if there's not any pain getting elicited from one of my muscles or one of my joints, so there's not really anything getting helped afterwards." (Patient 10)
	"All the time that I see those people probably and I think for them it's that they really believe that motto, "no pain, no gain." I think that to them is they're doing something, something's happening..." (Physical Therapist 14)	
Necessary Evil Pain during treatment is accepted only if deemed necessary to achieving clinical outcomes. **Necessary Evil**	"So I think people already kind of have a mindset that it's not going to be super comfortable, but a lot of them are like, "I can go through some discomfort here to be better later." So whether that be either assessment or treatment, I think a lot of them are expecting to have at least a little bit of pain. Depends on how you describe pain, whether that be discomfort or not. I call discomfort a small amount of pain. So I think almost everybody that I would treat would say that they would expect at least some level of pain into a treatment." (Physical Therapist 2)	"Yeah, pain will be expected. I don't want to have it, but I know it's going happen." (Patient 1)

Subtheme	Physical Therapist Quotes	Patient Quotes
Pain during treatment is accepted only if deemed necessary to achieving clinical outcomes.	"They may not believe like "no pain, no gain," but they're just simply okay with it. They're okay with the fact that, "Okay, I'm going to feel a little sore, but kind of like that delayed gratification, I will in fact feel better." I think that outside of even athletes, just people that have that mentality, they believe that, "No I'm here for physio. I will feel better. I may feel sore now. I may feel sore in 24 hours. I may feel sore in two days, but end of the day, I will in fact, feel better." (Physical Therapist 5)	"I don't think you can walk in anywhere and expect to be like, "Fix me, but I don't want to be uncomfortable."" (Patient 3)
	"For sure. There's definitely if they're looking for soft tissue therapy in particular and if they need to massage, I don't know about you, but I've been to soft tissue massage and it's felt like I'm going to jump off the bed. But in some ways, it feels cathartic and you're like, "Okay, well, they got into what it was that was playing me up." At least, you leave knowing that something happened. Whether it's good or bad, you sometimes decide later. But I think yeah, some people, I'm sure they must be seeing that there needs to be at least some pain and that that is part of the process." (Physical Therapist 16)	"I would interpret it like, "Okay, it's for the best. They know what they're doing. My calves are really tight, or my back's really tight, so, in the long run, this should help," kind of thing. Like, "It's temporary pain." Getting giant knots in your back and your calves massaged out isn't really ever going to feel pleasant, no matter who's doing it, so it's just something you have to do." (Patient 6)
Counter-productive Pain during treatment is considered detrimental.	"...in other population of people, they feel that they should not be in pain during the treatment. And I think certain population of people believe that no, no, no. I came here to feel better. I didn't come here to be in more pain or in the same pain. I should be actively feeling better as you keep going." (Physical Therapist 5)	

Subtheme	Physical Therapist Quotes	Patient Quotes
	... versus individuals who have been, maybe they've never been to physio or they have been to physio and they still have that kind of that guarded belief that I should never be in pain and pain is a bad thing. And that if I am in pain, I'm not actually feeling better, or if I have this certain threshold, if I get beyond a certain point, I don't know what's going to happen and I may have a massive flare up." (Physical Therapist 5)	
	"At least just based on feedback and what I think some people like it, in that they almost want to feel something, because it makes them feel like something's happening. Then definitely there's other clients where I get the feeling that eliciting too much pain in treatment without enough, makes them very fearful of whatever we're doing, whether it's movement like exercise, or manual therapy, or needling. I'd say that people fall into one of two categories." (Physical Therapist 14)	
	"And I think it varies between patients as well. Because some people hear any pain, and they're like, "Oh my God, what's gone wrong?"" (Physical Therapist 16)	

Table 2-5. Quotes Demonstrating Patient-Practitioner Mismatches and Physio Candy Strategy

Subtheme	Illustrative Quotes
Patient-Practitioner Mismatches Conflicting beliefs about the value of pain in treatment amongst marketplace actors	"I think that I'd say most people because physio hasn't really taken off as a profession, I think people understand that when you go to physio, you will be in some level of pain, discomfort, like you mentioned, no pain, no gain that kind of thing. And I think that physios really get that rap a lot. And whenever I hear that, I really want to break that down and I don't want that at all. That is not the right mentality in my mind." (Physical Therapist 5)
	"And I'll have some clients that I have to hold back a little bit like, "No, no, we don't need to push that hard." And I'll have some people that I have to kind of educate and coax for a little bit and just say, "You know, a certain amount of minimal pain or moderate pain, that reduces very quickly after this is safe and okay and will lead to better results because of this."" (Physical Therapist 6)
	"Yeah, it's funny because for years in the waiting room of the physiotherapy clinic, they had this t-shirt up there that I think they sold and it said something really weird about pain and physiotherapy and how people are addicted to pain or something like that or I'm not doing my job unless you're hurt. It wasn't quite like that but it was there. And I remember talking to my current physio who bought into the clinic at some point and he's like, "You know what? I hated that shirt. It was so wrong because it's not ... You come here because you're in pain and we're not here to make it worse. And it's not about" ... because we joked about being addicted to the needles too. Oh yeah, you're just here for the needles. And he doesn't like that kind of joking because he is like, "No. We're here to make you feel better."" (Patient 7)
	"Yeah, there's definitely a subset of patients that ... I use the analogy, they're not going to think you did anything unless you use a sledgehammer. Then I'll tell people, "Well, you don't need a sledgehammer for a finishing nail."" (Physical Therapist 13)
	"I think a lot of them, again, based on that erroneous pain model is that they think that you're helping them. It's a good pain. It'll feel better later, all those generic ... Although true sometimes, it's often irrelevant as far as the outcome of the treatment, whether the pain really has any bearing on the effectiveness of the treatment." (Physical Therapist 13)

Subtheme	Illustrative Quotes
Physio Candy A practical strategy to bridge the gap between patient and practitioner beliefs without compromising trust.	"I call it the physio candy. I just give them little piece of candy that they want. So they're coming in for, for example, a passive modality that I don't think is going to beneficial. That's okay. We'll spend our five minutes, do this passive modality. It builds a little bit of patient rapport. Sure, it might even have a bit of placebo effect. They're happy and they get what they want. But again, they're only going to get that piece of candy if they do what I want and that can be, be it manual therapy, needling, hands-on exercise, whatever it is." (Physical Therapist 4)
	"And I think that what I've learned over the past four years of being a physio, is that there's no real perfect answer. And what you can do with one client has to be very flexible with what you're going to do with another client. Because ultimately, you are running a business and battling with your clients every day to say, "No, this is what the research says in 2022," your caseload is not going to be well maintained all the time. And so, you really have to kind of integrate it in a wise way, I think. But I think it's still a real work in progress all the time to find that balance." (Physical Therapist 6)
	"If there's a mismatch between what they perceive as an appropriate treatment, a mismatch between that and what I perceive as an appropriate treatment, that I would find a very difficult patient. And so then, you're trying to balance meeting expectation while still giving quality care and trying to walk that line." (Physical Therapist 7)
	"Once I have that baseline understanding, and let's say this person is expecting a certain treatment, I'll often try and, at least initially, meet them where they're at. And if it is something that I think will not be harmful and maybe is helpful for short to medium term pain relief, I will apply that treatment for sure. While I think trying to drip in education initially as like, "Okay, let's do this, but then also this." Because I think that therapeutic alliance, if I come in really hot in that first session, I think that's challenging. If this person has a strong expectation of, "I want X. And I've had previous physios who've performed X." Then I'm not going to come necessarily off the top rope, session one, and say, "Nah, you're not going to have that." Unless I think it's highly unhelpful. I think it's, again, building a bit of that relationship and then trying to slowly shift the focus of treatment, I suppose, towards things that I think will really be helpful for that person." (Physical Therapist 7)
	"If it's more of a mismatch or around what they're going to get out of physiotherapy, I will try for a while to kind of do both. Again, give them at least a little bit of what they're expecting, and then try and layer on what I would perceive as is more what they need. And I find most of the time that is effective." (Physical Therapist 7)

Subtheme	Illustrative Quotes
Physio Candy A practical strategy to bridge the gap between patient and practitioner beliefs without compromising trust.	"I tend to sometimes do what they want. I mean, if it's warranted…So if I really do feel like probably 40, maybe higher percentage of recovery is dependent on if you believe it's going to work, it's going to work. Especially pain. If you believe this thing is going to make you feel better, it's certainly not going to harm them. So if it was going to harm them, I would obviously advise against it, but if it's not going to harm them then really I'm not really that hesitant to try to do stuff people request." (Physical Therapist 9)
	"And yeah, if the first few sessions need to be a little bit more manual or a little bit more on the passive side, but then that patient buys in and I can transition them into a more active, not only treatment, but lifestyle, then I'm willing to do that, for sure." (Physical Therapist 11)
	"People come in expecting some certain thing, probably most of the time. And yeah, perhaps it's some treatment that offers short term relief, like manual therapy. I use it. When just getting to know somebody, especially, I try and meet people in the middle as best as possible. And that might mean four weeks, five weeks, six weeks of doing this stuff and then spending the time to build rapport and build alliance. And then probably somewhere in there, I can slowly start to drip in a bit of information about what other things might be helpful. And yeah, perhaps what the research says about treating chronic pain. But it's a really slow phasing in of that information. If I get the sense that that stuff is against what they believe or what they expect, then I won't go there for a while at the beginning. I think you can almost argue that if you push back against somebody's beliefs, then you're not going to have a positive effect." (Physical Therapist 12)
	"Yeah, so I like the outcome of like, go with somebody, meet them where they're at, meet them in the middle, maybe more on their side for the first little while. Give them that little bit of candy, if you will. And then hopefully eventually you feel like you can drip in bits of information that are more in line with their condition, or their hopeful treatment plan." (Physical Therapist 12)
	"Some days early on, definitely earlier in my career, I would come home and just realize, I feel like I just fought all day. I just argued with people all day and I didn't realize that was part of the job. I think personally that's, if I see a problem, it's like I want to fix it and that I approached things from that really pragmatic way and that doesn't always, people don't like that right away and upfront; instead soften them a bit." (Physical Therapist 14)
	"I think if there's the intention to do well, say to build, as we were chatting earlier, to build rapport, give some physio candy, try to let this person be heard…And if they are then now on board and ready to commit to more information or education, and some other strategies for pain management that might help them with their chronic pain." (Physical Therapist 14)

2.6. Discussion

While consumers spend billions of dollars on pain relief products and services and pain significantly impacts consumer well-being and quality of life, the construct of pain itself has largely eluded marketing research to date. Indeed, prior attempts to study pain have focused on emotional forms of pain like negative feelings (Andrade & Cohen, 2007) and other psychological concepts such as the “pain of paying” (Rick et al., 2008). These investigations do little to understand the corporeal or bodily experience of pain and how consumers make sense of bodily pain in other contexts where it is commonly experienced including healthcare, has yet to be investigated until now. This present study explicitly explores how healthcare consumers and their providers interpret and manage pain experienced as part of the service provision. Healthcare services represent a complex and often extended service encounter that is almost always triggered by a desire to mitigate or remove undesirable preexisting pain, which precedes interactions with healthcare providers. Consequently, an important contribution of our work is distinguishing this preexisting pain, from pain experienced *during* healthcare service delivery, which is dependent on the physical interaction with healthcare practitioners. We find that while preexisting pain may be unwanted, pain experienced during the service interaction is valued by healthcare consumers so much so that when it is absent, they express doubts and concerns that something is missing. This finding challenges the longstanding assumption that all pain experienced in association with healthcare is viewed negatively (Andiappan, 2023).

We find that pain serves as a valued signal and source of information that helps consumers evaluate and navigate healthcare services. As such, the role of pain when consuming healthcare services cannot not be reduced to an uncomfortable sensation that should be eliminated. To the contrary, our results suggest that a more nuanced approach to understanding pain is necessary and must account for the different types of pain experienced as part of the healthcare consumer journey. We find two such parts of the overall service provision to be particularly important when it comes to consumer expectations and experiences of pain, namely pain experienced through assessment (*diagnostic* pain) and pain associated with treatment (*therapeutic* pain). Whereas diagnostic pain is viewed positively by both healthcare consumers and practitioners who agree that it functions as an important way to build trust, there is not always alignment

on the value of therapeutic pain. In the context of physical therapy, some consumers link therapeutic pain with improved treatment efficacy, others believe that it should only be elicited when necessary and still others outright reject pain viewing it as detrimental to treatment outcomes. We now discuss these key findings, specifically the role of diagnostic pain in establishing trust and the role of therapeutic pain as an individual preference, along with theoretical and practical implications before examining the strategies practitioners use to manage patient expectations about pain and presenting directions for future research.

2.6.1. The Role of Diagnostic Pain in Establishing Trust

Our results demonstrate that pain is an important antecedent to establishing a trusting patient-practitioner relationship. This is particularly true of diagnostic pain, which builds trust through the demonstration of clinical competency and validating patient concerns. When practitioners elicit pain during the assessment, it demonstrates expert knowledge and diagnostic accuracy that is appreciated and often applauded by patients. Indeed, we find that the moment in which the practitioner has “found the spot” is critical and sets the tone for the rest of the service provision. This suggests that failure to elicit diagnostic pain has dire consequences since patients may doubt the practitioner’s competency not only in the assessment, but also in the treatment provision. Said another way, if trust is not secured through diagnostic pain early on, patients may assume that the practitioner does not understand the source of the problem nor how to solve it. This has implications for patient compliance with treatment because if a patient does not trust the practitioner, they are less likely to follow their recommendations (Bernhardsson et al., 2017; Casey et al., 2018).

Additionally, our results show that that through pain, practitioners can validate patient concerns, which further builds trust. This underscores the importance that patients place on practitioners touching and manipulating their pain during the service provision. While this was universally acknowledged by our informants, one patient went so far as describing skepticism towards physical therapists that propose a diagnosis before attempting to manipulate pain through physical assessment. The reason patients tend to anchor so strongly on diagnostic pain may be twofold. First, pain tends to be invisible (Wideman et al., 2019). In the absence of a deformity, bruising or swelling, there may be few cues that suggest that an individual may be experiencing pain

(Ballantyne et al., 2018). Therefore, it is no surprise that we find that patients feel validated when their pain is touched since the coproduction of pain with a health professional has the potential to make the invisible, visible. Indeed, our results indicate that by experiencing pain during the physical assessment, patients demonstrate that their pain is real and that they are not making up their symptoms (i.e., the pain is not simply “in their head”). In this way, patients may feel that diagnostic pain is critical for providing corporeal evidence of their subjective complaints so that their healthcare providers take their pain seriously.

Second and relatedly, no objective test exists to accurately measure pain (Melzack, 2013). Instead, practitioners solicit their patients’ descriptions of the location, timing, type (e.g., dull, sharp, electrifying or burning), and intensity of their pain (Huskisson, 1974; Shafshak & Elnemr, 2021). For practitioners, particularly those with a great deal of experience, this information combined with reports on the mechanism of injury and any diagnostic testing that has been done (e.g., x-ray, MRI scan) is usually more than enough able to make a diagnosis (Garber & Boissonnault, 2020; Mizer et al., 2017). However, patients, who lack clinical expertise, may have difficulty understanding how a diagnosis could possibly be formed without manipulating the pain physically. Furthermore, describing pain can be difficult for patients and discussing one’s pain often does little to justify the actual experience of living in pain (Gatchel et al., 2007). Thus, while it might not always be necessary from a clinical standpoint, diagnostic pain may be the closest thing practitioners have to sharing in a patients’ pain and one of the best tools for demonstrating to patients that they understand it. This was confirmed when the study informants described how eliciting pain during assessment was necessary because it allows patients to be “heard” in a very different way than conversing or talking about the pain.

These findings have important implications for clinical practice where the tendency of healthcare practitioners is to reduce and downplay the experience of pain during the service encounter (Card & Klein, 2016). Furthermore, extent literature, even in healthcare, does little to highlight the link between diagnostic pain and trust. Instead, there appears to be a narrow focus on building trust through communication and demonstration of empathy by listening to patients and letting them tell their story (Bernhardsson et al., 2019; Grenfell & Soundy, 2022; Lee, 2021). But whereas the “talking” approach to building trust may be viewed by patients as abstract and

ambiguous, the hands-on, pain-based approach is concrete, and corporeal. Our results underscore the importance of the embodied experience of pain by showing that patients anchor onto pain as a strategy to reduce the complexity and make sense of the credence service. Thus, coproduction of pain during the assessment may represent an underappreciated opportunity for practitioners to not only demonstrate competency and validate patient concerns, but also breaking down the inherent power dynamic of traditional healthcare models by allowing patients to participate in a corporeal experience that they value as part of the diagnostic process (McColl-Kennedy, Snyder, et al., 2017).

Moreover, when it comes to the assessment, our results suggest that practitioners should not fear producing pain but instead fear not producing it. Despite this finding, the trend over the last two decades has involve increasingly less physical contact during healthcare encounters and thus, less of an opportunity to elicit diagnostic pain (Durkin, 2018; Harris, 2011; Verghese & Horwitz, 2009). With advances in medical technologies, the physical exam is disappearing from healthcare as practitioners no longer need to use their hands (Hyman, 2020). Despite this, our results complement findings from other studies (e.g., Duan et al., 2020) that indicate that the physical exam it is still a deeply rooted source of evidence of practice for patients and a ritual that patients expect. Thus, forgetting the critical role of manipulating pain through physical touch means that healthcare practitioners may be neglecting or missing out on an opportunity to build trust with their patients.

2.6.2. The Role of Therapeutic Pain as an Individual Preference

While diagnostic pain is found to be universally accepted as a vital part of the clinical encounter, the same is not true of therapeutic pain. Instead, we find that patients exhibit different ‘appetites’ for pain with some preferring to experience pain during treatment, others tolerating it only if deemed medically necessary, and others completely rejecting it as part of physical therapy treatment. Physical therapists describe those patients that welcome pain as ascribing to the “no pain, no gain” belief system. For these individuals, pain is synonymous with value for money paid and thus, it is not surprising that they are disappointed when practitioners provide treatments that do not elicit pain.

Since it is common to experience some degree of pain during physical therapy treatment (Smith et al., 2017), it is likely that those that seek out and continue with physical therapy treatment are also the most likely to ascribe to the “no pain, no gain” belief. Furthermore, some physical therapists are guilty of encouraging this belief system as evidenced by the quote that described a t-shirt donning a “no pain, no gain” slogan being prominently displayed and available for purchase at a physical therapy clinic. Thus, there may be a self-selection process at play whereby those that prefer receiving and providing painful treatments perpetuate this belief system in the physical therapy industry. Likewise, those that see therapeutic pain as detrimental, defect from physical therapy treatment in favor of other, presumably less painful, treatment options.

However, it is important to note that while the “no pain, no gain” belief was a popular opinion amongst our study informants, some physical therapists expressed frustration towards the association between pain and physical therapy and the need to re-educate patients on what compromises value in physical therapy treatment. This sentiment was common amongst physical therapists that were newer to the profession, and thus trained more recently on the latest evidence that rejects the idea that treatment needs to be painful to be effective (Lin et al., 2020; Smith et al., 2017; Testa & Rossettini, 2016). However, while the “no pain, no gain” belief is considered outdated and no longer supported by most physical therapists, it remains prominent amongst the general population of consumers receiving their care (Gleadhill et al., 2022).

These findings highlight two important practical implications of our study. First, to widen the appeal of physical therapy to those consumers that may be concerned about experiencing pain during treatment, work needs to be done to change the dominant and longstanding perception of what constitutes physical therapy treatment and dissociate it from the “no pain no gain” belief system. Doing so will not only increase business for physical therapy providers, but also decrease the number of patients that turn to expensive, risky, and potentially harmful alternatives to manage their pain. Indeed, physical therapy represents an effective way to manage preexisting pain that is inexpensive and non-invasive compared with interventions like surgery (Cronström et al., 2019), and less harmful than potentially addictive pharmaceutical interventions like opioids, which do little to address the underlying causes of musculoskeletal pain (Rhon et al., 2018). Although future research is needed to confirm this, the same is likely true

for related services like chiropractic care, acupuncture, osteopathy, and massage therapy.

Second, armed with the knowledge that many, but not all, consumers seeking their care expect to experience pain during treatment, physical therapists and other practitioners that treat the musculoskeletal system should make a point of assessing their patients' "appetite" for therapeutic pain. By doing so, practitioners can adjust their treatments to include pain when appropriate and educate their patients should pain be detrimental. Furthermore, directly addressing their patients' preferences for therapeutic pain allows practitioners to avoid the negative consequences of failing to provide painful treatment when it is expected, or the opposite, liberally eliciting therapeutic pain, when it is unwanted, or worse, highly feared. This underscores the notion that with respect to therapeutic pain, practitioners should not assume that all patients have the same belief system, nor should they assume that patients have the same belief system as their own.

2.6.3. Marketplace Dynamics and Managing Patient Expectations about Pain

Our results indicate that physical therapists, to some extent, already adapt their professional practices to emphasize or deemphasize pain during treatment depending on the unique needs of the patient. The term "Physio Candy" was used by our informants to denote this phenomenon where practitioners indulge patient expectations (if they are not contraindicated) to build rapport and buy-in for other treatments that the practitioner, as the medical expert, deems to be the most effective. This give and take strategy is described as an imperfect solution for balancing patient expectations with what constitutes high quality care based on the latest research evidence and clinical guidelines. While practitioners, particularly newly trained ones, may readily embrace changes to clinical practice, the same cannot be said for their patients that may be hesitant or skeptical of such changes. This is particularly true of those patients that have had a long history of attending physical therapy and receiving a certain type of care (Lord Ferguson, 2023). A tension may then arise if a patient who ascribes to the "no pain, no gain" belief sees a new therapist who does not embrace the belief system that pain is necessary to achieve treatment outcomes.

Such a situation is not unique to physical therapy. It represents a challenge for many healthcare practitioners (e.g., doctors, nurses, radiologists, massage therapists) and other professionals (e.g., lawyers, financial services) who deliver credence services. These professionals often confront the need to make changes to longstanding practices that their customers may initially reject or at least resist. Doing so without compromising rapport and the customer experience may involve a solution such as Physio Candy, which on the surface, seems inefficient, but is done to bridge the gap in knowledge between layperson and professional. This preserves trust, and secures buy-in, which is critical in these professions considering that customer engagement is key to achieving many outcomes associated with credence services (Johnson & Grayson, 2005; Sweeney et al., 2015; Trachtenberg et al., 2005).

Marketplace dynamics and contextual factors accentuate the need to use the Physio Candy strategy. As mid-level practitioners working in a saturated market of numerous alternative products and services marketed to treat pain, physical therapists may face increasing pressures to meet patient expectations and provide the treatments that they want, regardless of what current best practice and clinical guidelines dictate. The same is likely true of other health professions. For instance, physicians are increasingly being pressured by their patients to prescribe them certain drugs, a practice which is perpetuated by pharmaceutical advertising in countries where it is allowed (Bernard et al., 2018; Van Zee, 2009). With increasing commercialization and patient empowerment through unlimited access to knowledge through the internet (Agarwal et al., 2020; Ouschan et al., 2006), health professionals may feel forced to give into patient demands. The consequence of not doing so may be that they not only lose a patient, but that the patient leaves dissatisfied, and empowered to write a negative review that has the potential to damage the practitioners' reputation, livelihood, and future business prospects (Lord Ferguson, 2023). Similar effects may occur in other service fields (e.g., law, accounting), which bring up ethical implications for the professionals involved.

2.6.4. Future Research

The purpose of this study was to explore and better understand an understudied phenomenon in marketing research, namely the construct of pain. The qualitative research tradition that was followed was well-suited to develop a detailed understanding of the experience of pain as part of consuming high-touch professional physical therapy

services from both a patient and practitioner perspective. However, additional investigations will need to be done to further measure and understand the relationship between variables that may influence the pain experience during a health service encounter. This task will require additional qualitative and quantitative work.

Since pain is a new construct to marketing, further research should unpack the diverse functions of pain in different service contexts. While prior research has explored extraordinary experiences, we are the first to investigate how pain functions in complex healthcare service settings. Since our study was limited to the experience of physical therapists and their patients, we encourage additional research to compare our results with other types of healthcare services. It is likely that patient expectations of pain differ based on the location of the pain and nature of services offered. For instance, while pain felt during a deep tissue massage to the muscles may elicit a “good pain” that is perceived to be acceptable to consumers, the pain felt during a dental procedure may be viewed universally as negative. Furthermore, even within a single type of service offering, there may be nuances in the interpretation of pain. For instance, our results demonstrate that pain is interpreted differently in physical therapy assessment versus physical therapy treatment. This stresses the need for future research to explore variations not only between service offerings but within the same type of service.

Further, given the critical role of pain found in this study, telehealth affords an intriguing comparison case for future research because when using remote models of health care delivery, providers are not able to modulate pain with their physical touch (Ezzat et al., 2023; Rethorn et al., 2021). As the adoption of telehealth technologies accelerated during the COVID-19 pandemic, more research is needed to better understand how consumers and health care providers navigate their roles without being physically present in a clinic setting as well as how those services that were traditionally marketed as high touch, such as physical therapy, can be rebranded to successfully communicate a strong value proposition when delivered remotely (Lord Ferguson et al., 2022). Further research may be needed to understand how practitioners can demonstrate their competency without putting their hands on a patient to elicit diagnostic pain. This may involve practitioners guiding their patients through a self-assessment that involves manipulating and touching their own pain or using a friend or family member to do so. Moreover, how might practitioners change patients’ focus away from pain to other corporeal cues associated with the clinical interaction such as changes or limitations in

range of motion, functionality or strength? Do these cues provide patients with enough evidence of clinical competency and thus generate trust in a similar way to the experience of physical pain during professional diagnosis?

The differing consumer expectations about pain uncovered in the present study suggest that health care professionals may be challenged to provide a spectrum of care that incorporates a combination of treatments that enhance or diminish pain sensations depending on characteristics that are inherent to both the consumer and the type of service provided. Future research should explore the tensions in how these practitioners balance their ethical duty to “do no harm” with managing patient beliefs such as “no pain, no gain” that may inherently encourage eliciting more pain than is clinically necessary. In addition to the Physio Candy strategy, studies are needed to explore other strategies that practitioners can use to overcome limiting beliefs without compromising buy-in and patient compliance with treatment plans.

Finally, additional research should explore other marketplace-mediated experiences of pain such as the function of pain experienced during exercise and sporting endeavors or when receiving tattoos and esthetic services (e.g., Botox, body hair removal). How do marketplace actors make sense of pain in such settings and what role does it play in influencing marketing outcomes such as customer satisfaction, loyalty, and word of mouth? Given that consumers have different goals in each of these settings, how does pain facilitate or imped consumers from achieving these goals? Overall, there remains a plethora of opportunities to study how consumers make sense of market-mediated pain, how it shapes consumer evaluations of services involving pain and those providing them, and how it impacts the dynamics between marketplace actors and the practices they use to manage customer expectations.

2.7. Conclusion

Although it is widely acknowledged that pain is the most common reason for seeking out healthcare services and that pain is often experienced while consuming healthcare (Andiappan, 2023; Berry et al., 2022), surprisingly little research focuses on the meanings ascribed to pain in this context. To our knowledge, we are the first to investigate how pain as experienced through physical touch with physical therapists is interpreted, impacts patient-practitioner relationships, and influences professional

practices of assessment and treatment. In doing so, we highlight three key findings that demonstrate the importance of pain for both practitioners and researchers. First, pain is often viewed as a source of information for consumers as they navigate the complexities of healthcare services. Specifically, diagnostic pain and therapeutic pain serve different functions: pain moves from a widely accepted expectation in the assessment to a preference that varies between consumers and practitioners during treatment. Second, through diagnostic pain, healthcare practitioners can demonstrate their competency, validate patient concerns and build trust with their patients. Thus, healthcare practitioners should not underestimate the vital role that pain plays in the diagnostic process and should capitalize on opportunities to touch and manipulate their patients' pain.

Finally, even in the highly regulated and knowledge-intensive field of healthcare, market forces and consumer trends play an important role in shaping professional practices, including the management of pain during physical therapy service provision. Balancing patient expectations with expert knowledge and changing clinical guidelines remains a challenge for physical therapists and other practitioners delivering credence services that warrants solutions like Physio Candy. These strategies, while imperfect, function to preserve the patient-practitioner relationship, establish trust, and generate buy-in for the processes that generate results over time. Together these findings demonstrate the important role of managing patient expectations about pain, a construct that has so far been underappreciated in research and practice. Future work is necessary to continue to explore the nuances of how pain impacts marketing outcomes and consumer experiences in diverse industries.

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Paper 3.

No Pain, No Repatronage: When Treatment Pain Increases Treatment Repatronage Intentions

3.1. Introduction

Pain represents an interesting consumer paradox. On the one hand, the investigation and management of pain is the primary motivation for individuals to seek out healthcare services (McMahon et al., 2013). On the other, many of the services marketed as providing relief for painful conditions may themselves cause pain (Babatunde et al., 2017). For example, common treatments for low back pain, the leading cause of disability worldwide and the second most common reason for missing work after the common cold (Hartvigsen et al., 2018), may themselves illicit pain, including manual therapies (e.g., massage, mobilizations, adjustments), rehabilitation exercises (e.g., stretching, range of motion, rehabilitation exercises), and dry needling (e.g., acupuncture, intramuscular stimulation). How then do consumers reconcile the consumption of additional pain to alleviate pre-existing pain? What level of pain (if any) is desirable in these situations, and how does pain impact customer evaluations of these services, which are ultimately marketed to provide pain relief?

Our research investigates these questions by exploring the relationship between pain experienced in the treatment of pre-existing musculoskeletal pain and consumers' willingness to seek out such treatment in the future (that is, their treatment repatrongage intentions). Through this research, we make three key contributions. First, our work advances consumer research on pain, a phenomenon that has been understudied and undertheorized to date (Cova, 2021; Kastanakis et al., 2022). The small body of marketing research on pain either conflates symbolic or emotional forms of pain (e.g., pain of paying; consuming negative emotions) with physical pain (Andrade & Cohen, 2007; Cheng et al., 2017; Rick et al., 2008) or else ignores gradations in the intensity of pain (e.g., Kramer et al., 2012; Liu et al., 2018). This implicit homogenization of pain and its consumer impacts consequently ignores the phenomenology of pain, including how consumers interpret and respond to pain that differs in its intensity or originating location. In addressing these issues, our research identifies for the first time an inverted U-shaped

relationship between musculoskeletal pain and consumer responses to pain (in the form of treatment repatronage intentions) while also determining that pain arising from other tissues of the body (e.g., skin and mouth) elicits a different pattern of consumer response.

Second, our work contributes to a greater understanding of the inferential strategies that consumers use when they have incomplete information to objectively assess a service offering. To our knowledge, our results are the first to show that physical pain may sometimes be used by consumers as a positive signal for evaluating healthcare services, which, in our research, manifests in their treatment repatronage intentions. This has important implications not only for healthcare professionals looking to encourage compliance with treatment plans over multiple visits (Babatunde et al., 2017) but also for understanding when consumers attach a positive valence to an objectively negative stimuli. We also find that the relationship between pain and repatronage intentions is moderated by the degree to which consumers ascribe to the "no pain, no gain" lay belief, which emerged from the sport and exercise community to describe contexts where stress or discomfort is a necessary precondition for growth (Jia & Wyer, 2022; Kramer et al., 2012). Our findings suggest that consumers do not just employ this belief to conceptualize muscle growth through exercise; they also employ it to frame their perceptions of muscle-related treatments.

Finally, our work responds to multiple calls for impactful business research to improve consumer wellbeing and the health of our societies (e.g., Anderson & Ostrom, 2015; Berry, 2019; Danaher & Gallan, 2016). Since our research focuses on treatments for musculoskeletal conditions like low back pain, which are associated with decreased quality of life, prescription dependence, and poor mental health, our work offers a range of practical implications (Hagemeier, 2018). For example, when patients adhere to treatment with healthcare professionals like physical therapists and massage therapists, it decreases their reliance on potentially dangerous medications like opioids (Rhon et al., 2018; Sun et al., 2018), which were responsible for nearly 76,000 overdose deaths in 2020 in the US alone (Humphreys et al., 2022). By better understanding the role of pain in customer evaluations of these healthcare services, the present research provides guidance for service providers on how to generate buy-in for non-pharmaceutical and non-invasive treatments for the management of pain. Furthermore, since pain is commonly experienced as part of treatments designed to eliminate pre-existing pain

(Hartvigsen et al., 2018; Jette & Delitto, 1997), it is important that healthcare professionals understand consumer expectations and beliefs about pain so that such expectations and beliefs can be appropriately managed.

3.2. Literature Review and Theoretical Framework

3.2.1. What is Pain?

Pain serves a survival function by providing a warning of potential dangers (Brand & Yancey, 2020), yet individual experiences of pain can vary greatly, with the same painful stimulus producing different perceptions of pain both within and among individuals (Carlino & Benedetti, 2016; Moseley & Arntz, 2007). Various intrapersonal and interpersonal influences have been found to affect perceptions of pain, including genetic predispositions to processing and sensing pain (Miaskowski, 2009), memories of past painful experiences alongside the contemporaneous emotions they elicited (Raja et al., 2020), and the environmental, social, and cultural context in which pain is experienced (Borrell-Carrió et al., 2004). While we recognize that pain is subjective and can be influenced by psychological and social factors, physical pain – as distinct from feelings of grief, sadness, fear, loss, and heartbreak – is the focus of the present investigation. As such, we adopt the definition of pain proposed by the International Association for the Study of Pain, which views pain from a medical perspective and defines it as “an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage” (Raja et al., 2020, p. 1976). While this definition characterizes pain as unpleasant experience, we demonstrate that it is not always an unwanted sensation when consuming healthcare services.

3.2.2. Credence Goods and Healthcare Services

As averred to by Watson et al. (2023), and based on Nelson (1970), offerings – whether goods or services – can be classified as either *search* (an offering that needs to be searched for and found in order to judge its quality) or *experience* (offerings that need to be consumed before its quality can be evaluated). Darby & Karni (1973) extended this classification to include a third category, namely *credence* offerings, that are “expensive to judge even after purchase” (p. 69). Such offerings are those for which quality cannot

be ascertained through search and cannot be realistically judged after their purchase and consumption (Howden & Pressey, 2008).

Healthcare services are commonly conceptualised as a form of credence offering (Gottschalk et al., 2020; Lantzy et al., 2021). Due to the extensive training that physicians and other healthcare professionals complete over the course of their careers, extensive information asymmetries usually exist between healthcare professionals and healthcare consumers (Berry & Bendapudi, 2007). Such a situation is common with credence services (Hsieh et al., 2005; Kirmani & Rao, 2000) and can hinder consumers' ability to evaluate the quality of the healthcare services they receive. The risks and uncertainties associated with credence offerings may also be amplified for healthcare services given that the provision of healthcare is usually a highly personal and vulnerable experience (Berry et al., 2022). At the same time, healthcare is often complex, interactive, and long-term in nature (Dagger et al., 2007), which further adds to the ambiguity that consumers experience when trying to evaluate medical treatments. Thus, the quality and value of healthcare services may never be fully known to consumers, even after treatment has been completed. For these reasons, consumers commonly turn to other methods for evaluating healthcare services.

3.2.3. Consumer Evaluations of Healthcare Services

Various cues are used by consumers to evaluate healthcare. For instance, consumers may judge the quality and efficacy of healthcare services based on non-clinical factors such the aesthetics of the facility (Blasi et al., 2001), the characteristics of the healthcare practitioner, including their perceived warmth or competency (Seewald & Rief, 2023), the form of treatment they receive (Buckalew & Coffield, 1982; Kaptchuk et al., 2000), and the price of those treatments (Waber et al., 2008). When treatment effectiveness is improved by these and other factors not known to objectively impact treatment outcomes, researchers term this a placebo effect, which is thought to result, at least in part, from consumer expectations (Atlas & Wager, 2012; Benedetti, 2020; Rief et al., 2008; Tracey, 2010).

Consumer expectations are beliefs about what will occur in a healthcare encounter (Colloca & Miller, 2011b; Patterson et al., 2014). Such expectations are formed through some combination of consumers' previous healthcare experiences,

information obtained from the internet and other sources, sociocultural factors including the influence of family and friends, and personal preferences (Benedetti, 2020; Colloca & Benedetti, 2006; Colloca & Miller, 2011a). While most consumers have an expectation that medical treatment will ultimately deliver pain relief (Kalauokalani et al., 2001), they may also expect a certain level of pain to be experienced *during* treatment, particularly when it comes to managing musculoskeletal pain (Sherman et al., 2006). For instance, in massage therapy, consumers may expect to experience some pain as pressure is applied to their muscles (Liu et al., 2018). This is particularly relevant for certain types of massage, with deep tissue massage and sports massage generally believed to be more intense – and by extension, more painful – than relaxation and Swedish massage techniques (Koren & Kalichman, 2018; Sherman et al., 2006). Furthermore, beliefs about pain during massage are evident in the colloquial language used to describe massage therapy, with some individuals positively describing their experience of pain during massage as “good pain,” “delicious pain,” or “relieving pain” (Debutify, 2023; Hume, 2017; Madore & Kahn, 2008). Such phrasing is reflective of a common consumer belief that a good massage must hurt, at least to some degree.

Expectations about pain may influence how consumers respond to service encounters with massage therapists and other healthcare professionals that treat musculoskeletal conditions (Bialosky et al., 2010; Thompson & Sunol, 1995). We focus our inquiry on treatment repatronage, or the willingness of consumers to return for additional treatments. Treatment repatronage is particularly relevant to the management of musculoskeletal conditions since more than one session of treatment is usually necessary to achieve clinically meaningful outcomes (Elder et al., 2017). If encountering some degree of pain through massage is commonly conceptualized as “good pain” (Field, 2014; Hume, 2017; Madore & Kahn, 2008; Sherman et al., 2006), it follows that some pain may actually increase treatment repatronage. However, a threshold is likely to exist, beyond which the value of “good” pain disappears and is replaced by an exclusively aversive experience. This, in turn, would negatively affect treatment repatronage. Thus, we propose an inverted U-shaped relationship between pain experienced *during* musculoskeletal treatment (termed ‘treatment pain’) and treatment repatronage:

> **H1:** An inverted U-shaped relationship exists between musculoskeletal treatment pain and treatment repatronage intentions, with repatronage

intentions higher for moderate treatment pain relative to: (a) light treatment pain; and (b) intense treatment pain.

We propose that this inverted U-shaped relationship is explained by two mechanisms: treatment efficacy and practitioner competency.

3.2.4. Mediating Effect of Treatment Efficacy

As outlined in the previous section, experiencing pain during treatment may be used by consumers as a means for evaluating the efficacy of certain treatments. For the treatment of musculoskeletal conditions, a review of the medical literature suggests that there may be some basis to this belief. Massages involving the application of moderate pressure, for instance, tend to be superior to those involving the application of light pressure across a range of clinical indicators, including addressing existing musculoskeletal pain in the upper and lower extremities and in the spine (Baumgartner et al., 2023; Field et al., 2013, 2014, 2015; Wu et al., 2022). The application of moderate pressure through massage has also been found to decrease heart rate and cortisol levels, enhance serotonin and dopamine levels, inhibit pain responses, and improve symptoms of depression and anxiety (Field et al., 2005; Sefton et al., 2011).

While the exact mechanism underlying these effects is unknown and may stem from placebos and expectancies (Gasibat & Suwehli, 2017; Madore & Kahn, 2008), they suggest that the intensity of treatment-based pain is associated with the efficacy of treatments applied to the musculoskeletal system. Thus, we hypothesize that perceived treatment efficacy will explain the inverted U-shaped relationship between treatment pain and treatment repatronage:

> **H2:** Perceived treatment efficacy will: (a) positively mediate the relationship between light vs. moderate musculoskeletal treatment pain and treatment repatronage intentions; and (b) negatively mediate the relationship between moderate vs. intense musculoskeletal treatment pain and treatment repatronage intentions.

3.2.5. Mediating Effect of Practitioner Competency

Practitioner competency is an important characteristic that consumers consider, not only because of the informational asymmetries inherent to healthcare (Berry et al., 2004; Berry et al., 2022) but also due to the service dimension that underpins most

healthcare interactions (Berry, 2019; Danaher & Gallan, 2016; McColl-Kennedy et al., 2012). Indeed, while competency may be attributed to health practitioners, like other services, health practitioners and the service they deliver are inseparable aspects of the healthcare encounter (Berry & Bendapudi, 2007; Gruber & Frugone, 2011). Thus, the level of pain experienced as part of medical treatment may have probative value in assessing certain characteristics of the health practitioner, including their competency.

When it comes to treatments for musculoskeletal pain such as massage, we have already established that consumers expect to experience some pain, and that pain is likely related to evaluations of treatment efficacy. Furthermore, in the case of massage, there is empirical evidence that a moderate level of pressure – which typically manifests as pain – is necessary for achieving beneficial clinical outcomes (Diego & Field, 2009; Field et al., 2010, 2013, 2015). Thus, if a health practitioner does not deliver a treatment that involves some pain, consumers may question their clinical competency. Similarly, consistent with the hypothesized inverted U-shaped relationship whereby intense levels of pain are construed as detrimental, if a health practitioner delivers too much pain, consumers may view this as an indication of clinical incompetency. Considering the importance of both the qualities of the health professional and the treatment itself to evaluations of healthcare services (Benedetti, 2013, 2020; Lantzy et al., 2021), we investigate perceived competency as a parallel mediator (along with perceived treatment efficacy) and hypothesize the following:

> **H3:** Perceived competency of the health practitioner will: (a) positively mediate the relationship between light vs. moderate musculoskeletal treatment pain and treatment repatronage intentions; and (b) negatively mediate the relationship between moderate vs. intense musculoskeletal treatment pain and treatment repatronage intentions.

3.2.6. Moderating Role of "No Pain, No Gain"

Given the uncertainty and lack of public understanding about healthcare services, individuals commonly employ lay beliefs to make sense of these consumption situations. Lay beliefs (also called lay views, lay theories, naïve beliefs, or naïve theories; see Argyle, 2013) are implicit, informal, and common-sense explanations that individuals construct about the causes and consequences of many phenomena. Despite

the fact that lay beliefs often contradict each other and tend to have little to do with scientific theories (Zedelius et al., 2017), they have been shown to influence judgements, decisions, and behaviors, especially in the health domain (Bunda & Busseri, 2019; Catlin et al., 2015; McFerran & Mukhopadhyay, 2013).

One such lay belief, which we term “no pain, no gain” (henceforth referred to as NPNG), may represent an explanation for why some consumers may be especially accepting of pain encountered during treatments to the musculoskeletal system. The NPNG lay belief was popularized by Jane Fonda in the 1980s as an exercise motto that illustrates the importance of stressing the muscles to fatigue to stimulate hypertrophy or muscle growth (Cheung et al., 2003; Kramer et al., 2012). The widespread influence of the NPNG motto and the associated positive framing of muscle-based pain in the exercise and sporting marketplace (Dubreuil & Dion, 2019; Lev, 2023; McNarry et al., 2020) likely resulted in some individuals being socialized to believe that muscle-based pain is advantageous in related contexts, such as when consuming treatments for musculoskeletal conditions. This reflects the complexity of the construct of pain, which is highly influenced by psychological, social, and cultural factors (Borrell-Carrió et al., 2004).

Evidence from the consumption of medical products suggests that some consumers may also employ the NPNG lay belief as a judgement heuristic beyond the application of pain to the muscles. For example, Kramer et al. (2012) demonstrate evidence for the NPNG lay belief by noting that some consumers judge pharmaceuticals to be more effective when advertised as having detrimental side effects or attributes. In another more recent study, the NPNG belief was shown to impact decision-making about dietary supplements and mitigated the perceived risks of supplements with multiple verses single ingredients (Homer & Mukherjee, 2019). While neither of these studies specifically manipulated pain directly or explored pain at varying intensities, the fact that consumers employ the NPNG lay belief when consuming health and wellness products suggests that they may also be compelled to do so when making judgements of healthcare services. Moreover, since the NPNG belief gained popularity in association with muscle pain, we suspect that it is especially relevant to evaluations of treatments involving the musculoskeletal system.

Based on this reasoning, we expect that ascribing to the NPNG lay belief will change how intense treatment pain is interpreted, attenuating the inverted U-shaped relationship that would otherwise exist between treatment pain and treatment repatronage intentions. Specifically, we predict that by virtue of the value they attach to pain, consumers who hold the NPNG lay belief will more positively conceptualize intense pain, minimizing the difference in treatment repatronage intentions that would otherwise occur between moderate and intense treatment pain. Thus, we hypothesize the following:

> **H4:** The NPNG lay belief attenuates the inverted U-shaped relationship between musculoskeletal treatment pain and treatment repatronage intentions such that at intense (vs. moderate levels) levels of treatment pain, those who strongly endorse the NPNG lay belief will report greater repatrongage intentions than those who do not.

3.2.7. Moderating Effect of Treatment Location

The effects that have been hypothesized thus far focus on pain experienced in the treatment of musculoskeletal conditions, such as back pain. We propose that in such situations, more pain may be preferred to less pain, particularly amongst consumers who ascribe to the NPNG lay belief. Inherent in our hypotheses is the notion that there is something different about painful treatments applied to the musculoskeletal system when compared with those applied to other tissues of the body, such as the skin, mouth, and internal organs. This begs the question: is more pain acceptable, but only when applied to the muscles?

Besides the fact that different bodily tissues are being stimulated in muscle vs. non-muscle-based treatments, humans may have an evolutionarily derived tolerance for muscle-related pain. Consider that individuals commonly experience burning, heaviness, and discomfort in their muscles not only from exercise but also from everyday activities, like walking upstairs. This is the result of the normal physiological process associated with muscle fatigue and the build-up of metabolic byproducts, which may persist for days following exercise (Dannecker & Koltyn, 2014; Miles & Clarkson, 1994). Many individuals have consequently developed positive associations with this post-exercise soreness and use it as a benchmark for the quality of a workout (Lev, 2023; McNarry et al., 2020).

Furthermore, positive associations between pain and muscle exertion are also evidenced by what is colloquially known as the “runner’s high,” which is a direct evolutionary mechanism for helping humans attach a positive valence to what would otherwise be a painful stimulus (i.e., pain and fatigue) through the release of mood enhancing brain chemicals during intense muscle exertion (Boecker et al., 2008).

Thus, pain routinely accompanies regular muscle use and is often viewed positively. The same is not true of pain experienced in other tissues of the body. For example, dental pain does not regularly accompany use of the teeth *unless* there is an underlying issue, such as infection or other dental condition (Oghli et al., 2020; Zakrzewska, 2013). Similarly, skin pain does not regularly accompany touch and sensory interaction with the external environment *unless* the skin has been punctured, disrupted, or irritated in some way (Haq et al., 2009; Kini et al., 2011). Finally, internal organ pain does not regularly accompany normal organ functioning like processing food or detoxifying the blood *unless* there is some underlying illness or organ dysfunction (Stoker et al., 2009; van den Beuken-van Everdingen et al., 2007).

Just as expectations about musculoskeletal treatments are likely informed by perceptions of musculoskeletal pain, so too for expectations about treatments involving other bodily systems. Indeed, given that pain rarely accompanies normal bodily processes beyond the muscles, consumers are likely to be far more attentive to and concerned about the experience of pain for non-musculoskeletal treatments. This is especially so with the advent of analgesics and anesthetics, which have shaped consumer expectations about how treatments applied to non-muscular tissues should be managed (Bourke, 2014; Collier, 2018). Thus, we suggest that treatment location will moderate the effect of treatment pain on treatment repatronage intentions:

> **H5:** The inverted U-shaped relationship between treatment pain and treatment repatronage intentions is present (absent) for musculoskeletal (non-musculoskeletal) treatment pain.

3.3. Research Overview

Three experimental studies were conducted to test the study hypotheses. Study 1 – 3 evaluated the direct effect of treatment pain on treatment repatronage intentions, with Study 1 and 2 testing whether this effect was moderated by the NPNG lay belief and Study 3 examining whether this effect was moderated by treatment location. The mediating effects of treatment efficacy and practitioner competency were also examined in Study 2. Finally, Study 1 ruled out treatment reason as a potential moderator of the relationship between treatment pain and treatment repatronage intentions.

3.3.1. Study 1

Pretest

A pretest was first conducted to confirm that the application of varying levels of pressure in a massage treatment context effectively operationalized pain. Pressure intensity was used as a proxy for pain, for several reasons. First, the manual application of varying levels of pressure to the muscles is both the focus of massage and other common musculoskeletal treatments as well as the originating stimulus for any pain that consumers may feel during those treatments (Imamura et al., 2012). Second, consumers vary considerably with respect to their sensitivity to pain such that a level of pressure intensity that may be painful for some consumers may not be for others (Ruscheweyh et al., 2009). Differing the intensities of pressure applied in a massage context consequently allowed us to control for such variations. Third, using pressure allowed us to avoid potential confusion among participants between pre-existing pain (which, in some of our scenarios was presented as the motivation for seeking treatment) and pain experienced during treatment itself.

One hundred and fifty participants (46.70% female) aged between 18 and 67 years (M = 33.53, SD = 11.21) and residing in the US were recruited through Prolific Academic, an online participant recruitment platform that has been found to generate good quality data (Peer et al., 2022). Participants were then randomized to one of three scenarios that differed with respect to the level of pressure applied during a massage (see Supplementary Information section). After reading the scenario, participants separately rated how much pain and discomfort they would associate with the pressure

the massage therapist was applying on a 5-point scale ranging from (1) no pain/discomfort to (5) an extreme amount of pain/discomfort, with responses subsequently averaged to produce a two-item scale capturing expectations of pain ($r(148) = .83$, $p < .001$). Participants also completed Ruscheweyh et al.'s (2009) pain sensitivity scale ($\alpha = .85$) and rated how much they liked going for massages (1 = not at all; 7 = a great deal) before recording their age and gender.

A one-way ANOVA revealed that pressure had a significant main effect on expected pain ($F(2,147) = 98.06$, $p < .001$, $\eta_p^2 = .57$).[5] Follow-up Tukey HSD post-hoc comparisons showed that intense pressure ($M = 3.00$, $SD = 0.74$) generated significantly higher levels of expected pain than both moderate pressure ($M = 1.91$, $SD = 0.63$; $p < .001$) and light pressure ($M = 1.28$, $SD = 0.46$; $p < .001$), with moderate pressure also generating significantly high levels of expected pain than light pressure ($p < .001$). Thus, pressure provided an effective operationalization of pain such that the greater the intensity of pressure applied during massage, the greater the expected level of pain.

Method

Participants

For the main study, six hundred participants residing in the US were recruited via Prolific. Of these, 540 participants (female = 53.10%) aged between 18 and 79 years ($M = 38.24$, $SD = 14.18$) successfully completed both attention checks (90% success rate) and formed the basis of all subsequent analyses.

Procedure

Participants were randomized to a 3 (treatment pressure: light vs. moderate vs. intense) × 2 (treatment reason: medical vs. hedonic) between-subjects study design. Following Wells and Windschitl (1999), we used stimulus sampling to explore different contexts in which our construct of interest (pain) may be encountered (Judd et al., 2012; Monin & Oppenheimer, 2014). Since massages are experienced in both medical (e.g., clinics) and non-medical or hedonic settings (e.g., spas, resorts), this approach allowed us to rule out the reason for massage (medical vs. hedonic) as a moderator.

[5] The results remained significant and followed the same pattern when this analysis was repeated using ANCOVA with the following covariates: age, gender, pain sensitivity, and liking of massage. For this reason, the ANOVA results are reported in the body of the paper.

Furthermore, stimulus sampling is preferred over experiments that only use a single stimulus since it adds complexity and increases generalizability (Hughes & Huby, 2004).

After reading the scenario to which they had been randomly assigned (see Supplementary Information section), participants completed three items (α = .92) adapted from Dagger, Sweeney, and Johnson (2007) to assess treatment repatronage intentions: “If I needed massage treatment again, I would want to come to this registered massage therapist”, “I would continue having treatment, or any follow-up care I needed, with this registered massage therapist”, and “I would have no desire to change registered massage therapists”. Participants responded to each item using a 7-point scale ranging from (1) strongly disagree to (7) strongly agree.

Participants also completed a four-item scale (α = .87) based on the work of Homer and Mukherjee (2019) to explore the moderating effect of the NPNG lay belief. Specifically, participants were asked to rate the extent to which they agreed (1 = strongly disagree; 7 = strongly agree) with the following statements: “What does not kill you makes you stronger,” “The pain you experience is proportional to the reward you get,” “You must suffer before you can succeed,” and “Nothing can be achieved without pain.”

As with the pretest, participants also completed the two-item scale indicating the amount of pain and discomfort they would associate with the pressure described in the scenario. Then, participants completed the pain sensitivity scale (α = .90) and indicated their age and gender as well as how much they liked massages (1 = not at all; 7 = a great deal). As additional control measures, participants were asked to report whether they currently had back pain (yes/no) and the intensity of their back pain (1 = none at all; 7 = a significant amount). Finally, two attention check questions were presented to participants midway through the experiment as per best practice for conducting online experiments (Oppenheimer et al., 2009). One of the attention check questions asked participants to indicate the reason for seeing the massage therapist as presented in the scenario, while the other asked participants to report the intensity of the pressure as presented in the scenario.

Results and Discussion

Manipulation Check

As with the pretest, a one-way ANOVA was conducted as a manipulation check to determine that treatment pressure did indeed influence expectations of pain. Results indicated a significant main effect for pressure ($F(2,537) = 181.57$, $p < .001$, $\eta_p^2 = .403$), with follow-up Tukey HSD post-hoc comparisons indicating that intense pressure ($M = 3.09$, $SD = 0.91$) generated significantly higher levels of expected pain than both moderate pressure ($M = 2.04$, $SD = 0.74$; $p < .001$) and light pressure ($M = 1.53$, $SD = 0.68$; $p < .001$), with moderate pressure also generating significantly high levels of expected pain than light pressure ($p < .001$). Thus, increasing levels of treatment pressure once again successfully increased expectations of pain.

Direct Effect of Treatment Pressure

A 3 (treatment pressure: light vs. moderate vs. intense) × 2 (treatment reason: medical vs. hedonic) independent measures ANOVA indicated that pressure had a significant main effect on treatment repatronage intentions ($F(2,534) = 25.37$, $p = <.001$, $\eta_p^2 = .087$). Follow-up Tukey HSD post-hoc comparisons showed that repatronage intentions were higher for participants assigned to the moderate pressure condition ($M = 5.10$, $SD = 1.75$) relative to those assigned to the light pressure ($M = 4.26$, $SD = 1.53$; $p < .001$) and intense pressure conditions ($M = 4.03$, $SD = 1.76$; $p < .001$). However, repatronage intentions did not differ ($p = .32$) between those assigned to the light and intense pressure conditions.[6] The ANOVA results also indicated that neither treatment reason ($F(1,534) = 0.79$, $p = .375$, $\eta_p^2 = .001$) nor the treatment reason × treatment pressure interaction ($F(2,534) = 1.42$, $p = .24$, $\eta_p^2 = .005$) had significant effects on treatment repatronage intentions. Thus, consistent with H1a and H1b, an inverted U-shaped relationship was observed such that treatment repatronage intentions were greatest for moderate treatment pressure relative to light and intense treatment pressures (see Figure 3.1).

[6] The results remained significant and followed the same pattern when this analysis was repeated using ANCOVA with the following covariates: age, gender, pain sensitivity, liking of massage, presence of low back pain, and amount of low back pain. For this reason, the ANOVA results are reported in the body of the paper.

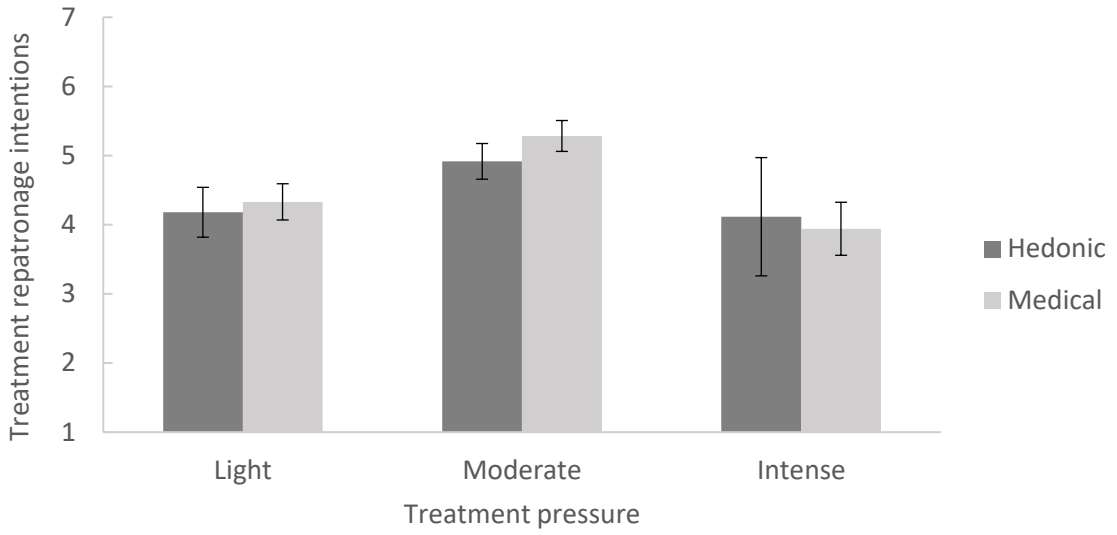

Figure 3-1. Relationship between treatment pressure and treatment repatronage intentions by treatment reason (Study 1).
Note: error bars denote 95% confidence intervals.

Moderating Effect of the NPNG Lay Belief

PROCESS (Andrew F Hayes, 2013) Model 1 was then used to assess the moderating effect of the NPNG lay belief on the relationship between treatment pressure and treatment repatronage intentions, with treatment reason collapsed given its non-significant effect on treatment repatronage intentions.[7] For light (vs. moderate) pressure, inspection of the 95% confidence intervals indicated that treatment repatronage intentions did not differ between those with low NPNG (-1 SD; *b* = -0.67, 95% CI [-1.09, -0.25]) and high NPNG (+1 SD; *b* = -1.02, 95% CI [-1.44, -0.60]). However, for intense (vs. moderate) pressure, those with low NPNG (-1 SD; *b* = -1.82, 95% CI [-2.25, -1.37]) reported significantly lower treatment repatronage intentions than those with high NPNG (+1 SD; *b* = -0.32, 95% CI [-0.75, 0.11]; see Figure 3.2). Moreover, as this last point estimate suggests, participants ascribing to the NPNG lay belief who were allocated to the moderate or intense pressure conditions reported equivalent treatment repatronage intentions. Thus, consistent with H4, ascribing to the NPNG lay belief had an insulating

[7] The results remained significant and followed the same pattern when this analysis was repeated running PROCESS Model 1 with the following covariates: age, gender, pain sensitivity, liking of massage, presence of low back pain, and amount of low back pain. For this reason, the PROCESS Model 1 results without covariates are reported in the body of the paper.

effect on the reduction in treatment repatronage intentions that would normally otherwise accompany the application of intense (vs. moderate) levels of pressure.

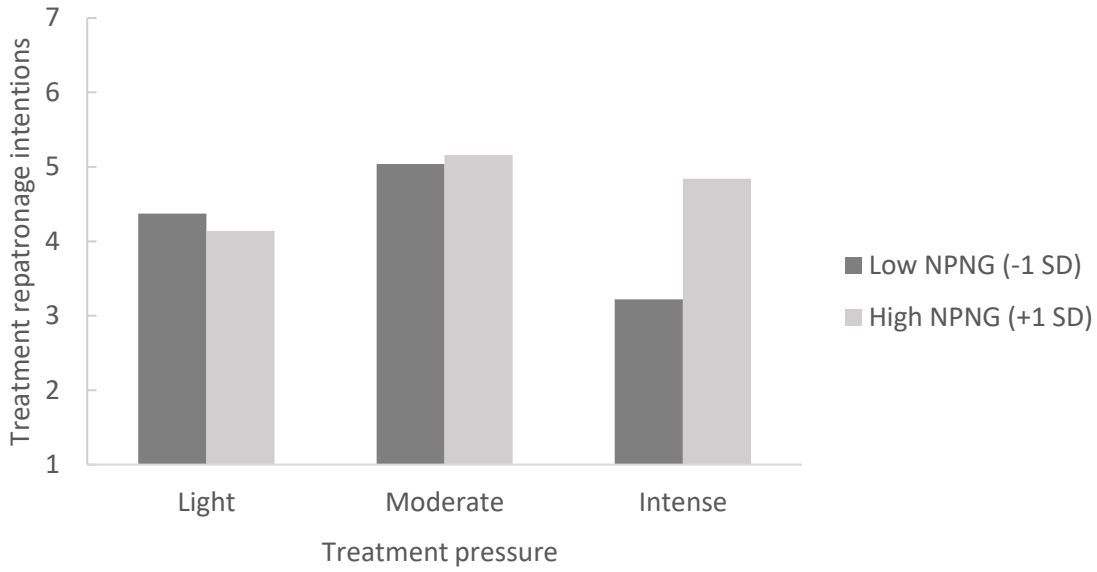

Figure 3-2. Moderating influence of NPNG lay belief on the relationship between treatment pressure and treatment repatronage intentions (Study 1).

3.3.2. Study 2

Study 1 established that an inverted U-shaped relationship exists between treatment pressure and treatment repatronage intentions, and that this relationship is attenuated among those who ascribe to the NPNG lay belief. The purpose of Study 2 was therefore to establish the mechanism underpinning these effects by exploring the mediating roles of perceived treatment efficacy and perceived practitioner competency.

Method

Participants

Three hundred US-based participants were recruited using Prolific Academic. Of these, 283 participants (female = 62.90%) ranging from 18 to 76 years of age (M = 35.98, SD = 13.62) successfully completed both attention checks (94% success rate) and formed the basis of all subsequent analyses.

Procedure

Participants were randomized to a single factor (treatment pressure: light vs. moderate vs. intense) study design. After reading the scenario to which they had been randomly assigned (see Supplementary Information section), participants completed a three-item scale (α = .97) adapted from Kramer et al. (2012) to assess treatment efficacy. Specifically, participants were asked to answer the following questions on a scale ranging from (1) not at all to (7) very: “How effective do you think the massage treatment would be?”, “How useful do you think the massage treatment would be?”, and “How worthwhile do you think the massage treatment would be?” Participants also completed a three-item practitioner competency scale (α = .96) that required them to rate their agreement (1 = strongly disagree; 7 = strongly agree) with the following statements: “I believe this registered massage therapist is competent”, “I think this registered massage therapist knows what they’re doing”, and “I consider this registered massage therapist to be skilled at what they do.” Participants then completed the same treatment repatronage (α = .94), NPNG (α = .86), pain sensitivity (α = .89), attention check, and demographic items used in Study 1.

Results and Discussion

Manipulation Check

As with Study 1, a one-way ANOVA was conducted as a manipulation check to determine that treatment pressure did indeed influence expectations of pain. Results indicated a significant main effect for pressure ($F(2,280) = 118.66$, $p < .001$, $\eta_p^2 = .459$), with follow-up Tukey HSD post-hoc comparisons indicating that intense pressure (M = 3.21, SD = 0.85) generated significantly higher levels of expected pain than both moderate pressure (M = 2.30, SD = 0.65; $p < .001$) and light pressure (M = 1.59, SD = 0.68; $p < .001$), with moderate pressure also generating significantly higher levels of expected pain than light pressure ($p < .001$). Thus, increasing levels of treatment pressure successfully increased expectations of pain.

Direct Effect of Treatment Pressure

A one-way ANOVA was used to assess the effect of pain (operationalized as pressure) on treatment repatronage intentions. Once again, the effect of treatment pressure was significant (F (2,280) = 13.21, p = <.001, η_p^2 = .086), with post-hoc Tukey

HSD tests indicating significant differences between the light pressure (M = 4.03, SD = 1.70) and moderate pressure conditions (M = 5.21, SD = 1.31; p < .001) as well as between the moderate pressure and intense pressure conditions (M = 4.33, SD = 1.69; p < .001; see Figure 3.3). However, as with Study 1, no difference in treatment repatronage intentions were observed between the light and intense pressure conditions (p = .42).[8]

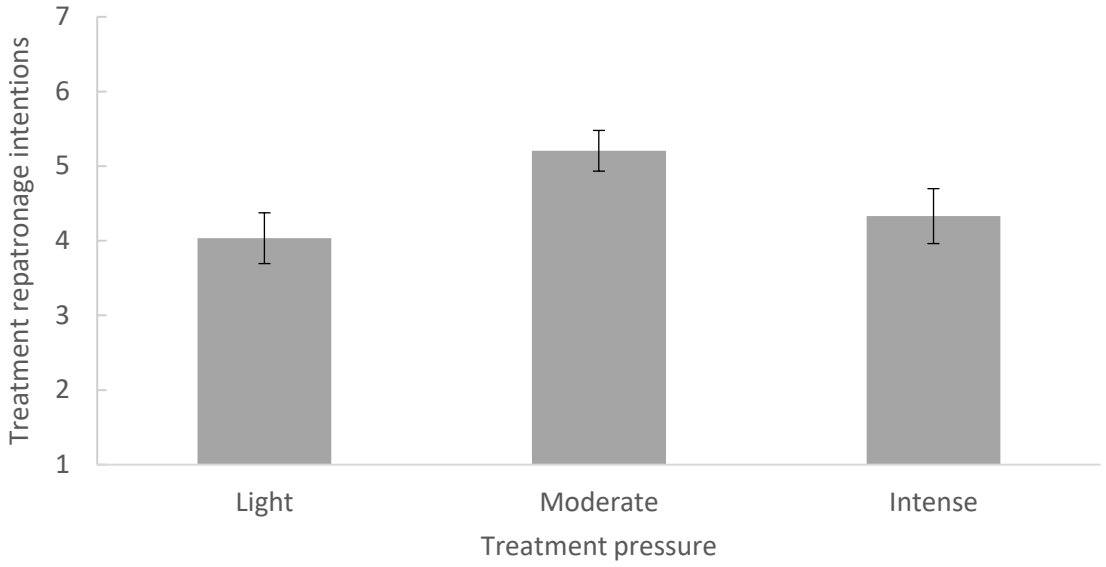

Figure 3-3. Relationship between treatment pressure and treatment repatronage intensions (Study 2).
Note: error bars denote 95% confidence intervals.

Mediating Effects of Practitioner Competence and Treatment Efficacy

PROCESS Model 4 was then used to test the parallel mediating effects of perceived practitioner competence and perceived treatment efficacy on the relationship between treatment pressure and treatment repatronage intentions. Results indicated that the indirect effect of competence was significant for both light (vs. moderate) pressure (effect = -0.61, 95% CI [-0.91, -0.33]) and intense (vs. moderate) pressure (effect = -0.32, 95% CI [-0.62, -0.05]), which is consistent with H3a and H3b, respectively. Conversely, while the indirect effect of efficacy was significant for light (vs. moderate) pressure (effect = -0.47, 95% CI [-0.71, -0.25]), it was not significant for intense (vs.

[8] The results remained significant and followed the same pattern when this analysis was repeated using ANCOVA with the covariates listed in footnote 3. For this reason, the ANOVA results are reported in the body of the paper.

moderate) pressure (effect = -0.10, 95% CI [-0.25, 0.02]).[9] This pattern of results suggests that while perceptions of treatment efficacy increase as pressure increases from light to moderate levels (consistent with H2a), they are not affected as pressure further increases from moderate to intense levels (inconsistent with H2b).

Moderating Effect of the NPNG Lay Belief

As with Study 1, PROCES Model 1 was then used to test the moderating effect of NPNG on the relationship between treatment pressure and treatment repatronage intentions.[10] Once again, for light (vs. moderate) treatment pressure, those with low NPNG (-1 SD; *b* = -0.87, 95% CI [-1.51, -0.23]) reported equivalent levels of treatment repatronage intentions as those with high NPNG (+1 SD; *b* = -1.45, 95% CI [-2.07, -0.84]). However, at intense (vs. moderate) treatment pressure, those with low NPNG (-1 SD; *b* = -1.61, 95% CI [-2.21, -1.01]) reported significantly lower treatment repatronage intentions than those with high NPNG (+1 SD; *b* = -0.07, 95% CI [-0.70, 0.57]). This final point estimate also indicated that among those with high NPNG, equivalent treatment repatronage intentions were reported by those assigned to the moderate and intense treatment pressure conditions. Thus, consistent with both H4 and the Study 1 results, ascribing to the NPNG lay belief insulated participants from the reduction in repatronage intentions that typically accompanies the application of intense (vs. moderate) levels of pressure (see Figure 3.4).

[9] The results remained significant and followed the same pattern when this analysis was repeated running PROCESS Model 4 with the covariates listed in footnote 3. For this reason, the PROCESS Model 4 results without covariates are reported in the body of the paper.

[10] The results remained significant and followed the same pattern when this analysis was repeated running PROCESS Model 1 with the covariates listed in footnote 3. For this reason, the PROCESS Model 1 results without covariates are reported in the body of the paper.

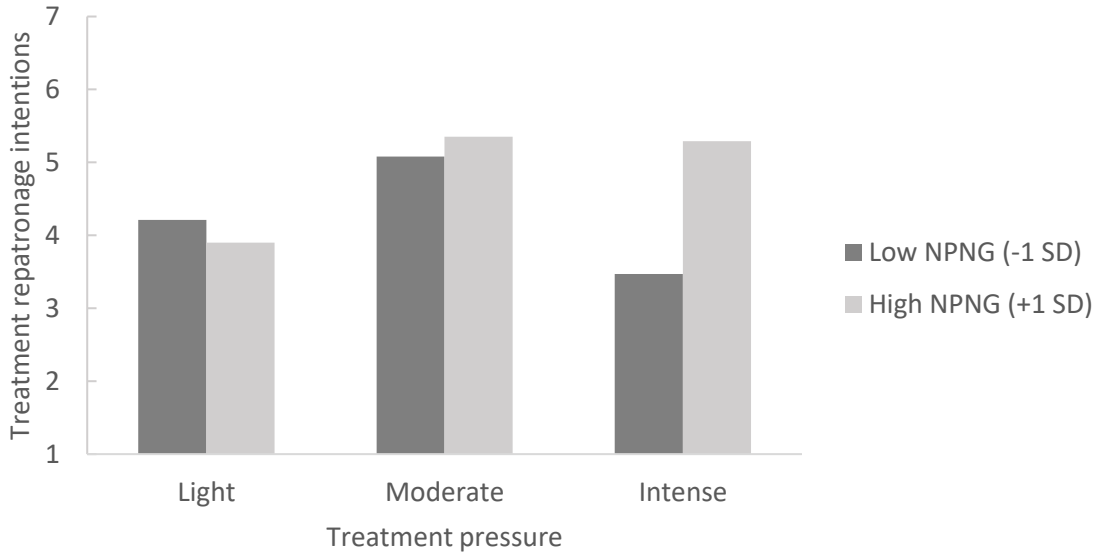

Figure 3-4. Moderating influence of NPNG lay belief on the relationship between treatment pressure and treatment repatronage intentions (Study 2).

3.3.3. Study 3

Study 1 and 2 established that treatment pressure has an inverted U-shaped relationship with treatment repatronage intentions, that this U-shaped relationship is explained by perceptions of treatment efficacy and practitioner competence, and that ascribing to the NPNG lay belief moderates this relationship. The aim of Study 3 was to explore a separate potential moderator of this relationship: treatment location.

Method

Participants

One thousand two hundred participants residing in the US were recruited using Prolific Academic. Of these, 1,114 participants (female = 57.50) aged between 18 and 86 years (*M* = 40.93 years, *SD* = 13.95) successfully completed both attention checks (93% success rate) and formed the basis of all subsequent analyses.

Procedure

Participants were randomized to a 3 (treatment pressure: light vs. moderate vs. intense) × 4 (treatment type: massage therapy (muscle) vs. physical therapy (muscle) vs. gum cleaning (non-muscle) vs. abscess draining (non-muscle)) between-subjects study design, with treatment type subsequently collapsed into two conditions based on

the location of the treatments (treatment location: muscle vs. non-muscle).[11] After reading the scenario associated with the condition they had been randomly assigned to (see Supplementary Information section), participants completed the same items used to assess treatment repatronage intentions (α = .93), treatment efficacy (α = .96), practitioner competency (α = .97), NPNG (α = .90), pain sensitivity (α = .90), attention check and control measures as per the previous studies.

Results and discussion

Manipulation Check

A two-way ANOVA was used to explore whether expected levels of pain differed by treatment pressure (light vs. moderate vs. intense) and treatment location (muscle vs. non-muscle). As with the previous studies, this manipulation check revealed a significant main effect of treatment pressure ($F(2,1111) = 425.81$, $p < .001$, $\eta_p^2 = .434$), with post-hoc tests demonstrating that increasing levels of pressure result in greater expected levels of pain. Notably, this pattern was also observed when analyzing the muscle ($F(2,560) = 198.44$, $p < .001$, $\eta_p^2 = .415$) and non-muscle ($F(2,548) = 245.26$, $p < .001$, $\eta_p^2 = .472$) treatment location conditions independently.

Moderating Effect of Treatment Location

A 3 (pressure: light vs. moderate vs. intense) × 2 (treatment location: muscle vs. non-muscle) independent measures ANOVA was then performed. While a significant main effect of treatment pressure was observed for repatronage intentions ($F(2,1108) = 149.71$, $p = <.001$, $\eta_p^2 = .213$), no such effect was found for treatment location ($F(1,1108) = 3.53$, $p = .060$, $\eta_p^2 = .003$). More importantly, and as hypothesized, a significant treatment pressure × treatment location interaction was found ($F(2,1108) = 47.85$, $p = <.001$, $\eta_p^2 = .080$).[8] Two independent measures ANOVAs were subsequently conducted to test the main effect of treatment pressure on repatronage intentions for

[11] Separate ANOVA tests exploring the main effect of pressure on repatronage intentions were conducted for each of the four treatment types. The analysis of each treatment type was found to be consistent with the broad pattern of findings when they were collapsed into the respective treatment location (muscle vs. non-muscle). For example, when massage therapy was analyzed individually the same pattern of results emerged as when massage therapy was analyzed together with the other muscle-based treatment, physical therapy. Thus, for simplicity, the results are reported in terms of treatment location with the two muscle-based treatment types (i.e., massage therapy and physical therapy) and the two non-muscle treatment types (i.e., gum cleaning and abscess draining) combined.

those participants assigned to the muscle (n = 563) and non-muscle (n = 551) treatment location conditions. For the muscle treatment location group, the ANOVA indicated that pressure had a significant main effect on treatment repatronage intentions (F(2,560) = 39.30, p = <.001, η_p^2 = .123). Follow-up Tukey HSD post-hoc comparisons showed that repatronage intentions were higher for participants assigned to the moderate pressure condition (M = 5.53, SD = 1.04) relative to those assigned to the light pressure (M = 4.81, SD = 1.41; p < .001) and intense pressure conditions (M = 4.03, SD = 1.76; p < .001). Furthermore, repatronage intentions were significantly higher for the light pressure compared with the intense pressure condition (p < .001).[12]

For the non-muscle treatment location group, the ANOVA indicated that pressure also had a significant main effect on treatment repatronage intentions (F(2,548) = 144.11, p = <.001, η_p^2 = .345). Follow-up Tukey HSD post-hoc comparisons showed that repatronage intentions were highest for participants assigned to the light pressure condition (M = 5.78, SD = 1.78) relative to those assigned to the moderate pressure (M = 5.14, SD = 1.43; p < .001) and intense pressure conditions (M = 3.19, SD = 1.80; p < .001).[8] Furthermore, the decline in repatronage intentions from moderate to intense pressure conditions was found to be significant (p < .001). These results indicate that for the non-muscle treatment location condition, treatment pressure and treatment repatronage intentions were linearly related such that increasing levels of treatment pressure resulted in decreasing levels of repatronage intentions. Conversely, for the muscle treatment location condition, an inverted U-shaped relationship between treatment pressure and treatment repatronage intentions was once again observed (see Figure 3.5). These findings are consequently consistent with H5.

[12] The results remained significant and followed the same pattern when this analysis was repeated using ANCOVA with the covariates listed in footnote 3. For this reason, the ANOVA results are reported in the body of the paper.

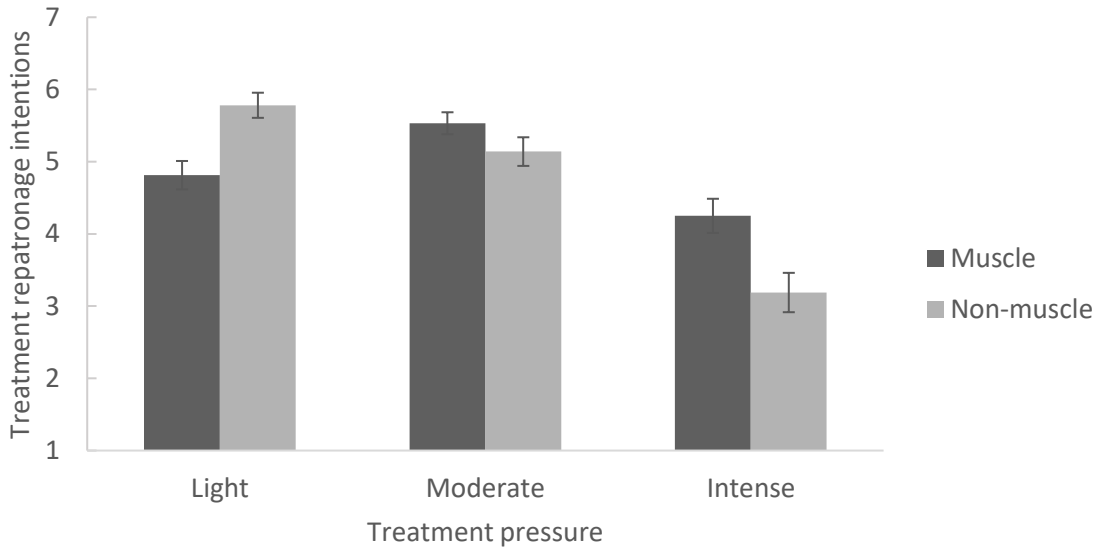

Figure 3-5. The moderating effect of treatment location on the relationship between pressure and treatment repatronage (Study 3).
Note: error bars denote 95% confidence intervals.

3.4. General Discussion

Pain is not only a ubiquitous part of the human experience of everyday life, but it is also a central feature of certain consumption contexts, including many healthcare services. Despite this, little is known about how pain is perceived by consumers during these service encounters and what effect it might have on consumer evaluations of the healthcare professionals providing services marketed to relieve pain. We rectify this oversight by hypothesizing – and finding evidence for – an inverted U-shaped relationship between treatment pain and repatronage intentions, and for two factors that mediate this relationship: perceived treatment efficacy and perceived practitioner competence. We also identify two boundary conditions that eliminate this inverted U-shaped relationship: ascribing to the NPNG lay belief and treatment location.

3.4.1. Theoretical Implications

To our knowledge, we are the first to hypothesize and document the counterintuitive finding that in certain health services contexts, more pain may be preferred to less. This is exemplified by the inverted U-shaped relationship observed in our results whereby moderate pain (operationalized as pressure applied to the muscle

tissues) resulted in higher repatronage intentions when compared with light and intense levels of pain in the treatment of musculoskeletal conditions. This finding stands in stark contrast to prevailing notions that pain is a universally negative experience (Ballantyne et al., 2018; Benzon et al., 2008; Raja et al., 2020) or a cost that must be overcome (Cheng et al., 2017). Our research shows this is not a tenable assumption, with consumers perceiving and responding to pain in a non-linear fashion. Furthermore, our findings underscore the complexity of pain: it is not a single valanced construct, and in certain contexts, consumers may even form positive associations around the experience of pain. Thus, we encourage future consumer research to recognize and explore these nuances in how pain is experienced by consumers. One way of doing so is to move beyond simple investigations of the presence versus absence of pain, which predominate in the literature (e.g., Kramer et al., 2012), to exploring variations in the intensity of pain experienced by consumers. Furthermore, as evidenced by the moderating effect of treatment location demonstrated in this study, the nuances of pain can further be explored by investigating how pain may be applied not only in different ways, but also in different areas of the body, which may uniquely influence consumer reactions to products and service offerings.

Additionally, by exploring bodily pain, we were able to isolate the effect of the sensory or corporeal experience of pain. This approach has been lacking in prior consumer research, which tends to conflate physical with psychological forms of pain as well as any unpleasant or uncomfortable experience. For example, pain is often used to describe negative emotions experienced during the process of paying for a good or service (i.e., “the pain of paying;” see Prelec & Loewenstein, 1998; Rick et al., 2008). While this conceptualization of pain has received quite a lot of attention in behavioral economics and consumer research, it is distinct from the infliction of physical pain. Other research has attempted to explore physical manifestations of pain, but these studies tend to operationalize pain with variables and situations that would likely result in very little to no pain being experienced by the consumer. For instance, Kramer et al. (2012) manipulate pain by using a bad tasting cough syrup, Cheng et al. (2017) explore pain with bitter or bland tasting foods, Jia & Wyer, (2022) use these manipulations in addition to the amount of cognitive effort judged by research participants to complete a task, and Homer & Mukherjee (2019) reference pain in relation to the number of ingredients listed in dietary supplements. Clearly, these broad and varied operationalization of pain are not

manipulating the same thing. As such, we call for further construct clarity when it comes to defining and researching pain in the future.

While many of the aforementioned studies investigated the NPNG lay belief, our study was unique in that it explored this consumer belief specifically in relation to varying degrees of physical pain. This underscores the importance of isolating the effect of sensory or corporeal experiences of pain from other constructs like consumer effort and psychological costs, which are often associated with the NPNG lay belief, despite the belief being popularized in relation to physical muscle pain (Cheng et al., 2017; Jia & Wyer, 2022). Finally, while prior research has shown that the NPNG lay belief is active in decision-making associated with health and wellness products (Homer & Mukherjee, 2018, 2019; Kramer et al., 2012), the present study extends these findings to the healthcare service marketplace to show that those identifying strongly with the NPNG lay belief place more value on painful treatments.

3.4.2. Managerial Implications

In discussions of how pain is managed in healthcare settings, healthcare professionals may be predisposed to 'holding back' in their application of pain, motivated in part by concerns around causing additional suffering, distressing patients, and compromising the therapeutic relationship (Andiappan, 2023; Green & Vandall-Walker, 2017; Joyce, 2021). This may be particularly common in treatment modalities like massage and physical therapy, where pain can be a core feature of treatment (Hickey et al., 2019; Linton et al., 2002; Sherman et al., 2006; Smith et al., 2017). Against this backdrop, the current findings should provide some reassurance to healthcare professionals, showing that there is a threshold up to which a certain level of pain is generally expected, accepted, and maybe even welcomed by consumers when receiving treatments for musculoskeletal conditions. Thus, healthcare professionals treating the musculoskeletal system should not hold back on providing potentially valuable treatment options because of fear of causing pain. To the contrary, our results suggest that when it comes to the treatment of preexisting musculoskeletal pain, there may even be negative consequences when pain is lacking during treatment, particularly for those that ascribe to the NPNG lay belief. Healthcare professionals treating musculoskeletal conditions consequently face a goldilocks situation where they may jeopardize treatment

compliance and repeat business if patients' experience of treatment pain deviates too far in either direction from "just right."

Notwithstanding the potentially beneficial outcomes for consumers and clinicians arising from the application of moderate levels of pain, our results also suggest that there is no one size fits all approach when it comes to managing pain in the marketplace. Consumers have different attitudes towards pain that are sensitive to the contexts in which pain is experienced (e.g., the areas of the body being treated) as well as to the meanings that consumers attach to pain (e.g., the NPNG lay belief). Thus, while there is a general tendency for consumers to respond in an inverted U-shaped fashion to pain, this tendency disappears for pain that is applied beyond the musculoskeletal system and among those who ascribe to the NPNG lay belief. Healthcare professionals should consequently look for opportunities to tailor the pain experience to meet patients' needs whenever it is deemed clinically safe to do so. To facilitate such tailoring, healthcare professionals might start by assessing patients' expectations about pain during treatment as well as the degree to which patients ascribe to the NPNG belief, both of which would allow them to adjust treatments accordingly.

Furthermore, understanding whether patients ascribe to the NPNG belief may allow healthcare professionals to leverage this belief (in situations where pain is required for treatment) or reframe it (when painful treatments are contraindicated). Doing so may have beneficial downstream effects on patient compliance (Bialosky et al., 2010) as well as profits, which are often tightly linked to repeat business in healthcare services (Lord Ferguson, 2023). If treatments like massage therapy and physical therapy are to be utilized as effective substitutes for addictive and potentially harmful alternatives like opioids (Rhon et al., 2018; Sun et al., 2018), patient buy-in for these interventions is key. We have shown that the management of pain during treatment is key to repatronage and thus, has important implications for encouraging patients to continue with these types of therapies over time.

3.4.3. Limitations and Future Research

A limitation of the present study stems from the scenario-based approach used in this research. While the scenarios allowed for consistency in the studies and the ability to isolate the effect of pain on repatronage intentions, they did not replicate the

complexities and contextual influences that are present in real-world settings. Furthermore, to distinguish pre-existing pain from pain experienced during treatment, pain was operationalized as pressure. Our review of the literature confirms that pain experienced through the application of pressure was common in clinical settings like massage therapy and our manipulation checks confirmed that this approach was sufficient. However, field trials conducted in more naturalistic settings (e.g., a massage therapy clinic) would not only provide further support to our results, but also capture the real-world dynamics of how pain is experienced in clinical treatment. Additionally, the research scenarios focused exclusively on repatronage intentions whereas additional research may look at other indicators of service quality such as willingness to refer family and friends to a service provider as well as other measures of word of mouth (e.g., online reviews). The relationship between these service outcomes and pain, in addition to, clinical outcomes like treatment compliance, reduction of preexisting pain, and improved range of motion, strength, and functionality would be a promising future area of research to explore.

Furthermore, while our investigation focused on pain intensity, research has identified other attributes that may inform consumers' experiences with pain, including the duration of pain (e.g., Kahneman et al., 1993; Redelmeier et al., 2003), its timing relative to non-painful stimuli (e.g., Liu et al., 2018), and the clinical context in which it is applied (Carlino & Benedetti, 2016). Exploring these other experiential dimensions of pain may consequently open new avenues for theorising. For example, if pain represents only a small portion of the overall service encounter, what effect might this have on repatronage intentions? Relatedly, how might variations in both pain duration and pain intensity over the course of a service encounter interact to impact evaluations of the service and service provider? And for medical issues, how do consumers interpret pain experienced for diagnostic purposes versus as part of treatment? Future research could explore these differential experiences of pain.

Finally, while we investigated boundary conditions associated with consumers (i.e., whether they ascribed to the NPNG lay belief) and the treatment context (i.e., pain emerging from musculoskeletal treatment), characteristics of the healthcare professionals inflicting painful treatments were not explored. Future research could investigate whether healthcare professional's attributes intersect with perceptions of pain, particularly given the broader body of research demonstrating the profound

influence of service provider attributes on service perceptions (Gruber & Frugone, 2011; Ostrom et al., 2015; Spake & Bishop Jr., 2009). This could include assessing the degree to which healthcare professionals ascribe to the NPNG lay view themselves, how they set patient expectations about pain through communication, and the extent to which they display qualities like warmth and empathy when delivering treatments that can result in pain.

3.5. Conclusion

The present research uncovered a unique service situation where consumers attached a positive valence to an objectively negative stimulus. That is, moderate pain was associated with higher repatronage intentions and was preferred to light and intense pain by healthcare consumers experiencing treatments targeting the musculoskeletal system. We also found that perceptions of treatment efficacy and practitioner competency explained this inverted U-shaped relationship, and that two factors disrupted it: ascribing to the NPNG lay belief and treatment location. Collectively, these findings demonstrate that consumer perceptions of pain are more complex than is typically conceptualized in the literature, both in terms of the non-linear effects of these perceptions on downstream outcomes like treatment repatronage intentions and the potential for these perceptions to vary according to the originating location of pain. Consequently, healthcare professionals treating the muscles should consider ways to assess consumers' expectations about pain during treatment and to tailor the pain experiences of those patients accordingly.

3.6. Supplementary Information

3.6.1. Study 1 Pretest Scenario

You book an appointment with a registered massage therapist. During the massage, the therapist massages your muscles with [a light / a moderate / an intense] amount of pressure.

3.6.2. Study 1 Scenarios

Medical Treatment Reason

You recently hurt your back and your doctor suggested getting a massage treatment, so you book in to get a massage. During the massage, the therapist uses [a light / a moderate / an intense] amount of pressure to massage your muscles.

Hedonic Treatment Reason

You feel like treating yourself and your friend suggested getting a massage treatment, so you book in to get a massage. During the massage, the therapist uses [a light / a moderate / an intense] amount of pressure to massage your muscles.

3.6.3. Study 2 Scenario

You recently hurt your back and your doctor suggested getting a massage treatment, so you book in to get a massage. During the massage, the therapist uses [a light / a moderate / an intense] amount of pressure to massage your muscles.”

3.6.4. Study 3 Scenarios

Muscle Treatment Location

Scenario 1: You recently hurt your back, so you went to a massage therapist for treatment. During the appointment, the massage therapist uses [a light / a moderate / an intense] amount of pressure to massage your muscles.

Scenario 2: You recently hurt your back, so you went to a physical therapist for treatment. During the appointment, the physical therapist uses [a light / a moderate / an intense] amount of pressure to stretch your muscles.

Non-muscle Treatment Location

Scenario 1: You recently had inflamed gums, so you went to a dentist to get a gum cleaning. During the appointment, the dentist uses [a light / a moderate / an intense] amount of pressure to clean your gums.

Scenario 2: You recently had a small skin abscess (an inflamed collection of pus), so you went to a doctor to have it drained. During the appointment, the doctor uses [a light / a moderate / an intense] amount of pressure to drain the abscess.

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Conclusion

Taken together, the three papers in this dissertation reveal the complexity of pain and show that it is not a universally negative construct. Instead, pain has diverse meanings to those experiencing it and plays an important role in consumption. In certain contexts, consumers may even form positive associations around the experience of pain that affords them important benefits. Additionally, by exploring bodily pain, the three papers highlight the effect of the sensory or corporeal experiences of pain and show how it is an important source of information for consumers. This finding has important implications for consumer research, which tends to conflate physical with psychological forms of pain and any unpleasant or uncomfortable experience. As such, the present work encourages future research when it comes exploring bodily influences on consumption. Finally, by studying pain, a pervasive human experience that is intertwined with many marketplace offerings, marketers can contribute to improving the health and resiliency of our societies by providing guidance to practitioners and marketplace actors who manage pain.