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## Medical Provider Reactions to an Adolescent Chronic Pain Complaint and a Dismissive Interaction

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MEDICAL PROVIDER REACTIONS TO AN ADOLESCENT CHRONIC PAIN  
COMPLAINT AND A DISMISSIVE INTERACTION

by

Eva C. Iglar

A Dissertation Submitted in  
Partial Fulfillment of the  
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Doctor in Philosophy  
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at

The University of Wisconsin-Milwaukee

August 2020

## ABSTRACT

### MEDICAL PROVIDER REACTIONS TO AN ADOLESCENT CHRONIC PAIN COMPLAINT AND A DISMISSIVE INTERACTION

by

Eva C. Iglar

The University of Wisconsin-Milwaukee, 2020  
Under the Supervision of W. Hobart Davies

Childhood chronic pain impacts approximately 15-33% of children and adolescents and can significantly impact physical and psychosocial functioning. Children and adolescents with chronic pain have a decreased ability to participate in normal childhood activities and are more likely to have sleep difficulties, anxiety and depressive symptoms, and sedentary behavior. The etiology underlying chronic pain can be particularly difficult to diagnose because often, it does not have a clear physiological etiology and assessment relies almost solely on patient report. This often leads to under-treatment of pain and can lead to pain dismissal, particularly by medical providers. The literature regarding diagnosis and treatment of childhood chronic pain, pain dismissal in adult and adolescent populations, provider perspectives on chronic pain, and provider communication is reviewed. While there are studies examining the perception of pain dismissal in adult and adolescent populations, little is known about medical providers' understanding and perception of dismissal. This study investigated the reaction of medical providers to two different scenarios: an adolescent pain complaint via a short vignette and a dismissive patient-provider scenario via a short video. Overall, medical provider participants did not endorse dismissive beliefs after reading a common adolescent headache complaint and were able to consistently identify dismissive language in the dismissive patient-provider scenario. Though significantly underpowered for interaction effects, the results suggest that there is a

potential provider and patient gender interaction when participants viewed the dismissive scenario, such that mismatched gender dyads led to more polarized responses. Additionally, exploratory analyses suggest medium to large effect sizes when examining the impact of patient gender and type of scenario viewed (dismissive versus non-dismissive). Specifically, female patient gender appears to be polarizing, such that when viewing the dismissive scenario, participants who viewed the scenarios with the female patient rated the provider lower and when viewing the non-dismissive scenario, participants who viewed the scenarios with female patient rated the provider higher. The current study is a first step in understanding medical providers' view of dismissive behavior, and has important implications for educational efforts to protect adolescent patients from the experience of dismissal. A discussion of future directions and clinical implications are included.

*Keywords:* childhood chronic pain; pain dismissal; medical provider perspectives

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# MEDICAL PROVIDER REACTIONS TO AN ADOLESCENT CHRONIC PAIN COMPLAINT AND A DISMISSIVE INTERACTION

## Introduction

Childhood chronic pain is difficult to diagnose and treat, particularly because chronic pain often occurs with little to no objective physiological signs and therefore assessment relies almost exclusively on patient report (e.g., Chambliss, Heggen, Copelan, & Pettignano, 2002; Lioffi & Howard, 2016). This creates ambiguity around diagnosis and severity of symptoms and many patients with chronic pain describe experiencing pain dismissal (e.g., Defenderfer, Bauer, Iglar, Uihlein, & Davies, 2018; Newton et al., 2013). Pain dismissal is described as “any response perceived by the individual reporting pain as diminishing, denying, or disbelieving the individual’s reported pain experience.” (Defenderfer et al., 2018). While adult and adolescents have described dismissive experiences throughout the chronic pain literature (e.g. Armentor, 2017; Newton et al., 2013; Ojala et al., 2015; Werner & Malterud, 2003) and demonstrated the ability to identify dismissive provider behavior (Lang et al., 2018), it is unclear if medical providers are able to identify dismissive statements in the context of a patient-provider scenario. Thus, the overall purpose of this project was to examine the reactions of medical providers to an adolescent chronic pain complaint and to understand prescribing medical providers’ awareness of the provider’s role in a dismissive scenario. Additionally, there is some evidence that pain dismissal experiences may disproportionately impact females, with women more likely to experience pain dismissal by a medical provider (e.g., Hoffman & Tarzian, 2001; Iglar et al., 2017). Therefore, this project also examined the potential influence of patient and provider gender on medical providers’ perception of the dismissive patient-provider scenario.

The current study had two primary aims and one exploratory aim. First, as there is a paucity of research regarding medical providers’ perspectives on adolescent chronic pain

complaints and pain dismissal, this study aimed to explore provider reactions to an adolescent chronic headache complaint and a dismissive patient-provider scenario. To achieve this aim, the study utilized a mixed-methods approach, providing medical practitioners with a short vignette describing an adolescent chronic headache complaint followed by free-response and forced-choice questions, and a novel video of either a dismissive or non-dismissive patient-provider scenario, again, followed by free-response and forced-choice questions. Second, the study aimed to examine the potential impact of patient and provider gender on the participating providers' reactions to the pain complaint and the patient-provider scenario. Finally, the exploratory aim of the study intended to examine the potential association between participating providers' length of time in practice and their reaction to both the pain complaint and the scenario. Additional post hoc exploratory analyses were computed in order to examine potential interactions between scenario type (dismissive vs. non-dismissive), provider gender, and patient gender.

Childhood chronic pain is defined and detailed below along with a review of the current literature regarding the prevalence, diagnosis, treatment, and functional and psychosocial impact of childhood chronic pain. Additionally, pain dismissal is defined and the literature regarding the pain dismissal phenomenon in both adult and adolescent populations, as well as the psychosocial impact of pain dismissal, is reviewed. Particularly, this review details patient reported experiences of dismissal in adult populations and the few studies examining pain dismissal in adolescence. Literature regarding gender differences in treatment of chronic pain is also reviewed. Further, literature examining provider perspectives of chronic pain, provider communication skills and training, and differential communication styles by provider gender is described. Finally, methods are described and results are reviewed followed by a discussion of

the results along with the current literature, the study limitations, future directions, and clinical implications.

### **Childhood chronic pain**

Chronic pain impacts between 15-33% of children and adolescents with 1-3% experiencing severe and disabling chronic pain (Eccleston, Bruce, & Carter, 2006; King et al., 2011; Perquin et al., 2003). Pain is defined as an “unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (Franck, Green, & Stevens, 2000). Specifically, chronic pain is defined as persistent or recurrent pain that is serious enough to interfere with daily functioning (King et al., 2011). Pain is often described as the fifth vital sign (American Pain Society (APS), 2017) as the medical community has recognized the importance of pain assessment and management in medical contexts (APS, 2017; Twigg & Byrne, 2014). There are two distinguishing components of pain that lead to difficulty in assessment and treatment: pain sensation and pain perception (Chambliss et al., 2002). This leads to difficulty treating childhood and adolescent chronic pain, as there are often few, if any, physiological signs of tissue damage, which then requires medical providers to rely on the patient’s perception of their pain (APS, 2017; Chambliss et al., 2002; Todd, 2005; Lioffi & Howard, 2016).

Childhood chronic pain prevalence increases with age, peaks at fourteen years old and is most prevalent in girls; about 70% of pediatric chronic pain patients are female. The most common types of chronic pain include headache, functional abdominal pain, and musculoskeletal pain (Eccleston et al., 2006; King et al., 2011). A meta-analysis of the childhood chronic pain epidemiology literature demonstrated that approximately 6-31% of children between the ages of 7-18 experience weekly headaches, 1-9% of children experience daily headaches and about 12%

of children experience recurrent abdominal pain. Prevalence of chronic musculoskeletal pain is much more difficult to estimate because of the high association with athletic injuries, particularly in adolescence. Childhood chronic pain is often associated with lower socioeconomic status, depression, anxiety, maternal anxiety, school stress, and low self-esteem (King et al., 2011). Overall, children with persistent chronic pain (pain that continues for at least two years) have greater emotional concerns, and greater pain frequency (Perquin et al., 2003). Finally, 30-75% of children with chronic pain continue to experience persistent pain beyond childhood, and about one-third are diagnosed with a psychiatric condition (Knook, Lijmer, Koijenbergh, Taminiau, & Engeland, 2012; Perquin et al., 2003).

### **Diagnosis and treatment**

Chronic pain is not only persistent but also difficult to diagnose and treat (Chambliss et al., 2002; King et al., 2011; Todd, 2005). Childhood and adolescent pain is often undertreated and the pattern of under-treatment applies to multiple different types of pain such as acute, chronic, and cancer pain (Tait, Chibnall, & Kalaukalani, 2009). Because chronic pain typically does not have obvious physiological sign (e.g., activation of the sympathetic nervous system as seen in acute pain) it is especially difficult to diagnose (Todd, 2005). Specifically, some diseases and emotional states influence an individual's perception of pain; this then increases activation of nociceptors (pain receptors). This increased activation will then alter the activation threshold for afferent nociceptors, creating a more sensitive and stronger response to significantly lower levels of physical stimuli. Therefore, chronic pain will develop when there is an alteration of normal impulses associated with harmful stimuli (Chambliss et al., 2002; Lioffi, & Howard, 2016).

Typically, it will take a patient several months to years to be referred to a pediatric chronic pain clinic (Eccleston et al., 2006). Most often, children are referred after a significant length of time, from months to years, with continual unsuccessfully pain management (Chambliss et al., 2002; Perquin et al., 2003). Often, chronic pain is missed and/or misdiagnosed until it results in a significant loss of functioning (Chambliss et al., 2002; Tait et al., 2009). Furthermore, when there is no known physiological cause of the chronic pain, these children and adolescents are often labeled as attention seeking, looking for secondary gain (e.g., trying to avoid school), or told that the pain is most likely solely psychologically based (e.g., Defenderfer et al., 2018; Lioffi & Howard, 2016). As self-report is the current gold standard in pain assessment (i.e. interviews, questionnaires, pain diaries, and pain rating scales; APS, 2017) disbelief of childhood chronic pain is especially concerning (Chambliss et al., 2002). Moreover, in a study of adult chronic pain patients, several patients described not completing a single pain assessment before the medical provider made significant conclusions about their pain and treatment recommendations (Newton et al., 2013). This suggests that providers may enter into an interaction with a chronic pain patient with a preconceived agenda, assumptions, and recommendations based on previously held beliefs and biases (Cohen, Quitner, Buchanan, Nielson, & Guy, 2011), instead of properly listening and attending to the individual patient's symptoms. Childhood chronic pain patients may also not obviously look like they are disabled or in constant pain, which increases skepticism about the accuracy of their pain complaint (Eccleston et al., 2006).

### **Effects of chronic pain**

The lack of treatment and/or under-treatment of chronic pain in childhood can result in social withdrawal, significant absence from school (King et al., 2011), significant physical

suffering, and loss of functioning (Chambliss et al., 2002). Further, chronic pain patients and their families often experience “referral fatigue” when they are continually hopeful with each new referral and then feel a repeated sense of failure when another new specialist does not help them (Eccleston et al., 2006).

Chronic pain also impacts multiple domains of life (Eccleston et al., 2006; King et al., 2011). Untreated or under-treated chronic pain can result in sleep difficulties, changes in appetite and mood, ability to participate in normal childhood activities, and depression (King et al., 2011; Knook et al., 2012; Zernikow et al., 2012). Adolescents also experience significant helplessness and fear of the future (Eccleston et al., 2006). Additionally, in childhood and adolescence there is a significant association between chronic pain and anxiety, depression, and sedentary behavior (Zernikow et al., 2012). Furthermore, there is an increase in multisite pain disorders in adolescence (Hoftun, Romunstad, & Rygg, 2012). Finally, there is a high economic cost to childhood and adolescent chronic pain disorders (Sleed, Eccleston, Beecham, Knapp, & Jordan, 2005).

### **Pain dismissal**

Because chronic pain often does not have an identifiable etiology, providers, family members, or friends may express disbelief or denial of an individual’s pain symptoms (Defenderfer et al., 2018; Hoffman & Tarzian, 2001). Defenderfer and colleagues (2018) define pain dismissal as “any response perceived by the individual reporting pain as diminishing, denying, or disbelieving the individual’s reported pain experience.” Pain dismissal can include complete denial of pain, minimizing an individual’s pain severity, suggesting that an individual is looking for some type of secondary gain, or claim that the pain is “all in their head” (Defenderfer et al., 2018).

In adult populations, pain dismissal is a relatively common experience for chronic pain patients (e.g., Armentor, 2017; Kool, van Middendorp, Boeije, & Greenen, 2009; Newton et al., 2013; Ware, 1992; Werner & Malterud, 2003). The majority of these studies include narrative accounts from individuals experiencing chronic pain. These individuals, mostly women, describe disbelief by medical professionals and/or feeling that their pain symptoms are not taken seriously enough (Armentor, 2017; Björkman, Simrén, Ringström, & Jacobsson Ung, 2016; Johnston, Oprescu, & Gray, 2015; Kool et al., 2009; Newton et al., 2013; Ware, 1992; Werner & Malterud, 2003). For instance, in a study of women with fibromyalgia, all twenty participants cited at least one incidence of disbelief, and several cited multiple pain dismissal experiences. Furthermore, these women most often described physicians as the primary dismitter (Armentor, 2017). Many chronic pain patients describe the lengths in which it takes for them to be taken seriously, particularly by medical professionals (e.g., Armentor, 2017; Newton et al., 2013; Ware, 1992). Patients often describe the need to look “less healthy” due to fear that they do not look sick enough and, therefore, physicians will not take their pain complaints seriously (Armentor, 2017; Ware, 1992). Individuals with chronic pain also describe feeling that their pain has to somehow be visible to others and a fear of seeming too physically active (Ojala, Häkkinen, Karppinen, Sipilä, Suutama, & Piirainen, 2015). Furthermore, these individuals describe the difficult balancing act of accurately expressing their symptoms without exaggerating or downplaying their pain. They often struggle with trying to seem as genuine as possible when presenting at medical clinic visits with a pain complaint (Johnston, Oprescu, & Gray, 2015). Additionally, chronic pain patients continually try to fit within the normal biomedical expectation of the “typical” pain patient (Broom, Kirby, Adams, & Refshauge, 2015; Werner & Malterud, 2003). Werner and Malterud (2003) best summarize this experience as the patients’ “effort reflect a



subtle balance not to appear too strong or too weak, too healthy or too sick, or too smart or disarranged.”

Throughout the adult literature, patients with chronic pain describe pain dismissal experiences, specifically from medical providers. Particularly, because chronic pain is often invisible, physicians often express concern that patients appear too healthy to be in significant pain (Armentor, 2017; Ware, 1992; Werner & Malterud, 2003). In some cases, chronic pain patients have described physicians as expressing complete denial of their pain because they couldn't find an obvious physiological abnormality or injury (Ojala et al., 2015). In three studies, younger women particularly discussed comments they'd received from physicians that they looked too healthy and did not look like a pain patient (Armentor, 2017; Ware, 1992; Werner & Malterud, 2003). Physicians have also described that patients that are in pain should look sick. Further, when a patient displays greater pain behavior (e.g., grimacing in pain) physicians attribute greater pain intensity to the patient (Åsbring & Närvänen, 2003; Rusconi et al., 2010). Furthermore, in one study, when patients displayed greater emotional distress in relation to their pain they were more likely to be referred to a psychologist as the first attempt at treating their chronic pain (Åsbring & Närvänen, 2003), furthering the common narrative that pain is either physiological or psychological, rather than interplay of physiological and psychological factor (Lioffi & Howard, 2016).

Little research has investigated pain dismissal experiences in childhood and adolescence (Defenderfer et al., 2018; Iglar et al., 2017; Lang et al., 2018). The current adolescent chronic pain literature suggests that up to 40% of adolescents with a chronic and recurrent pain experience may encounter at least one incidence of pain dismissal, and 40% of dismissals include a dismissive experience by a medical provider (Defenderfer et al., 2018). Potentially, the

phenomenon of not appearing sick enough or seeming too healthy could particularly affect adolescent chronic pain patients, as younger adults in the adult literature have often cited this phenomenon (Armentor, 2017; Ware & Malterud, 2003; Warner, 1992). Additionally, the few adolescents in one study of mostly adults described that physicians viewed them as “too active,” therefore concluding that they cannot be sick (Ojala et al., 2015).

There is a significant history of under-treatment of pain in childhood; however, new research has demonstrated that children may have hypersensitive nervous systems and under-treatment can sensitize children to future pain experiences (Tait et al., 2009). This is especially important because it often takes months to years for children and adolescents with chronic pain to be appropriately referred to a tertiary pain clinic (Eccleston et al., 2006), these children and adolescents continually experience pain, potentially creating hypersensitivity to typically less painful stimuli (Tait et al., 2009). Furthermore, this increase in sensitivity and continual exposure to painful stimuli can potentially alter nociceptive neurons permanently (Fitzgerald, 2005). Additionally, adults with chronic pain often have a history of childhood chronic pain (Brattberg, 2004; Hasset et al., 2013), suggesting that continual under-treatment of childhood chronic pain could potentially continue into adulthood. Thus, it is particularly important to attend to under-treatment and/or dismissal of childhood chronic pain.

### **Impact of Pain Dismissal**

Similar to chronic pain, pain dismissal experiences can have significant negative consequences, including significant psychosocial consequences (e.g., Armentor, 2017; Cohen et al., 2011). Dismissal experiences can result in frustration, anger (Armentor, 2017; Björkman et al., 2016; Defenderfer et al., 2018; Newton et al., 2013; Ojala et al., 2015; Werner, 1992), depression (Armentor, 2017; Newton et al., 2013; Werner, 1992), suicidal ideation (Newton et

al., 2013), and social withdrawal from friends and family (Armentor, 2017; Broom et al., 2015; Johnston, Oprescu, & Gray, 2015; Newton et al., 2013). Chronic pain syndromes are often already isolating, as those with chronic pain are often less able to participate in normal activities (Broom et al., 2015), and continual experiences of pain dismissal from friends, family, and medical providers can increase these feelings of social isolation (e.g., Johnston, Oprescu, & Gray, 2015). Chronic pain patients have also described feeling “crazy” (Ware & Malterud, 2003), and like they are malingerers and time-wasters (Björkman et al., 2016). Finally, these patients experience increased stigma throughout the course of their search for appropriate treatment of their pain (Cohen et al., 2011; Johnston, Oprescu, & Gray, 2015).

Chronic pain patients are often on a constant quest for legitimacy from medical professionals, which may lead to continual dismissal experiences, as they seek out an increased number of professionals that then may lead to greater frustration and depression (Johnston, Oprescu, & Gray, 2015). The process of seeking appropriate treatment and pain relief creates feelings of de-legitimization (Ware & Malterud, 2003) and continual feelings of loss of credibility in their lives with friends, family, and medical providers (Broom et al., 2015; Johnston et al., 2015). Moreover, as these patients are dismissed and seek treatment elsewhere, there is a continual delay of treatment while waiting for the next appointment (Newton et al., 2013). This may also increase the likelihood that patients will experience more dismissals with each new appointment and medical provider. Furthermore, when there is no identifiable physiological etiology, which is often the case, and when patients feel that they have to continually insist on treatment, they often feel like the frustrating or “difficult” patient (Björkman et al., 2016; Ojala et al., 2015).

### **Gender differences**

As individuals with chronic pain discuss the importance of appearing sick enough while being authentic in their pain complaints by expressing enough emotional distress surrounding their pain report (Johnston et al., 2015), providers often evoke stereotypes of women (e.g., that women are often overly emotional) and therefore, interpret women's pain complaints as less credible (Hoffman & Tarzian, 2001; Newton et al., 2013). The adult literature demonstrates that women are particularly vulnerable to underestimation of pain by observers (Tait et al., 2009). Furthermore, women's acute and chronic pain complaints are often under-treated (Chakkalakal et al., 2012; Hamber et al., 2002; Hoffman & Tarzian, 2001; Stalnacke et al., 2015). Physicians often follow gender expectations and stereotypes when treating female pain, which often leads to more non-specific diagnoses, psychological or stress related questions, and greater referrals to psychotherapy (Hamber et al., 2002). Conversely, physicians are more likely to order more laboratory testing for male patients (Hamber et al., 2002) and less likely to refer women to physical therapy when presenting with chronic musculoskeletal pain (Stalnacke et al., 2015). Research has also demonstrated that male physicians are more likely to emphasize the importance of compliance for female pain patients (Hamber et al., 2002).

Little research has investigated gender differences in pain treatment and pain dismissal in adolescence, although adolescent females are significantly more likely to experience chronic pain (e.g., King et al., 2011). Preliminary research suggests that physicians may be more likely to dismiss female pain (Iglar et al., 2017); however, this research relied on the perspective of the patient, not the provider, so it is difficult to conclude the exact nature of the dismissal experience. There is also evidence that of the four most common types of provider-generated pain dismissal (denial, minimizing, seeking secondary gain, and psychogenic), late adolescent and young adult males and females equally perceive these scenarios as dismissive, further

suggesting a gender bias in frequency of physician-generated pain dismissal, rather than a gender difference in perception (Lang et al., 2018).

### **Provider perspectives on chronic pain**

The relationship between medical providers and chronic pain patients is inherently difficult. Chronic pain patients often feel dismissed, questioned, and viewed as not credible (e.g., Björkman et al., 2016; Johnston et al., 2015; Ware & Malterud, 2003), while physicians often experience feelings of inadequacy when they cannot find a cure for the patient's pain or facilitate symptom improvement (Kristiansson, Brorsson, Wachtler, & Troein, 2011). Medical science continues to focus on symptoms that are objectively measurable, which creates particular difficulty with assessing chronic pain, as pain is mostly exclusively measured subjectively (APS, 2017). This approach emphasizes conditions that are measured objectively and more concretely diagnosed, and illnesses like chronic pain, that have no identifiable physiological markers, are treated differently and create more ambiguity for the medical provider. This creates a prestige surrounding an objectively measured disease diagnosis and skepticism surrounding an illness with no obvious physiological etiology (Åsbring & Närvänen, 2003).

Medical training also often lacks adequate training on how to best treat and manage chronic pain patients (Åsbring & Närvänen, 2003; Brown, 2005). Often, students enter medical school with pre-existing opinions on pain, pain management, and pain patients. Medical training often does little to address these pre-existing beliefs. Additionally, there is little opportunity post-residency for additional training on how to address issues of pain control and attitudes about chronic pain treatment, outside of physicians specializing in pain management (Ducharme, 2005). Further, providers have often reported that their training did not prepare them to properly manage their emotions regarding patients and patient care; therefore, providers often choose to

emotionally distance themselves from patients which may result in difficulty empathizing with patients in pain (Brown, 2005). This is especially problematic as one of the key pillars of positive patient-provider communication is accessing emotions and eliciting patient and/or parent emotions (Rider, 2011).

Medical providers are most often treating multiple patients within a short period of time and the high demand of increased patient volume creates a culture that views patient communication and interactions as burdensome (Rider, 2011). Therefore, medical providers with increasing less time to see patients may rely on heuristics and mental shortcuts when diagnosing and treating patients (Cohen et al., 2011; Tait et al., 2009). When these heuristics are created and sustained early in training and previously formed schemas are not challenged, physicians may overly rely on these mental shortcuts (Brown, 2005; Ducharme, 2005). When patients with physiologically unexplained chronic pain disorders do not fit the schema that medical providers have of a patient in pain, they challenge the provider's expectations of what a "typical" ill patient looks like. Thus, providers may become more likely to question the legitimacy of the patient's pain complaint because they do not fit within their previously formed schemas (Cohen et al., 2011). Furthermore, when faced with uncertainty assessing and treating chronic pain within the context of limited time to see each patient (Rider, 2011), providers may rely more heavily on mental shortcuts, like gender-based stereotypes (Tait et al., 2009).

The difficulty in treating chronic pain can also result in an extinction of empathy, creating greater emotional distancing from patients and desensitization to pain complaints (Brown, 2005; Cohen et al., 2011). Potentially, as providers continue to treat patients over several years this can result in further emotional distancing. Research has demonstrated that more experience is associated with a greater likelihood to underestimate pain (Tait et al., 2009).

Furthermore, some providers also have reported that patients inherently exaggerate chronic pain symptom severity because the patients have not experienced a severe disease before and have no reference to compare the severity of their pain symptoms (Åsbring & Närvänen, 2003).

Potentially, this phenomenon could be exacerbated with provider experience, as medical providers gain more experience treating patients with what they may consider more severe disease presentation.

There are also stereotypes of patients presenting with chronic pain. Until the last few decades, medical providers almost solely considered psychogenic explanations for conditions with no identifiable etiologies and considered a dichotomous view of the mind separate from the body, and this is especially true when there are multiple pain sites (Cohen et al., 2011; Tait et al., 2009). Additionally, these mental short cuts and stereotypes may make it easy for providers to devalue a patient's experience as a whole person and discredit, devalue, and/or reject an individual's pain experience (Cohen et al., 2011).

Providers may also assume that patients that are in pain should look and act like they are in pain, particularly look like a person that is experiencing acute pain (Åsbring & Närvänen, 2003). For example, a study of nursing and medical students attributed greater pain intensity and emotional distress to individuals that demonstrated typical acute pain behavior (e.g., grimacing; Twigg & Byrne, 2014). This is problematic as those with chronic pain often present much differently than individuals with acute pain (e.g., Chambliss et al., 2002; Todd, 2005) and adolescents may appear inherently healthier due to their younger age (Ojala et al., 2015). Additionally, higher levels of expressed emotional stress lead to greater referrals to a psychologist despite the reported pain intensity or medical etiology (Twigg & Byrne, 2014). As women are more likely to express emotional distress (Kring & Gorden, 1998), this may result in

significantly greater referrals to psychotherapy and fewer referrals for other specialties, such as a specialty pain clinic or physical therapy. Providers are also more likely to minimize or discount a patient's pain intensity when they view them as less likable, potentially leading to personality or physical characteristics not related to the patient's pain symptoms influencing the providers recommendations for treatment and referrals (De Ruddere et al., 2011). Finally, a study found that medical students significantly discounted patients with higher levels of reported pain compared to moderate to low levels of pain regardless of medical etiology (Chibnall, Tait, & Ross, 1997). As chronic pain patients often feel the need to seem authentic in their pain complaints (Johnston et al., 2015) and often try to seem "sick enough" (Werner & Malterud, 2003), this tendency to discount greater pain severity places chronic pain patients in a precarious situation.

### **Provider Communication**

The Institute of Medicine (2001) outlines the importance of patient-centered care over the older model of illness-centered care. Patient-centered care emphasizes the collaboration between patient and provider with the provider taking into consideration the patient's values and preferences in clinical decision-making (Epstein et al., 2005; Institute of Medicine, 2001; Rider, 2011). Patient-provider communication should follow a mutual agenda that is based on the patient's preferences, even if it conflicts with the provider's original agenda; particularly, this may make it easier for patients to follow and feel more confident in provider recommendations (Ammentorp, Kofoed, & Laulund, 2011, Rider, 2011). Additionally, the Kalamazoo Consensus Statement Framework outlines "essential elements" of evidence-based communication including building a relationship, opening the discussion, gathering information, understanding the patient's perspective, sharing information, reaching agreement, and providing closure (Rider,



2011). Finally, the Accreditation Council for Graduate Medical Education (ACGME) guidelines outline the importance for pediatric medical residents to receive training in their residency in effective communication skills with patients and families (ACGME, 2017). Thus, over the last two decades, there has been an increase in acknowledgement of the need for considerable communication training for medical students and residents.

Communication skills training for physicians and nurses focus on patient perception of provider communication and patient feelings about the interaction and provider. In one study, researchers found that patients had a more positive view of providers after providers attended a three-day communication workshop. Notably, the greatest improvement was seen in patients feeling that the provider understood their situation (Ammentorp et al., 2011). Potentially, patient-provider interactions that focus on the illness, rather than focusing on the patient's perspectives regarding their illness experience, may result in greater negative patient perception of the provider, including the provider being viewed as dismissive of patient symptoms. The literature suggests that patient-centered care that includes focusing on the patient's illness experience is essential in effective provider-patient interactions (Rider, 2011; Rider, Volkan, & Halfer, 2008). Further, when parents' perceive physicians as more sensitive to their family's and child's needs and that providers view the interaction as a partnership, they report greater overall satisfaction (Ammentorp et al., 2011; Street, 1991).

Despite the increasing emphasis on patient-provider communication in the last few decades (e.g., ACGME, 2017), medical education has lagged in training opportunities for medical providers (Rider, 2011; Rider et al., 2008; Rotthoff et al., 2011). There are few opportunities for physicians to receive training beyond residency or fellowship in communication skills training (Rotthoff et al., 2011). Rotthoff and colleagues (2011) found that

approximately 2% of CME-certified training events included a communication course and less than 1% offered specialty specific communication courses. Furthermore, residents surveyed by Rider and colleagues (2008) reported that although they highly valued communication skills training and feedback from attending physicians, few residents reported that the system in which they worked supported communication training opportunities. Furthermore, even fewer residents reported receiving direct feedback regarding their interpersonal and communication skills with patients and families. Particularly, residents described low self-confidence in their skills handling more “difficult” patients and/or families and understanding patient perspectives of their illness experience (Rider, et al., 2008).

The lack of communication training opportunities, particularly in patient-centered communication, for medical personnel is especially concerning, as individuals with chronic pain are often viewed as “difficult” patients (e.g., Ducharme, 2005; Ojala et al., 2015) and often report feeling that their provider did not listen to and/or understand their chronic pain symptoms and experience (e.g., Armentor, 2017; Defenderfer et al., 2018; Kool et al., 2009; Newton et al., 2013). Further, there is little research identifying how often providers in their everyday practice use a patient-centered approach. Arguably, when assessing chronic pain using an illness-centered approach, medical providers focus more on the etiology and physiological signs associated with the illness symptoms, rather than focusing on the patient’s experience. Focusing more on the symptoms, may result in a greater likelihood of dismissal of chronic pain symptoms, as the pain presentation of chronic pain patients relies heavily on patient experience and not on physiological markers (e.g., Chambliss et al., 2002; Todd, 2005). With lack of attendance to the patient experience, while there is no evidence of physiological etiology, the provider may be

more likely to rely on their previously formed schemas of patients and discredit the patient's symptoms and experience (Cohen et al., 2011).

**Provider Communication by Gender.** While chronic pain is generally difficult for physicians to diagnosis and treat (e.g., King et al., 2011; Todd, 2005), there may be provider demographic factors, such as gender, that impact a provider's communication style and treatment of chronic pain complaints. There is some evidence that adult female patients and female providers in primary care and specialty care settings have more patient-centered interactions and medical visits that contain more comprehensive consultation (Janssen & Lagro-Janssen, 2012; Roter, Hall, & Aoki, 2002; Sadhu, Adams, Singleton, Clark-Carter, & Kidd, 2009). Particularly, female physicians focus more on partnership building with the patient and positive talk, less focus on negative talk, and use of open-ended questions than their male colleagues (Roter et al., 2002), Sadhu and colleagues (2009) suggest that there may be less of a perceived power imbalance when a provider is female than male. Additionally, the authors found that male doctors appeared to listen less to the female patient's experience and focus more on the symptoms, demonstrating an approach centered around diagnosis and symptoms, rather than focusing on the patient as a whole person (Sadhu et al., 2009).

In the context of treating chronic pain, it is important to engage with the patient collaboratively and focus on their symptom experience (e.g., Chambliss et al., 2002; Todd, 2005). It is possible, that due to the likelihood that female physicians are more likely to display patient-centered approaches to care (e.g., Sadhu et al., 2009) that there is an expectation in the medical community that female physicians should behave in a more positive, patient-centered approach when engaging with patients. Arguably, it may be more acceptable for male physicians to focus more on symptoms rather than patient experience, especially as the leadership literature

reflects more acceptable of more directive, less collaborative behavior for male leaders (Rosette & Tost, 2010).

### **Purpose and Aims**

The medical community and chronic pain literature acknowledge the difficulty in diagnosis and treatment of chronic pain in pediatric and adult patients (e.g., Chambliss et al., 2002; Todd, 2005; Lioffi & Howard, 2016), while simultaneously acknowledging the important need for appropriate pain control in children and adolescents (e.g., Tait et al., 2009). Medical providers' difficulty in treating chronic pain conditions can result in pain dismissal or disbelief of a patient's pain (e.g., Defenderfer et al., 2018; Iglar et al., 2017; Newton et al., 2013) which can cause significant distress for patients that then perceive their pain is being dismissed by their provider (e.g., Newton et al., 2013). Furthermore, medical providers often have preconceived notions of what an "ill" patient should look like and how a patient in pain should act (e.g., Cohen et al., 2011), which may further increase the likelihood that chronic pain patients experience pain dismissal. Finally, providers have few opportunities throughout their medical training and careers to enhance and perfect the communication tools that may be necessary when assessing and treating chronic pain patients that often present as "difficult" patients (e.g., Rider, 2011; Rider et al., 2008).

While there is preliminary research suggesting that adolescents and young adults perceive dismissive interactions as inappropriate, dissatisfactory, and dismissive (e.g., Lang et al., 2018), there is a paucity of literature examining medical provider perspectives when presented with an adolescent chronic pain complaint and previously identified pain dismissal (e.g., Defenderfer et al., 2018). Thus, this study aimed to explore medical provider perspectives regarding an adolescent chronic pain complaint and a dismissive patient-provider scenario. The study had two

primary aims and one exploratory aim. The aims as well as the hypotheses associated with the aims are detailed below.

**Aim 1.** To explore medical provider’s reaction to an adolescent chronic pain complaint and a dismissive patient-provider scenario, including exploring medical providers’ reaction to and awareness of the provider’s role in dismissive scenario. There were two hypothesis associated with the first aim of the study.

***Hypothesis 1.***

Commonly, patients with chronic pain complaints report that individuals, particularly physicians, are often dismissive of their pain complaints (e.g., Armentor, 2017; Defenderfer et al., 2018; Newton et al., 2013). Particularly, providers are likely to underestimate a chronic pain patient’s report of pain compared to a patient presenting with acute pain, especially as chronic pain patients are unlikely to demonstrate acute pain behavior (Åsbring & Närvänen, 2003; Rusconi et al., 2010). Additionally, patient reports support the perception that providers may believe that the patient is seeking secondary gain, such as missing work or school (e.g., Defenderfer et al., 2018). It is likely that individual chronic pain patients’ perceptions of treatment are reflective of provider attitudes and/or beliefs. Therefore, it was hypothesized that the providers would tend to be dismissive of the patient’s pain complaint.

***Hypothesis 2.*** In the literature, providers have been described as viewing patients as “too healthy,” particularly when they are younger (e.g., Armentor, 2017). Additionally, providers have attributed less pain intensity to those patients that do not display obvious pain behavior, and providers have a tendency to display skepticism when there is no obvious physiological marker associated with the pain complaint (Åsbring & Närvänen, 2003). Finally, there are few opportunities for providers to receive adequate training in how to address more difficult patient

complaints, particularly chronic pain complaints (Ducharme, 2005). Therefore, when the providers in the current study viewed a scenario that involves a young, seemingly healthy adolescent, without traditional acute pain behavior, and no easily discernable biological source of pain, providers may not view patient-identified dismissive behavior (e.g., Lang et al., 2018) as dismissive or inappropriate. Thus, it was hypothesized that overall the providers will report that the patient-provider scenario was appropriate.

**Aim 2.** To examine the potential impact of patient-provider demographic characteristics, such as gender, on the provider's reaction to an adolescent chronic pain complaint and to a dismissive patient-provider scenario. There were two hypothesis associated with this aim.

**Hypothesis 1.** While there are few studies on potential differential treatment of adolescent chronic pain complaints by gender (e.g., Iglar et al., 2017), the adult literature supports the notion that providers respond less optimally and differentially to female pain (e.g., Chakkalakal et al., 2012; Hoffman & Tarzian, 2001). Particularly, evidence suggests that providers are less likely to refer women to specialty care (Stålnacke et al., 2015) and more likely to refer females with chronic pain complaints to psychotherapy (e.g., Hamber et al., 2002). Thus, it was hypothesized that providers surveyed will respond less optimally to the female chronic pain complaint. Specifically, it was hypothesized providers would be less likely to report that the female pain report is accurate compared to the male pain complaint, less likely to suggest a referral to a specialist (e.g., pain clinic or neurologist) to the female adolescent, and more likely to suggest a psychology component to the headache complaint.

**Hypothesis 2.** There is substantial evidence that female physicians demonstrate more patient-centered communication than their male counterparts, including greater collaboration with the patient and more focus on the patient experience (e.g., Roter et al., 2002). As more

collaborative approaches to leadership are expected of women in leadership positions (Rosette & Tost, 2010), it is likely that this expectation is also reflected in perceptions of female physicians. Thus, it was hypothesized that there would be an interaction between patient and provider gender. Specifically, it was hypothesized that providers would view the scenario with the female patient and female provider dyad as least appropriate.

**Exploratory aim.** To examine the potential association between years spent practicing medicine and response to the chronic pain complaint and patient-provider scenario. There were two hypotheses associated with this exploratory aim.

**Hypothesis 1.** Evidence suggests that providers enter into the medical field with preconceived notions regarding chronic pain patients (Ducharme, 2005) and as there are few training opportunities available to learn the most appropriate communication skills that would facilitate understanding of a chronic pain patients (e.g., Rider, 2011), these preconceived notions are likely to remain unchallenged. Finally, providers often rely on schemas and mental shortcuts when assessing patient symptoms (e.g., Cohen et al., 2011); therefore, the longer medical providers rely on these shortcuts the more they perceive these schemas as accurate and the more difficult they are to challenge (e.g., Brown, 2005), this may lead to greater underestimation of pain (Tait et al., 2009). It was hypothesized that there would be a negative correlation between provider length of time in practice and optimal response to the pain complaint, whereas the longer time in practice would be associated with greater underestimation of patient pain and greater ratings of likelihood that the patient is seeking secondary gain.

**Hypothesis 2.** As providers continue with medical practice, there is evidence that they often employ a self-preservation strategy that involves emotionally distancing themselves from the patient experience (Brown, 2005), rather focusing on the patient's symptoms. Hence,

providers may focus on the patient symptoms, rather than the patient experience and important components of patient-provider interactions. Therefore, it was hypothesized that there would be an association between providers' length of time in practice and reaction to the patient-provider scenario, whereas, longer time in practice would be associated with a higher ratings that the provider addressed the complaint appropriately, listened to the patient, and believed the patient.



## Methods

### Participants

Fifty-nine medical providers completed an online survey. The participants were majority White (86%) and female (60%). The mean age was 43.5 ( $SD=11.39$ ) years-old, ranging from 27-72 years-old. Participants identified as physicians (61%), physician assistants (27%), and nurse practitioners (12%). The majority practiced in emergency medicine (64%), primary care (31%), and urgent care (5%). Participants reported that they treat a wide range of ages including birth to six-years-old (81%), six to twelve-years-old (81%), twelve to eighteen years-old (86%), and eighteen-years-old and older (59%). Participants could identify more than one area of practice as well as age treated. Participants reported practicing medicine (post-residency for physicians) for one to forty-three years ( $M=14.42$ ,  $SD=11.19$ ,  $Md=12.00$ ). For full demographic information see Table 1.

All participants had completed medical education and training. Completion of medical education was considered completion of a post-secondary medical education (i.e. medical school for medical doctors (MD) or doctors of osteopathic medicine (DO), and graduate school for physician assistances and nurse practitioners). MD and DO currently in a residency program were not considered as having finished their medical education because residency programs have continued teaching, including potential teaching in communication, and these individuals are not practicing independently. MD and DO enrolled in a fellowship program post residency were considered as having completed their primary medical education and included in the study. Participants were English speaking and currently practicing in the United States.

### Procedures

The current study was approved by the University of Wisconsin-Milwaukee's Institutional Review Board. Participating members of the study team completed ethical training as required by UWM.

Participants were recruited via family and emergency medical organizations. The study team contacted administrators of each of these organizations and asked for an administrative member to e-mail members with a one page informational document explaining the nature and purpose of the study, eligibility to participate, and time commitment of the study (Appendix A). Snowball sampling was also be used to recruit participants. Each participant recruited was asked to share the informational document with an acquaintance that would likely meet the eligibility requirement.

If willing to participate, the providers were directed to the Qualtrics website. Once they accessed the website they signed an electronic consent form explaining the study procedures and that their participation is completely voluntary. Participants could discontinue participation at any time throughout the study. Once the participants electronically signed the consent form, they answered a series of demographic questions.

The participants were first randomly assigned to read one of two vignettes (described below) of an adolescent chronic pain complaint in which patient gender was altered per condition. In each condition participants read a vignette in which an adolescent with a chronic headache complaint was described. The participants then answered forced-choice and free-response questions regarding their reaction to the scenario.

Participants then watched a patient-provider scenario in which the adolescent patient presented with the same chronic headache complaint as the adolescent in the vignette.

Participants were randomly assigned to one of eight conditions in a 2x2x2 design, with patient

gender (male vs. female), provider gender (male vs. female), and type of patient-provider scenario (dismissive vs. non-dismissive) altered per condition. This resulted in four conditions consisting of differing patient-provider dyads per type of scenario (eight total): male patient and male provider, female patient and male provider, female patient and female provider, and male patient and female provider. Approximately 10% of the original anticipated participants (~20-25 participants) were to be randomized to watch a non-dismissive scenario as a manipulation check, while the remaining participants were to watch a dismissive scenario. Due to the small sample size approximately half of participants were randomized to watch one of the two types of scenarios. After watching the short video clip of a patient-provider scenario, the participant answered an additional series of forced-choice and free-response questions in response to the video.

The Qualtrics website tracks the amount of time each participant spends on each page. If a participant spent less time on the webpage than was expected to read the vignette or to watch the entire scenario then the participant's data was removed from all analyses. No participants required removal.

**Chronic pain vignette:** The chronic headache complaint was developed in collaboration with an emergency room physician and pain clinic pediatric psychologist from a local children's hospital. The vignette represents a common chronic headache complaint seen in a pediatric pain clinic from a patient referred from a primary care provider. The patient's gender was varied. For a sample vignette see Figure 1. Two additional medical providers, one physician assistant and one MD, provided feedback and verified that the content of the vignette reflected a realistic adolescent chronic headache complaint.

**Patient-provider scenarios:** The dismissive patient-provider scenario script was also developed in collaboration with the emergency room physician and pediatric psychologist, along with recent literature describing commonly experienced dismissive interactions (e.g., Armentor, 2017; Defenderfer et al., 2018, Newton et al., 2013). Additionally, the scenario was developed using the Rider (2011) outline for positive communication skills with children, families, and parents. While the article outlines eliciting emotions from patients, responding to and reflecting the patient's emotions, and checking in with patient's understanding (Rider, 2011), pain dismissal literature suggests that in dismissive interactions, providers often demonstrate little or none of these important elements (e.g., Defenderfer et al., 2018; Newton, 2013). Therefore, the scenario was written to reflect the lack of positive communication elements typically reported by chronic pain patients who described dismissive experiences. Finally, the MD and physician assistant, whom provided feedback for the vignette, provided feedback and verified that the content of the scenario reflected a potentially realistic patient-provider scenario.

In this scenario a medical provider used dismissive statements including disbelieving the severity of the patient's pain, minimizing the severity of the symptoms, dismissing the patient's request for a doctor's note, and suggesting the pain is due to school stress or mood symptoms. These responses were previously identified as dismissive by emerging adults in a series of recent studies (Defenderfer et al., 2018; Iglar et al., 2017; Lang et al., 2018). The dismissive statements included questions regarding stressors, particularly related to school and seeking counseling services. Additionally, other dismissive provider statements included emphasizing the patient's medical history, "normal" family medical history, good school attendance, seemingly normal functioning, and active lifestyle. Finally, the provider in the scenario provided no new solutions to the patient and ignored the patient's requests for further intervention, as these provider

responses are often identified in the literature as dismissive (e.g., Newton et al., 2013; Eccleston et al., 2006). Rider (2011) outlines that appropriate patient-provider communication includes collaboration in recommendation and intervention, along with proper physician explanation for their recommendations. Therefore, the provider in the dismissive scenario did not explain the reasoning for their medical recommendations. For the complete dismissive patient-provider scenario script see Appendix B. Dismissive statements are italicized in the script.

In contrast to the dismissive language and behavior displayed in the dismissive patient-provider scenario, the non-dismissive scenario used positive and collaborative communication outlined by Rider and colleagues (2011). Specifically, the providers in the non-dismissive scenarios used empathetic language, reflected the patient's emotions and statements, maintained appropriate eye contact, asked open-ended questions, provided a biopsychosocial explanation for chronic pain, emphasized collaboration with the patient, and recommended a collaborative treatment plan. This scenario was also developed in collaboration with the emergency room physician and pediatric pain psychologist. For the complete non-dismissive patient-provider scenario script see Appendix B.

## Measures

**Demographic questionnaire:** The participants were asked a series of basic demographics questions including their gender, age, and ethnicity. Participants also answered questions about their profession and practice including their specialty, their years in practice, age of patients seen in their practice, and the clinic(s) where they primarily see patients. For full participant survey including the demographic questionnaire see Appendix C.

**Vignette questionnaire:** The participants were asked to indicate the degree to which they agree or disagree with six statements on Likert scale from 1-4 (1=disagree, 2=somewhat

disagree, 3=somewhat agree, 4=agree) after reading the adolescent pain complaint scenario. The statements included the accuracy of the patient's report of pain severity, the likelihood that the patient is looking for secondary gain, the likelihood there is a psychological component to the patient's pain, the need for specialty treatment for the headache symptoms, and the likelihood the patient requires further treatment. The participants also answered three free-response questions which include the types of treatment the participant would recommend, why they would recommend this treatment, and how they would explain their recommendations to the patient. For the full questionnaire see Appendix D.

**Scenario questionnaires:** Following viewing of the video, participants indicated the degree to which they agreed or disagreed with three statements (1=disagree, 4=agree). The statements included how appropriate the provider addressed the pain complaint, listened to the patient, and believed the patient. Participants were also asked, on a scale of 1 to 10 (1=very poor, 10=excellent), to rate the quality of the scenario. Additionally, the participants who watched the dismissive scenario indicated the degree to which they agree or disagree that five statements the provider made during the scenario were dismissive on the same scale previously used (1=disagree, 4=agree). These statements represent the four most common types of physician-generated dismissal previously identified in the literature (Defenderfer et al., 2018) and one statement that was not considered dismissive. Finally, all participants answered three free-response questions which include what they thought the provider did well, what they could have done better, and what (if anything) they would have done differently in the same scenario. For the full questionnaire see Appendix E. Those providers who watched the non-dismissive scenario answered all but the Likert-scale questions regarding the five statements from the dismissive scenario. See Appendix F.

## Data Analytic Plan

Statistical analyses were conducted using IBM Statistical Package for the Social Sciences (SPSS), with all data being exported from Qualtrics to SPSS. Descriptive statistics was used to analyze demographic data and participants' ratings for the scaled questions. A  $p$ -value of  $<.05$  was used to determine statistical significance. Due to low sample size and therefore, low statistical power, clinical significance was determined by effect size using partial  $\eta^2$  (small=.01; medium=.06; large=.14). The Delphi coding method (Jones & Hunter, 1995) was used to code qualitative responses. This method included undergraduate and graduate research assistants independently identifying themes for each free-response question, then together discussing and agreeing upon themes. Then, research assistants independently coded each free-response question using the agreed upon themes. All themes reached at least 90% agreement. For those that do not reach at least 80% agreement, the research team discussed disagreement and recoded until at least 80% agreement is reached.

**Aim 1: Hypothesis 1.** *It was hypothesized that the providers would be overall dismissive of the patient's pain complaint. Specifically, the providers would underestimate the accuracy of the patient's pain complaint and agree that the patient is seeking secondary gain.*

In order to investigate this hypothesis descriptive statistics were used. Specifically, participant ratings from the questions "The patient is likely exaggerating their headache pain severity," and "The patient is likely looking to get out of school and/or other obligations," were averaged. Agreement to both of these questions (rating of 3 or 4) were considered dismissive of the patient's pain complaint. Additionally, free-response questions were analyzed using the Delphi Method (Jones & Hunter, 1995), described above, in order to explore the participants' attitude toward the patient headache complaint.

**Aim 1: Hypothesis 2.** *It was hypothesized that overall the providers would report that the patient-provider scenario as appropriate. Specifically, the providers would report that the provider in the scenario listened to the patient and that the provider believed the patient.*

In order to investigate this hypothesis descriptive statistics were also used. Specifically, participant ratings from the questions “Overall, the provider addressed the patient’s pain complaint appropriately,” “The provider listened to the patient,” and “the provider believed the patient was reliably reporting their symptoms,” were examined. Agreement to these questions (rating of 3 or 4) was considered agreement that the dismissive patient-provider scenario was appropriate. Additionally, participant agreement to the dismissiveness of the four identified dismissive statements (see Appendix E) was examined. Disagreement that these questions were dismissive (rating of 1 or 2) was considered an indication of agreement that the patient-provider scenario was appropriate. Finally, an averaged rating of 5 or greater to the question “How would you rate the overall quality of the provider’s interaction with the patient,” was also be considered agreement that the scenario was appropriate. Additionally, free-response questions were also analyzed using the Delphi Method (Jones & Hunter, 1995), in order to explore participants’ opinion regarding the scenario.

**Aim 2: Hypothesis 1.** *It was hypothesized that providers surveyed would respond less optimally to the female chronic pain complaint. Specifically, providers would be less likely to report that the female pain report is accurate compared to the male pain complaint, less likely to suggest a referral to a specialist to the female adolescent, and more likely to suggest a psychology component to the headache complaint.*

In order to investigate this hypothesis, t-tests were used to compare the participants’ responses to the female and male pain complaint for scaled questions: “The patient is likely



exaggerating their headache pain severity,” “ The patient needs specialty treatment for their headache symptoms,” “There is likely a psychological component to the patient’s headache complaint.” A phi-coefficient was used to compare responses to the female and male pain complaint for categorized responses to free-response questions: “What treatment(s) might you recommend?” and “Why would you recommend this treatment?”

**Aim 2: Hypothesis 2.** *It was hypothesized that there would be an interaction between patient and provider gender. Specifically, it was hypothesized that providers would view the scenario with the female patient and female provider dyad as least appropriate.*

To investigate this hypothesis, a mean-centered general linear model was used to assess the relationship between gender of the patient and gender of the provider in the dismissive patient-provider scenario and participant response to all scaled questions on the Scenario Questionnaire (Appendix E).

**Exploratory Aim: Hypothesis 1.** *It was hypothesized that there would be a negative correlation between provider length of time in practice and optimal response to the pain complaint, whereas the longer time in practice would be associated with greater underestimation of patient pain and greater ratings of likelihood that the patient is seeking secondary gain.*

To examine this hypothesis Spearman’s rho was used. Specifically, the association between participant reported length of practice and the scaled questions “The patient is likely exaggerating their headache pain severity,” and “The patient is likely looking to get out of school and/or other obligations,” were examined.

**Exploratory Aim: Hypothesis 2:** *It was hypothesized that there would be an association between providers’ length of time in practice and reaction to the patient-provider scenario,*

*whereas, longer time in practice will be associated with a higher ratings that the provider addressed the complaint appropriately, listened to the patient, and believed the patient.*

To examine this hypothesis a Spearman's rho was also used. Specifically, the association between length of time of practice and the scaled questions "Overall, the provider addressed the patient's pain complaint appropriately," "The provider listened to the patient," and "The provider believed that the patient was reliably reporting their symptoms," was examined.

**Additional exploratory analyses.** Due to recent evidence of differential parental perceptions of a dismissive and non-dismissive patient-provider scenarios and the interaction between patient and provider gender in the interaction and type of scenario (Iglar et al., n.d.), additional exploratory analyses were used in an attempt to mirror the finding from a medical provider perspective. For each of the shared Likert scale items, a mean-centered general linear model was used to assess the main effects of type of patient-provider scenario (dismissive vs. non-dismissive), patient gender, and provider gender. Additionally, the general-linear model was used to investigate potential two- and three-way interactions between the three independent variables.

### **Power Analysis**

All power analyses were performed using G\*Power 3.0 (Faul, Erdfelder, Lang, & Buchner, 2007). Originally, a prior power analyses indicated that in order to detect a moderate effect size in the differences between provider reactions to the pain complaint vignette by gender (Aim 2: hypothesis 1) at  $d=.50$ , two-tailed,  $p<.05$ , and power=.95, 210 medical providers were necessary. In order to detect a moderate effect size of the interaction between provider and patient gender in the scenario video clip (Aim 2; hypothesis 2) at  $f=.25$ ,  $p<.05$ , power=.95, 273

participants are necessary. Therefore, the proposed study aimed to recruit 273 providers in order to achieve adequate power to detect at least a moderate effect size for all analyses.

Due to the low sample size post hoc power analyses were calculated. A post hoc power analysis for the t-tests (Aim 2: hypothesis 1) indicated that the power for the current specified analyses was 0.52, assuming an alpha level of 0.05. For the general linear model (Aim 2: hypothesis 2) the power of the specified model was 0.64, assuming an alpha level of 0.05, in order to detect the small effect size ( $\eta^2=.17$ ) found for the significant interaction and the nearly significant interactions. For the general linear model used in the post-hoc exploratory analysis, the power for the specified model was 0.27, assuming an alpha level of 0.05, in order to detect a medium effect size (found for the main effects). Therefore, for all general linear model analyses, effect sizes (partial  $\eta^2$ ) are reported and interpreted to determine clinical significance.

## Results

### Quantitative Results

**Aim 1. Hypothesis 1.** It was hypothesized that participants would be dismissive of the patient's pain complaint in the initial vignette. This hypothesis was not supported. Fifty-six participants read one of the two vignettes and answered the associated questions. Overall, the majority of participant indicated that they disagreed (46%) or somewhat disagreed (34%) with the statement "The patient is likely exaggerating their headache severity." Fifteen percent of participants indicated that they somewhat agreed with the statement. The majority of participants also identified that they disagreed (41%), somewhat disagreed (44%) to the statement "The patient is likely looking to get out of school and/or other obligations." No participant choose "agree" and 11% choose "somewhat agree" (Figure 2).

**Aim 1. Hypothesis 2.** It was hypothesized that after watching the dismissive patient-provider scenario, participants would agree that the patient-provider scenario was appropriate. This hypothesis was not supported. Thirty-one participants were randomized to watch a dismissive scenario and twenty-eight completed the follow-up questions. When asked "Overall, the provider addressed the patient's pain complaint appropriately." the majority of participants indicated that they disagreed (65%) or somewhat disagreed (16%) with the statement. Only 10% of participants indicated that they somewhat agreed. Similarly, 61% of participants disagreed and 16% somewhat disagreed with the statement "The provider listened to the patient." Again, only 13% of participants somewhat agreed with the statement. Finally, the majority of participants (77%) reported that they disagreed that the provider believed the patient's symptom report, with 10% reporting they somewhat disagreed, and 3% reporting that they agreed (see Figure 3). Participants were also asked to rate the provider's interaction with the patient (1=very poor,

10=very good). On average ( $M=2.86$ ,  $SD=1.65$ ) participants rated the scenario as poor.

Additionally, no participant provided a rating above 7, and almost a third of participant provided a rating of 2.

Participants were also asked about specific statements the provider made during the scenario. Again, the majority of participant agreed or somewhat agreed that the following statements were dismissive: “It sounds like you’ve always been very healthy. Headaches like this are rare for someone at your age and with your medical and family history,” “A 7 or an 8 out of 10 is very severe debilitating pain. You seem to be functioning pretty normally,” “You look so young and healthy! You know, you’re very active. You’re probably dehydrated,” and “It might be important for you to talk to someone about stress at school and your mood.” For a manipulation check, participants were also asked the degree to which they agreed with the provider statement “On a scale of 1-10, how severe are your worst headaches?” No participant agreed that this statement was dismissive, they either indicated that they somewhat disagreed (29%) or disagreed (61%) that the statement was dismissive (Figure 4).

**Aim 2. Hypothesis 1.** It was hypothesized that the participants who read the chronic pain complaint by a female patient would respond significantly differently compared to the participants who read the chronic pain complaint by a male patient. Specifically, it was hypothesized that participants would rate that the female patient was more likely exaggerating their headache pain severity, the participants would more likely identify that the male patient needed specialty treatment for their headache symptoms, and there was more likely a psychological component to the female patient’s headache complaint. This hypothesis was not supported. There were no significant differences between male and female patient vignettes in participants’ rating of patient likelihood of exaggerating their headache pain severity ( $t(54)=0.41$ ,

$p=0.64$ ), participant agreement for need for specialty treatment ( $t(54)=0.39, p=0.70$ ), and agreement that there was likely a psychological component to the headaches ( $t(54)=0.27, p=0.79$ ) (see Table 2).

**Aim 2. Hypothesis 2.** It was hypothesized that there would be an interaction between patient and provider gender in the patient-provider dismissive scenario. This hypothesis was partially supported by the data. A general linear model indicated that there were no large effect sizes of main effects of patient or provider gender (Tables 3 and 4). Notably, these statistics were significantly underpowered, with only a total of 27 participants answering all questions associated with the dismissive scenario.

There was one main effect and several interactions that had large effect sizes (partial  $\eta^2 > .10$ ). When asked to rate how appropriate the provider in the scenario was, the female provider was rated lower than the male provider. Additionally, there were patient-provider interactions with large effect sizes in response to the statement “Overall, the provider addressed the patient’s pain complaint appropriately (Figure 6),” and degree of agreement to dismissive nature of the statements “It sounds like you’ve always been very healthy. Headaches like this are rare for someone at your age and with your medical and family history (Figure 7),” “A 7 or 8 out of 10 is very severe, debilitating pain. You seem to be functioning pretty normally (Figure 8),” and “You look so young and healthy! You know, you’re very active. You’re probably dehydrated (Figure 5).” In these responses, providers provided more critical ratings for mis-matched gender patient-provider dyads. Specifically, participants provided lower ratings for agreement that the provider addressed the complaint appropriately for the female provider-male patient and male provider-female patient dyads compared to the gender matched dyads. Similarly, participants provided

higher ratings of agreement that the statement listed above was dismissive for the female provider-male patient and male provider-female patient dyads (Tables 3 and 4).

**Exploratory Aim: Hypothesis 1.** It was hypothesized that there would be a negative correlation between length of time practicing medicine and greater belief that the patient is exaggerating their headache pain severity and seeking secondary gain in response to the chronic pain vignette. This hypothesis was not supported. There was no significant correlation ( $\rho=-0.17, p=.22$ ) when responding to the statement “The patient is likely exaggerating their headache pain severity.” However, there was a significant negative correlation ( $\rho=-0.30, p<.05$ ) in response to the statement “The patient is looking to get out of school and/or other obligations,” such that length of time in practice was associated with greater disagreement that the patient was seeking secondary gain.

**Exploratory Aim: Hypothesis 2.** It was also hypothesized that there would be a negative association between the providers’ length of time in practice and reaction the patient-provider scenario, with longer time in practice correlated with greater agreement that the provider addressed the patient’s complaint appropriately, listened to the patient, and believed the patient’s reporting of symptoms. This exploratory hypothesis was not supported by the data. There were no significant correlations regarding belief that the provider addressed the complaint appropriately ( $\rho=-0.11, p=.57$ ), listened to the patient ( $\rho=-0.003, p=.99$ ), and the patient was reliably reporting their symptoms ( $\rho=-0.05, p=.82$ ).

**Additional exploratory analyses.** For all Likert scale items (“Please rate the overall quality of the provider’s interaction with the patient.” “The provider believed the patient was reliably reporting their symptoms.” “The provider listened to the patient.” And “Overall, the provider addressed the patient’s pain complaint appropriately.”) there were large effect sizes for

the type of scenario viewed (dismissive versus non-dismissive) main effect, such that there were significantly lower ratings for the dismissive scenario. See Table 5.

There were also three two-way interactions with large effect sizes between patient gender and scenario type when participants indicated level of agreement to the statements: “Overall, the provider addressed the patient’s pain complaint appropriately (figure 9),” “The provider listened to the patient (figure 10),” and “The provider believed that the patient was reliably reporting their symptoms (figure 11).” See Table 5. Participants indicated a higher degree of agreement that the provider appropriately addressed the pain complaint, listened to, and believed the female patient in the non-dismissive scenario. In contrast, for the dismissive scenario, participants indicated a higher degree of disagreement that the provider appropriately addressed the pain complaint, listened to, and believed the female patient in the dismissive scenario.

## **Qualitative Results**

**Recommendation.** Medical provider participants suggested a variety of treatments and next steps for the patient in the vignette. Most commonly (40%), participants identified adding a medication specific to migraines (e.g., Imitrex), medication to provide immediate headache relief (e.g., migraine cocktail), or a change in the medication regimen (e.g., switch from ibuprofen as needed to scheduled Tylenol). One participant recommended a psychiatric medication for prevention. Several participants (23%) also specifically recommended stopping ibuprofen use, identifying a concern for rebound headaches. Many participants (37%) also recommended additional imaging and/or laboratory testing, such as a MRI or complete blood count panel. One-third of participants recommended a referral to a specialist including physical therapy, allergist, optometrist, neurologist or pain/headache clinic. Half of these participants (17% of the total



sample) specifically identified the importance of a referral to either a pain or headache clinic. For frequency of each qualitative category see Table 6.

Over one quarter (27%) of participants recommended lifestyle or non-pharmacologic changes such as avoiding caffeine, increasing hydration, changes to sleep and/or diet, resting from activities, and avoidance of fluorescent lights. These lifestyle recommendations varied and were often recommended along with the addition of either medications for immediate pain relief (migraine cocktail) or prevention (scheduled Tylenol). Fifteen-percent of participant responses included a psychosocial concern and the potential that this could be contributing to the patient's headaches. These responses included either specific counseling or psychological evaluation recommendations, or concerns about potential stressors or anxiety the patient may be experiencing. Finally, 5% of participants recommended (always along with other recommendations of either medication or further testing) close follow-up with the patient's primary medical doctor. Four participants (7%) responded that they needed more information before suggesting a treatment. When comparing qualitative responses by patient gender in the vignette, there were no significant differences (Table 7).

**Why recommend this treatment.** Most often (37%) participants reported that they made their recommendation to gather more information about the symptom pattern, create a differential diagnosis, identify the cause of the headaches, and/or rule-out more serious conditions (e.g., brain tumor). Twenty-six percent of participants identified concerns about the patient's symptom presentation. These concerns included the significant interference the symptoms were having on the patient's life, the length of time of pain, the severity of the headaches, and the frequency at which headaches were occur. Similar to the previous question, several participants (18%) cited a concern for rebound headaches as a reason for their

recommendation. Thirteen percent of participants identified a concern for immediate pain relief as a main reason for their recommendation, and 7% wrote about the importance of expert consultation for this type of symptom presentation. Four participants (7%) discussed the importance of lifestyle causes (other than psychosocial stressors) as most important for symptom reduction. Finally, three participants (5%) simply stated that the presentation sounded like a migraine; therefore, they would recommend standard medications for migraine relief.

Eighteen percent of participant responses included the importance of stress reduction and/or psychological services. Some participants identified this as the primary concern (e.g., “my main concern is psychological cause of headaches”), while others identified the need to explore potential psychological causes (e.g., “more time to explore psychological stressors”). All but one response also included other reasons why they made specific recommendations. This participant stated, “I believe that all teens need psych help with chronic pain symptoms.” Participants who read the vignette with the female patient were significantly more likely to report that psychosocial concerns/need for psychological evaluation were a reason for their recommendation ( $\phi=0.31, p<.05$ ). Thirty-one percent ( $n=9$ ) of the participants who read the vignette with the female patient included this as a reason, while seven percent ( $n=2$ ) who read the vignette with the male patient provided this reasoning. There were no other significant differences regarding why the participants made particular recommendations (Table 7). It is important to note that though this is statistically significant, this should be interpreted with caution due to the multiple statistical analyses (phi-coefficients) completed and the small numbers in each category.

**Provider performance in the patient-provider scenario.** When asked what the provider did well in the patient-provider scenario, participant who watched the dismissive scenario had greater difficulty specifically identifying what the provider did well. Specifically,

they often identified that the provider did well asking questions about symptoms and other details and some commented on the providers body language. However, there were participants who specifically stated the provider in the video did nothing well. In contrast, participants who viewed the non-dismissive scenario, often identified the providers use of validating and empathetic language and clear and collaborative treatment plan.

**Suggestions in the patient-provider scenario.** When asked what the provider could do better, those providers that viewed the dismissive scenario, often specifically identified the dismissive nature of the providers statements, assumptions, and symptom minimizations. They also identified the importance of gathering more information from the patient, listening more and talking less, and validating the patient's experience. These participants emphasized that the provider should have gathered more information from the patient, listened more, and made less assumptions about the symptom causes.

**What the participant would have done differently.** Similar to the previous question, when asked what they would have done differently, participants who viewed the dismissive scenario often emphasized, getting more information from the patient, using non-dismissive language (e.g., less assumptions and judgements) and listening more to the patient. In contrast, participants who viewed the non-dismissive scenario identified a wider variety of things they would do differently including getting more information, listening to the patient, addressing specific patient concerns, collaborating more with the patient, and stressing lifestyle changes.

## Discussion

Overall, the medical provider participants were consistently able to identify dismissive language in the dismissive patient-provider scenario, and the majority did not endorse that the patient was exaggerating their pain complaints. This ability to identify dismissive language was reflected in the quantitative and qualitative responses. This is especially important as medical providers are often cited as one of the most frequent and most distressing individuals to dismiss chronic pain (e.g., Defenderfer et al., 2018; Hoffman & Tarzian, 2001; Newton et al., 2013). If medical providers are able to identify their peers' dismissive behavior, then they would be able to objectively view this behavior and suggest corrections. Critiquing peer medical provider behavior could then serve as an avenue to teach providers about dismissive behavior, the impact of dismissal, and ways in which to avoid dismissive language.

The majority of the a priori hypotheses were not supported by the data, with some partial support for the potential influence of patient and provider gender on participants perception of a dismissive scenario. First, it was hypothesized that the majority of medical provider participants would agree that the patient was exaggerating their symptoms and looking for secondary gain. However, the data indicated that the opposite was true, indicating that provider participants were likely not approaching the adolescent patient described in the vignette with assumptions that have been observed in previous research (e.g., Cohen et al., 2011). Previous research suggests that chronic pain patients may be especially difficult to treat given the ambiguity of their symptoms, as well as the typical lack of physiological markers (APS, 2017, Åsbring & Närvänen, 2003; Brown, 2005); therefore, often providers rely on stereotypes and previously formed schemas of "difficult" patients, such as chronic pain patients (Cohen et al., 2011; Tait et al., 2009). It may have been difficult for participants in the current study to gain an accurate

picture of the chronic headache complaint, given the limited information provided in the vignettes. While, the current data supports that the providers most likely did not rely on more detrimental schemas of patients exaggerating pain or seeking secondary gain, this phenomenon may occur later in the relationship with a chronic pain patient, such as when more information is gathered and there remains no physiological explanation for the patient's pain after additional laboratory testing and/or imaging. Notably, in response to the qualitative questions, several participants identified the need for further information gathering, such as tracking symptoms or imaging to rule-out physiological causes for the headaches. It is possible that the current study did not capture the dismissive beliefs due to the limited information provided.

Additionally, it was hypothesized that most participants would not endorse that the provider statements and behavior in the dismissive patient-provider scenario as dismissive. However, similar to the participant response to the chronic pain vignette, the majority of participants disagreed that the provider in the dismissive scenario addressed the pain complaint appropriately, listened to the patient, and believed the patient's symptom report. Most participants also agreed that the provider statements that adolescent and adult participants had previously identified as dismissive (e.g., Defenderfer et al., 2018, Lang et al., 2018) were dismissive. Notably, identification of dismissive behavior demonstrated by participants in the current study, mirrors the identification by parents (Iglar et al., n.d.). Physicians have been identified as the primary dismissers in adolescent, emerging adult (Defenderfer et al., 2018), and adult (e.g., Armentor, 2017; Newton et al., 2013; Ware, 1992) samples. Therefore, this finding may be particularly promising, as it provides evidence that medical providers can successfully identify dismissive behavior demonstrated by their medical peers. Identification of dismissive

behavior in others could be a potential tool to use in order to teach providers to self-identify dismissive behavior that they may display.

The hypothesis that medical provider participants would respond differentially by patient gender to the chronic headache complaint was also not supported by the data. Provider response to the chronic pain vignettes did not correspond with the previous literature regarding female adolescents' reports of greater physician-generated dismissal (Iglar et al., 2017). This also could be reflective of the limited information provided in the vignette, as more differential attitudes by gender may not be especially pervasive until there is more ambiguity in the pain presentation, specifically after further testing reveals no physiological explanation for the pain. Additionally, the gender differences identified in previous studies (e.g., Iglar et al., 2017) could also be accounted for by significant differences in perception of similar provider behavior by male and female adolescents and emerging adults. However, it is unlikely that this reported difference (Iglar et al., 2017) in physician-generated pain dismissal by gender is solely based on male and female perception, as past research has suggested similar perceptions of the inappropriateness of dismissive behavior by male and female emerging adult participants (Lang et al., 2018). Notably, in the same study, female participants provided lower ratings of overall satisfaction, less likelihood to return to the doctor, and greater likelihood to seek out a second opinion (Lang et al., 2018). Likely, there is an interplay of both patient perception and provider behavior regarding patient gender influenced in physician-generated pain dismissal. Notably, there is evidence that despite viewing the same dismissive behavior, female and male participants may react differentially to dismissive behavior (e.g., Iglar et al., 2017; Lang et al., 2018), further complicating the potential influence of patient gender in pain dismissal patient scenarios.

Participants who read the female vignette were more likely to specifically identify psychosocial concerns as a reason for their recommendation. However, this was the only significant difference in the qualitative responses and was seen with only a few participants discussing potential psychosocial concerns for either males or females. Potentially, the biases toward female patients observed in past research (e.g., Hoffman & Tarzian, 2001), may be more nuanced and subtle, requiring more in depth examination than afforded by the quantitative questions in the current study. Additionally, the psychosocial explanation as a reason for recommendations mirrors that of past research (e.g., Hoffman & Tarzian, 2001), which has identified that adult female patients are more likely to be referred to psychological services or prescribed psychiatric medication. Moreover, the patient reported physician-generated dismissal reported in the literature (e.g., Armentor, 2017; Defenderfer et al., 2018) may also reflect implicit biases by providers. This significant result should be interpreted with caution, as there is a high likelihood of type II error due to the multiple analyses run. It will be important for future studies with larger sample size, and therefore more statistical power, investigate this potential bias further.

The second hypothesis of the second aim of the study was partially supported by the data. Specifically, there were large effect sizes when examining the interactions between patient and provider gender when participants viewed the dismissive patient-provider scenario. The effect sizes all demonstrated a similar trend. When the participants viewed the gender mismatched patient-provider dyads, they indicated a greater level of disagreement that the provider addressed the pain complaint appropriately and agreement that particular provider statements were dismissive, compared to the gender matched dyads. This trend mirrors that of similar findings in recent data (Iglar et al., n.d.), in which parents listened to either a dismissive or non-dismissive

adolescent patient-provider chronic pain scenario. The study found significantly lower ratings of appropriateness of provider behavior when parents viewed the gender mismatched dyads (Iglar et al., n.d.). Notably, there was one large effect size the provider gender main effect. The female provider was rated lower on appropriateness of their behavior. Iglar and colleagues (n.d.) found that female provider behavior was especially polarizing when parents listened to the non-dismissive or dismissive scenario, such that female providers were rated significantly lower than male providers in the dismissive scenario and significantly higher in the non-dismissive scenario (Iglar et al., n.d.). Though the current data only provides one large main effect of provider gender, the similar trend to the previous research suggests that this is an additional potential area of investigation.

The current data cannot support conclusions as to what could be driving the perception of the lower acceptability of gender mismatched patient-provider dyads; however, there is literature supporting differing expectations and behavior of female physicians and patients that may contribute to the phenomenon observed in the current study. Hall and colleagues (1994) viewed gender matched and mismatched adult patient and provider dyads during routine primary care visits and found that female physicians talked more, had longer visits, used less jargon and smiled more throughout the visit. Additionally, observers judged female physicians as more anxious and less dominant early in the visit and more interested in the patient throughout the visit. Male patients also talked more during visits with female physicians (Hall, Irish, Roter, Ehrlich & Miller, 1994). A more recent study found similar results. Bertakis and Azari (2012) found that female physicians used more patient centered care language and male patients participated more in their primary care visits with female physicians. Additionally, female patients also had visits with more patient centered care behavior, regardless of physician gender,



and female-female dyads had the greatest amount of patient centered care. Due to expectations of more collaborative care behavior by female physicians (Hall et al., 1994; Bertakis & Azari, 2012) and expectations that female physicians are more empathic and collaborative (Law & Britten, 1995), the female physician in the dismissive dyad could have been viewed by participants as violating behavior typically associated with their gender and therefore more inappropriate.

However, the literature supporting differential female physician behavior and expectations of female physicians would not account for the lower female physician-male patient ratings compared to female physician-female patient ratings. Currently, there is no literature, to the author's knowledge, supporting the importance of gender mismatched or gender matched dyads not specifically driven by female physician behavior and/or expectations. It is possible that in the male physician-female patient dyad, the female patient was seen as more anxious than the male patient in the gender matched male dyad. Hall and colleagues (1994) found that female patients displaying similar behavior as male patients were viewed as more submissive and anxious. Therefore, participants in the current study, could potentially have viewed female patients as more submissive and/or anxious in the dismissive scenario, and particularly so when the dismissive physician was male. More research is clearly needed that more carefully controls for various variables that could be affecting these perceptions.

The exploratory hypotheses regarding time in practice and greater dismissive beliefs was not supported. In fact, the opposite was partially supported by the data. Providers practicing medicine for a shorter period of time were more likely to agree that the patient was exaggerating their headache pain after reading the headache pain complaint. Possibly the providers with more experience may be less inclined to draw immediate conclusions about the patient before

gathering more information. Further, previous research has identified a greater likelihood of physicians to rely on previously formed schemas and stereotypes when there is greater ambiguity in symptom and diagnostic patient presentation (Cohen et al., 2011). Potentially, medical providers with more years of experience could be more comfortable with diagnostic ambiguity and therefore, less inclined to rely on those schemas in this case. This result is promising as more experienced physicians may then be able to serve as models to younger physicians, particularly when treating patients viewed as more “difficult” patients, such as chronic pain patients.

Due to recent evidence of the interaction between type of patient-provider scenario and patient and provider gender (Iglar et al., n.d.) with parents as participants, additional analyses were run to explore for potential similar results. Initially, approximately 10% (~20-25 participants) of the participant sample was to be randomized to view a non-dismissive patient-provider scenario; however, due to the small sample size recruited, nearly half of the participants viewed a non-dismissive scenario. Therefore, the data was available to explore potential interactions between type of scenario, provider gender, and patient gender. There were large main effects of type of scenario, such that participants that viewed the dismissive scenario rated the overall quality of the scenario lower, and indicated higher degree of disagreement that the provider in the scenario listened to the patient, believed the patient’s symptom report and addressed the pain complaint appropriately. These results mirror parent perception of type of scenario (Iglar et al., n.d.) and suggest that medical providers can easily identify overt dismissive behavior. This is especially important because medical providers are often described as one of the most distressing dismissers by chronic pain patients (e.g., Armentor 2017; Defenderfer et al., 2018; Newton et al, 2013). While this is encouraging information and though provider

participants were easily able to identify dismissive language, this does not guarantee that they have not or do not use this type of language in their medical practice.

The additional exploratory analyses also found large effect sizes regarding the interactions between scenario type and patient gender, such that female patient gender was particularly polarizing. Specifically, the medical providers (regardless of provider gender) in non-dismissive scenarios with the female patient were rated as addressing the pain complaint more appropriately, and listening and believing the patient more than the scenarios with the male patient, while the providers with the female patient in the dismissive scenarios were rated as addressing the pain complaint less appropriately and listening and believing the patient less than dismissive scenarios with the male patient. This could be reflective of participant perception that the female patient was more anxious, submissive, or distressed than the male patient, as previous studies have found that female patients are judged differentially compared to male patients (e.g., Hall et al., 1994). Therefore, participants viewed the providers in the non-dismissive scenario as attending to a more anxious patient more appropriately, and participants viewed the providers in the dismissive scenario as attending to a more anxious patient less appropriately. Additionally, as female patients are more likely to experience dismissive physician-generated behavior (e.g., Hoffman & Tarzian, 2001; Iglar et al., 2017), it may be that though providers may be more sensitive to dismissive behavior with female patients when they view the behavior, they may still be no less likely to use this language. Notably, with parents as participants, there were significant differences in how the provider was viewed, such that the female provider was more polarizing (Iglar et al., n.d.), rather than in the current study with the female patient seemingly viewed as more polarizing.

The results demonstrated that medical providers can easily identify dismissive behavior, which has particular clinical implications, as discussed previously. The further analyses regarding gender differences also demonstrated some large effect sizes, despite the low sample size. However, this may hold relatively low clinical significance, as many of the differences between means were quite small. Therefore, while it is important to note these effect sizes as a potential for further investigation, it is possible that they hold little clinical importance in a patient-provider interaction. Gender bias in medical treatment has been well documented in the literature (e.g., Hoffman & Tarzian, 2001) and warrants further investigation. However, the current study results regarding gender may represent little clinical significance. Further investigation of these results is clearly needed in order to identify clinical significance.

### **Limitations**

It important to note that for all hypotheses the analyzes run were underpowered, some more significantly underpowered than others. However, interestingly, those that were the most underpowered using general linear models to investigate the hypotheses, indicated several large effect sizes. Additionally, those analyses with large effect sizes were all trending in the same direction. Thus, it is possible that with continued recruitment (i.e. greater statistical power), more robust and potentially statistically significant results could occur.

The participants were primarily White, which limits the generalizability of the current findings to a broader provider population. Further, the patients and providers in the scenarios were White, and it is possible that provider perception would be impacted differentially by ethnic minority patients and/or providers, as provider and patient ethnicity has been shown to impact pain assessment and treatment (e.g., Blair et al., 2013; Brugess, van Ryn, Crowley-Matoka, & Malat, 2006). Additionally, participants previous experience with chronic pain patients and/or

specialty training in particular fields is unknown. Previous experience in a pain clinic or working specifically with chronic pain patients could have altered their response. Further, the majority of the participants primarily worked in the Emergency Department; therefore, this may have resulted in skewed results. Finally, potential personal experience, outside of the participants' medical practice, with chronic pain could have additionally colored their responses.

As discussed early, it is possible that the lack of significant findings is not only due to participant size, but also the nature of the vignettes and video scenarios. It is possible, that the vignettes did not provide enough information for the participants to appropriately respond. Particularly, the addition of further information suggesting a lack of physiological findings could produce greater reliance on gender stereotypes or previously formed schemas demonstrated in previous research involving chronic pain patient presentation and ambiguity of diagnostic certainty (e.g., Cohen et al., 2011). Further, the dismissive patient-provider scenario could have demonstrated too overt or specifically dismissive behavior; therefore, limiting variation and nuance in participant responses. However, it is important to note that the dismissive behavior displayed in the dismissive scenario has been identified in previous research as common physician-generated dismissive behavior (e.g., Armentor, 2017; Defenderfer et al., 2018; Hoffman & Tarzian, 2001; Johnston, Oprescu, & Gray, 2015; Ware, 1992). Further, social desirability could have impacted participant responses, as such, participants may have responded more harshly to the dismissive scenario than in an in-vivo, real world situation. Notably, participant identification of dismissive behavior does not necessarily reflect their behavior with patients.

### **Process and Recruitment**

The current study required the recruitment of actors and completing video recordings of eight different scenarios. It was initially identified as important for the provider actors to be medical providers in order to increase authenticity of the scenarios. One male and two female local medical providers agreed to assist with the study; however, due to scheduling and child care issues, both female providers were unable to attend the final recording session and therefore, a non-medical provider played the part of the female provider. Additionally, significant effort was made in order to recruit adolescent actors for the scenarios. The first step taken was contacting the theater department at a local university. Though there was initial interest from the department, after about a month of no response, additional avenues of recruitment had to be explored. A local theater group was then contacted, and similarly, there was initial interest and several months of e-mails and phone calls; however, there is did result in actor recruitment. Eventually, through mutual acquaintances, a local adult director and actor was willing to contact adolescent actors that would potentially be interested in participating. Both adolescent actors were interested and eventually, after some scheduling difficulties, recording occurred. The entire process of initial attempts to recruit actors and final recording took approximately six to seven months, significantly delaying the ability to submit the final project to the Institutional Review Board and began participant recruitment.

After completion of filming and editing of patient-provider video scenarios, the study received final IRB approval in January of 2019 and recruitment began shortly after. With the help of a local emergency department physician, contact was made with two local physician groups: an emergency department physicians group and a primary care physicians group. Recruitment e-mails were sent to members of the emergency physician group in February and March of 2019, resulting in approximately 25-30 participants. Additionally, recruitment e-mails

were sent to members to the primary care physicians group in March 2019, resulting in approximately 10-15 additional participants. Additional attempts were made to have e-mail reminders sent to group members; however, there was limited follow-up with the primary care physician group contact. More efforts were made to recruit medical providers through a Green Bay physician run charity organization in May and June of 2019. This resulted in additional 10-15 participants. Final participants were recruited through word of mouth through friends and family of the author.

**Continued recruitment efforts.** Significant efforts were made to contact other outside groups with either no response or no follow-up after an initial response; however, recent renewed contact with one Green Bay based physician group and a member of the Society of Emergency Medicine (SOEM) listserv board have been re-established. The chief medical officer of a local Green Bay primary care physician group has expressed interest in sharing the recruitment e-mail with her physician group. Additionally, working with two SOEM physician members, the current study, along with the preliminary data is being submitted to the SOEM listserv review committee in order to pursue recruitment through that listserv. Recruitment will continue in order to increase the study's current statistical power.

### **Future Directions**

As it is possible that the vignettes did not provide participants with enough information, it will be important for future studies to include a chronic pain presentation that includes more information that mirrors common ambiguous chronic pain presentations, such as a lack of physiological causes (e.g., normal imaging studies; Chambliss et al., 2002; Todd, 2005; Lioffi & Howard, 2016). This additional information may solicit responses more representative of real world scenarios. Additionally, future studies should investigate provider expectations and/or

beliefs of medical provider and patient behavior by gender prior to viewing scenarios in order to examine potential preconceived beliefs and how these may impact perception. Likely, providers have preconceived beliefs about how patients and providers should act in these scenarios and this likely would influence their behavior (Bertakis, 2009). Further, future studies should utilize qualitative methods when examining potential gender differences in chronic pain recommendations, as this may provide a more nuanced examination of more implicit biases.

Future studies should also investigate the use of video and in vivo dismissive and non-dismissive patient-provider scenarios in order to help train medical providers in use of acceptable and non-dismissive language with chronic pain patients. For example, providers could watch a scenario, provide a critique of the medical provider in the scenario, and offer additional ways in which the provider in the scenario could improve their behavior. This could challenge providers to not only identify acceptable language but also create a sense of awareness of their own behavior after highlighting the a peer's behavior.

It will be important for future studies to examine the impact of patient and provider ethnicity and age on participant perception of dismissive and non-dismissive scenarios. Participants view individual behavior differentially based on ethnicity (e.g., Brugess et al., 2006), which likely would impact how a medical provider views an adolescent patient's chronic pain presentation. Further, patient age could also have an impact on provider perception on reliability of a patient's pain symptoms. As symptom description of chronic pain can be difficult (e.g., APS, 2017; Chambliss et al., 2002), it may be especially difficult for children, who possess a more limited vocabulary, compared to adolescents or adults. This may then color a provider's understanding and belief of a younger child's pain symptoms.

### **Clinical Implications**



Several clinical implications are indicated by the data. First, parents have been identified by adolescent and young adult participants as the primary dismitter (Defenderfer et al., 2018); therefore, there is an opportunity for providers to model appropriate language and behavior for parents when an adolescent patient presents with a chronic pain complaint. As participants in the current study were able to identify dismissive language, it is likely that they also could identify parental dismissive language and model non-dismissive language and/or correct dismissive parental language. It is important to note that participants may have been especially sensitive to female patient scenarios; therefore, it will be important for providers to particularly attend to the importance of using non-dismissive language regardless of patient gender.

Further, as participants were easily able to identify dismissive language from fellow medical providers, it is possible this ability could be used to help train providers in identification of their own behavior and use of non-dismissive language. If primed to identify dismissive language in others, it is possible that providers would then be more aware of their behavior with patients. Practice identifying dismissive behavior of medical provider peers could provide the first step in training in the use of non-dismissive language. This is especially important with medical providers that are treating chronic pain patients, as these patients often present with complicated symptoms that involve physiological and psychological causes (e.g., Cambliss, Heggen, Copelan, & Pettignano, 2002; Lioffi & Howard, 2016). As providers present these patients with the rationale for psychosocial contributions to their chronic pain experience, it is especially important that providers use appropriate language that discusses the complex interplay of physiology and psychosocial stressors associated with chronic pain (e.g., APS, 2017). Finally, several participants who viewed the appropriate scenario identified empathetic language used by the medical providers, indicating that participants were aware and could identify appropriate

behavior. Modeling use of appropriate and empathic language in similar videos or in vivo scenarios could provide modeling and training for medical providers, while also providing them with language to use with patients in the future.

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A 16 year-old, White, female/male patient with no significant medical history presents with a chronic headache complaint in a primary care clinic. She/he reports that she/he has experienced painful headaches with sensitivity to light and sound nearly every day for three months, coinciding with the beginning of the school year. She/he reports that on most days her/his headache pain peaks at 7 or 8 out of 10. She/he reports missing about two days a month of school due to her/his chronic headaches and sometimes has difficulty completing her/his schoolwork. She/he has some trouble reporting details about the headaches and sometimes seems unsure of her/his answers, explaining that remembering things has been a problem. She/he has not experienced head trauma and has no recent vomiting. She/he has no familial history of headaches or migraines. She/he is relatively active most days, as part of a soccer team. She/he also tells you that she/he has been taking 2 ibuprofen pills every 6 hours nearly every day with limited relief from pain.

*Figure 1. Sample of adolescent chronic headache complaint vignette*

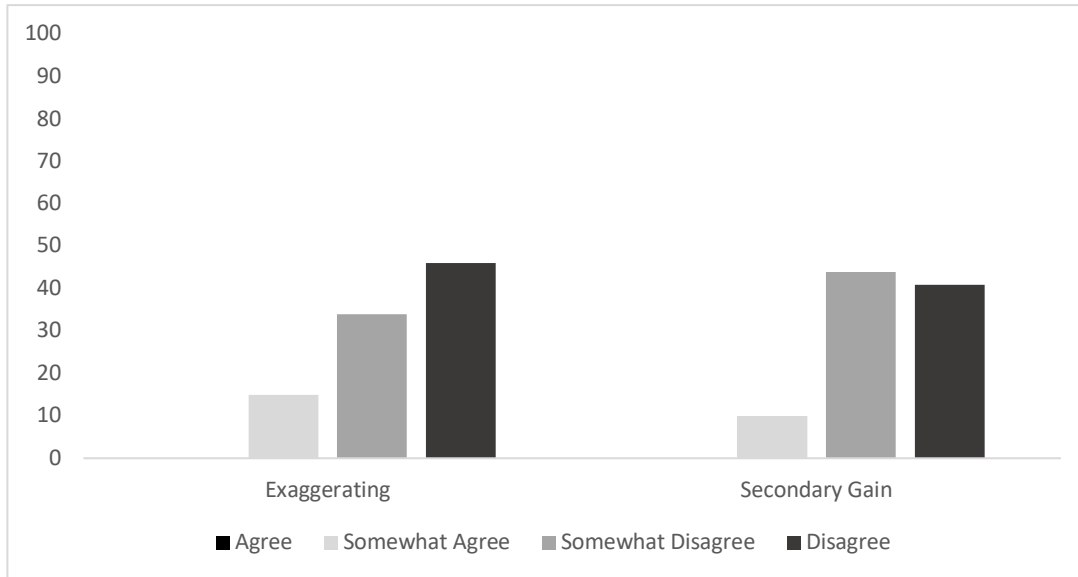


Figure 2. Provider perspectives regarding the patient's pain complaint.

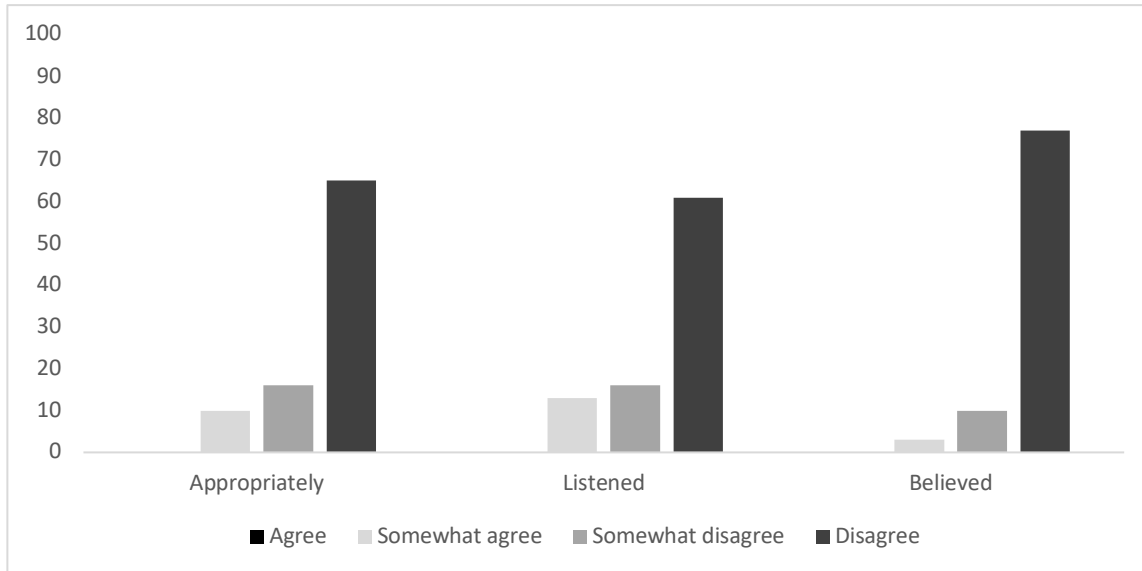


Figure 3. Participant response to medical provider behavior in dismissive scenario

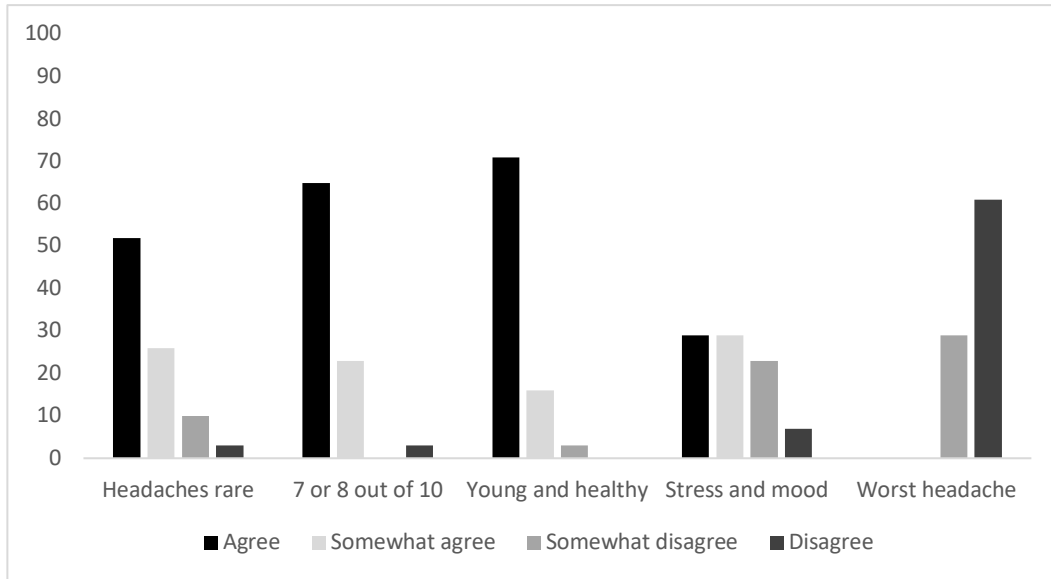


Figure 4. Participant response to specific provider statements in dismissive scenario

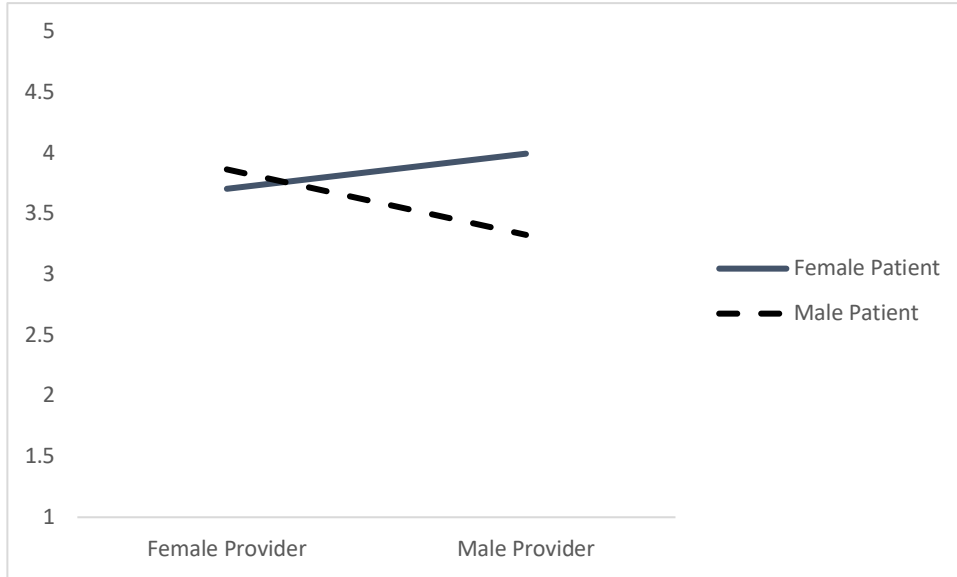


Figure 5. Provider gender and patient gender interaction: “You look so young and healthy! You know, you’re very active. You’re probably dehydrated.” (5=Agree dismissive; 1=Disagree dismissive)

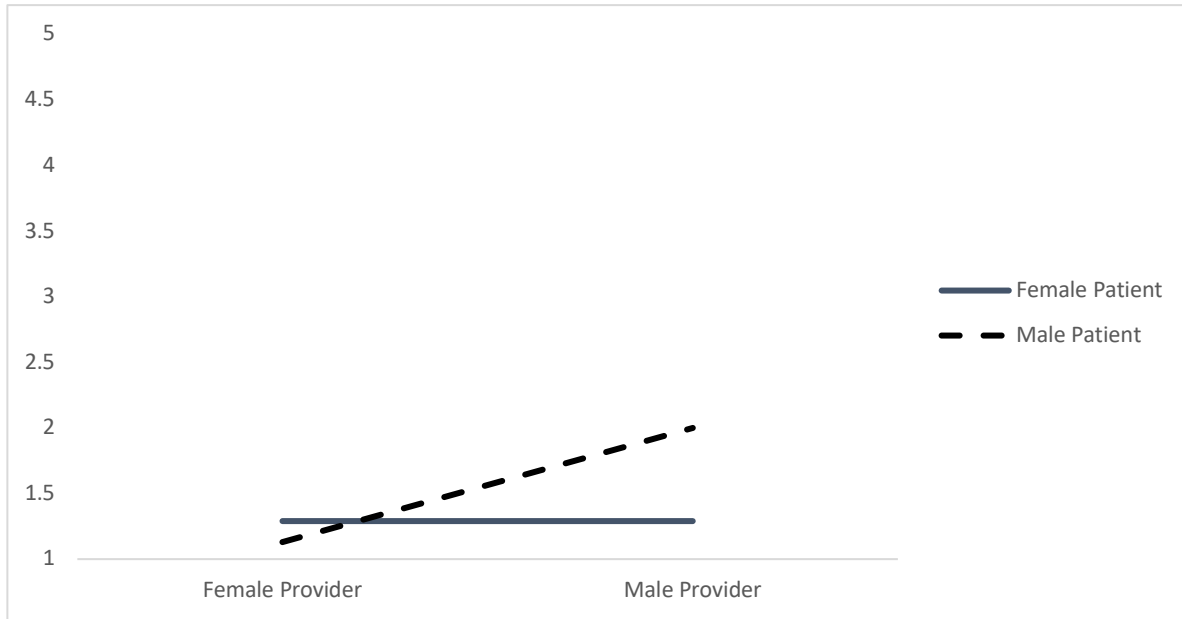


Figure 6. Provider gender and patient gender interaction: Overall, the provider addressed the patient's pain complaint appropriately. (1=very inappropriate; 5=very appropriate)



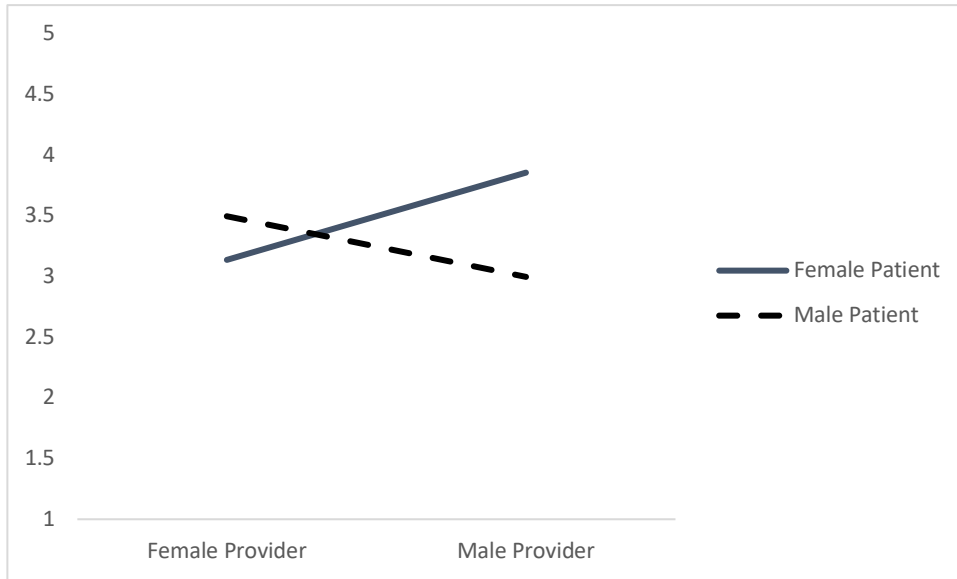


Figure 7. Provider gender and patient gender interaction: “It sounds like you’ve always been very healthy. Headaches like this are rare for someone at your age and with your medical and family history.” (5=Agree dismissive; 1=Disagree dismissive)

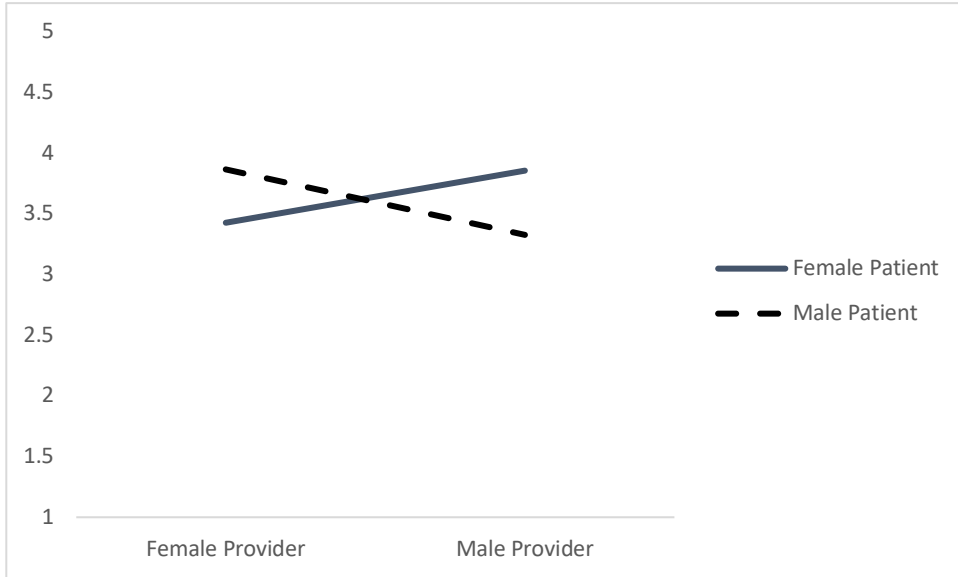
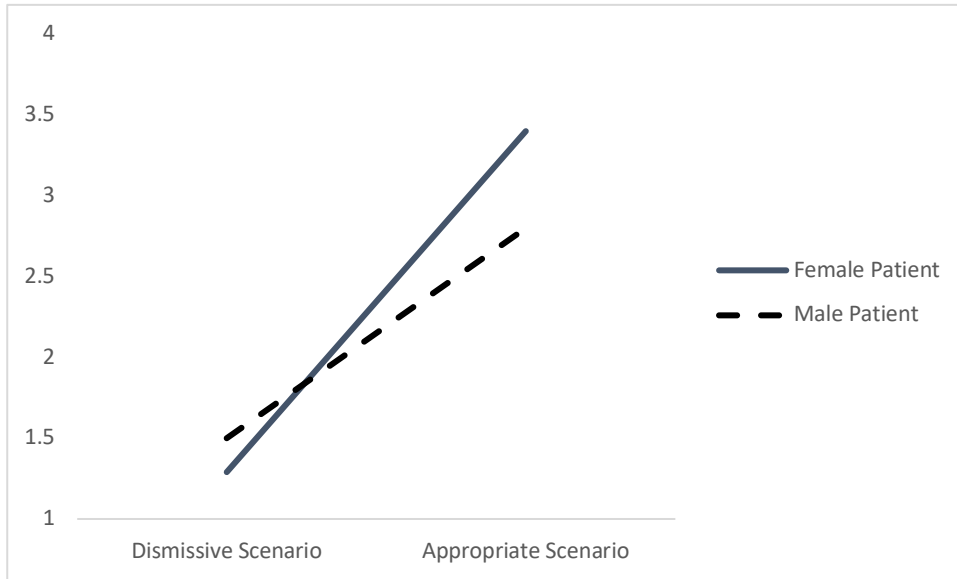


Figure 8. Provider gender X Patient gender interaction: “A 7 or 8 out of 10 is very severe, debilitating pain. You seem to be functioning pretty normally.” (5=Agree dismissive; 1=Disagree dismissive)



*Figure 9. Scenario X Patient gender interaction: Overall, the provider addressed the patient's pain complaint appropriately. (5=agree; 1=disagree)*

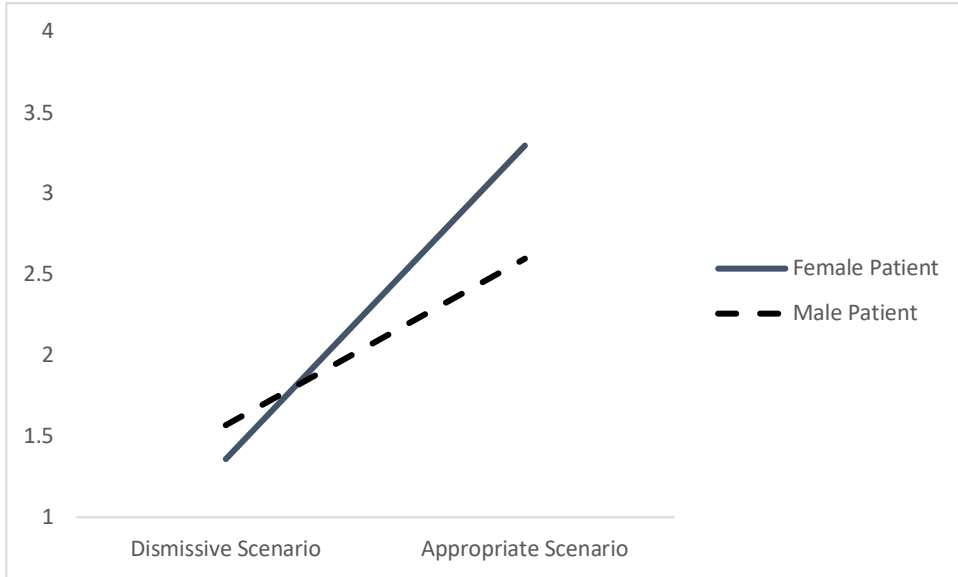


Figure 10. Scenario X Patient gender interaction: The provider listened to the patient. (4=agree; 1=disagree)

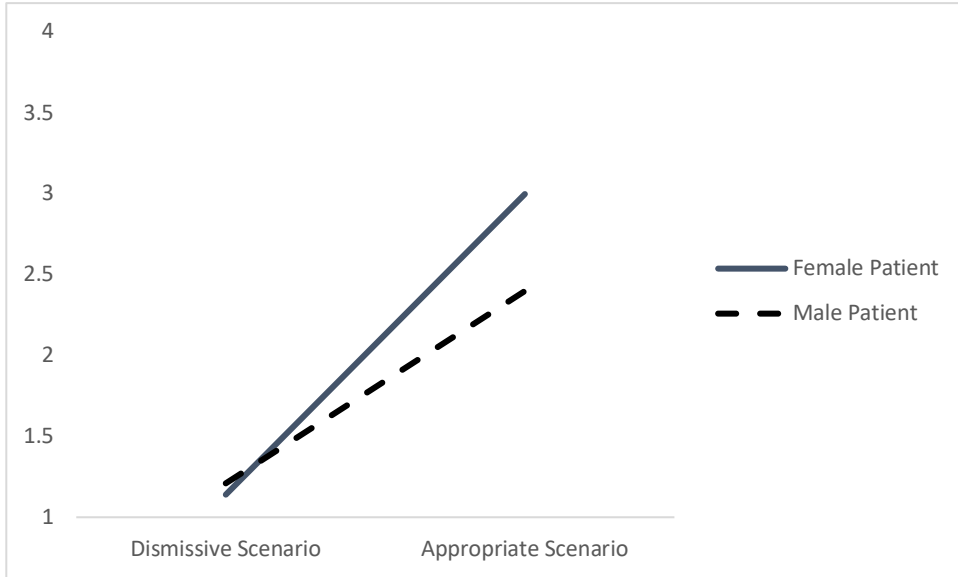


Figure 11. Scenario X Patient gender: The provider believed that the patient was reliably reporting their symptoms. (4=agree; 1=disagree)

Table 1. Participant demographic information

Variable	n (%)
<b>Gender</b>	
Female	34 (59.6)
Male	23 (40.4)
<b>Race/Ethnicity</b>	
Caucasian (non-Hispanic)	50 (87.7)
Asian	3 (5.3)
Latino/Hispanic	1 (1.8)
<b>Profession</b>	
Physician	34 (59.6)
Nurse Practitioner	7 (12.3)
Physician Assistant	16 (28.1)
<b>Clinic of primary practice*</b>	
Emergency Medicine	38 (64)
Primary Care	18 (31)
Urgent Care	3 (5)
<b>Ages treated*</b>	
Birth – 6	48 (81)
6 – 12	48 (81)
12 – 18	51 (86)
18 and older	25 (59)

\*Check all that apply

Table 2. Participant reaction to pain complaint by patient gender.

Question	Mean (SD)	T-Test	p-value	
“The patient is likely exaggerating their headache pain severity	Female	1.63 (0.69)	0.47	0.64
	Male	1.72 (0.80)		
“There is likely a psychological component to the patient’s headache complaint.”	Female	2.89 (1.00)	0.27	0.79
	Male	2.83 (0.71)		
“The patient needs specialty treatment for their headache symptoms.”	Female	2.85 (0.86)	0.39	0.70
	Male.	2.76 (1.00)		

Table 3. Means of level of agreement to quantitative statements related to the dismissive scenario.

	Patient gender	Provider gender	Mean (SD)
Appropriateness	Female	Female	1.29 (.76) <sup>a</sup>
		Male	1.29 (.48) <sup>a</sup>
		Total	1.29 (.61)
	Male	Female	1.13 (.36) <sup>a</sup>
		Male	2.00 (.76) <sup>a</sup>
		Total	1.50 (.76)
Total	Female	1.20 (.56) <sup>b</sup>	
	Male	1.62 (.77) <sup>b</sup>	
Listened	Female	Female	1.29 (.76)
		Male	1.43 (.54)
		Total	1.36 (.63)
	Male	Female	1.38 (.74)
		Male	1.83 (1.0)
		Total	1.57 (.85)
Total	Female	1.33 (.72)	
	Male	1.62 (.77)	
Believed	Female	Female	1.14 (.38)
		Male	1.14 (.38)
		Total	1.14 (.36)
	Male	Female	1.00 (.00)
		Male	1.50 (.84)
		Total	1.21 (.58)
Total	Female	1.07 (.26)	
	Male	1.31 (.63)	
Headaches Rare	Female	Female	3.14 (1.1) <sup>a</sup>
		Male	3.86 (.37) <sup>a</sup>
		Total	3.50 (.86)
	Male	Female	3.50 (.76) <sup>a</sup>
		Male	3.00 (.89) <sup>a</sup>
		Total	3.29 (.83)
Total	Female	3.33 (.90)	
	Male	3.46 (.78)	
7 or 8 out of 10	Female	Female	3.43 (1.13) <sup>a</sup>
		Male	3.86 (.38) <sup>a</sup>
		Total	3.64 (.84)
	Male	Female	3.87 (.35) <sup>a</sup>
		Male	3.33 (.52) <sup>a</sup>
		Total	3.64 (.50)
Total	Female	3.67 (.82)	
	Male	3.64 (.68)	
Young and healthy	Female	Female	3.71 (.76) <sup>a</sup>
		Male	4.00 (.00) <sup>a</sup>
		Total	3.86 (.54)
	Male	Female	3.87 (.35) <sup>a</sup>
		Male	3.33 (.52) <sup>a</sup>
		Total	3.64 (.50)
Total	Female	3.80 (.56)	
	Male	3.69 (.48)	
Stress and mood	Female	Female	2.71 (1.11)
		Male	3.00 (1.00)
		Total	2.86 (1.03)
	Male	Female	3.25 (.71)
		Male	2.60 (1.14)
		Total	3.00 (.91)
Total	Female	3.00 (.93)	
	Male	2.83 (1.03)	

<sup>a</sup>large effect size (interaction); <sup>b</sup>large effect size (main effect)



Table 4. Main effects and two-way interactions: Dismissive scenario

		<i>F</i>	<i>df</i>	<i>p-value</i>	<i>eta</i> <sup>2</sup>
Appropriateness	Patient gender	1.31	1, 24	.26	.05
	Provider gender	3.27		.08	.12*
	Provider X Patient gender	3.27		.08	.12*
Listened	Patient gender	.73	1, 24	.40	.03
	Provider gender	1.09		.31	.04
	Provider X Patient gender	.30		.59	.01
Believed	Patient gender	.37	1, 24	.55	.02
	Provider gender	2.0		.17	.08
	Provider X Patient gender	2.0		.17	.08
Headaches rare	Patient gender	.66	1, 24	.42	.03
	Provider gender	.12		.73	.005
	Provider X Patient gender	3.90		.06	.14*
7 or 8 out of 10	Patient gender	.02	1, 24	.88	.001
	Provider gender	.05		.83	.002
	Provider X Patient gender	3.63		.07	.13*
Young and healthy	Patient gender	1.89	1, 24	.18	.07
	Provider gender	.48		.50	.02
	Provider X Patient gender	5.05		.03	.17*
Stress and mood	Patient gender	.03	1, 23	.86	.001
	Provider gender	.23		.64	.01
	Provider X Patient gender	1.49		.24	.06
Overall quality	Patient gender	.03	1, 24	.87	.001
	Provider gender	.80		.38	.03
	Provider X Patient gender	1.82		1.90	.07

\*large effect size

Table 5. Main effects and two-way interactions: Both scenario types

		Dismissive <sup>a</sup> / Female <sup>b</sup>	Appropriate <sup>a</sup> / Male <sup>b</sup>	<i>F</i>	<i>df</i>	<i>p-value</i>	<i>eta</i> <sup>2</sup>
		<i>M (SD)</i>	<i>M (SD)</i>				
Appropriateness	Scenario	1.39 <sup>a</sup> (.69)	3.10 <sup>a</sup> (.91)	53.87	1, 40	.00	.57*
	Provider Gender	2.04 <sup>b</sup> (1.22)	2.18 <sup>b</sup> (1.10)	.48		.50	.01
	Patient Gender	2.17 <sup>b</sup> (1.24)	2.04 <sup>b</sup> (1.08)	.43		.51	.01
	Provider X Scenario			1.54		.22	.04
	Patient X Scenario			3.53		.07	.10*
Listened	Scenario	1.46 <sup>a</sup> (.74)	2.95 <sup>a</sup> (.95)	35.28	1, 40	.00	.47*
	Provider Gender	2.00 <sup>b</sup> (1.13)	2.18 <sup>b</sup> (1.10)	.87		.36	.02
	Patient Gender	2.17 <sup>b</sup> (1.20)	2.00 <sup>b</sup> (1.02)	.81		.37	.02
	Provider X Scenario			.08		.78	.002
	Patient X Scenario			3.62		.06	.10*
Believed	Scenario	1.18 <sup>a</sup> (.48)	2.70 <sup>a</sup> (.80)	3.35	1, 40	.00	.62*
	Provider Gender	1.81 <sup>b</sup> (1.02)	1.82 <sup>b</sup> (.96)	.013		.91	.00
	Patient Gender	1.92 <sup>b</sup> (1.06)	1.71 <sup>b</sup> (.91)	1.54		.22	.04
	Provider X Scenario			1.59		.22	.04
	Patient X Scenario			3.35		.08	.10*
Quality	Scenario	2.86 <sup>a</sup> (1.65)	6.37 <sup>a</sup> (1.57)	50.35	1, 39	.00	.56*
	Provider Gender	4.38 <sup>b</sup> (2.64)	4.14 <sup>b</sup> (2.03)	.20		.66	.01
	Patient Gender	4.58 <sup>b</sup> (2.57)	3.96 <sup>b</sup> (2.14)	1.33		.26	.03
	Provider X Scenario			2.72		.10	.07
	Patient X Scenario			1.87		.18	.05

\*large effect size

Table 6: Qualitative categories by question.

Code	N(59)	Percentage
<b><i>What treatment(s) might you recommend?</i></b>		
Medication	24	40.0%
Additional testing	22	36.7%
Referral	20	33.3%
Lifestyle/non-pharmacological changes	16	26.7%
Discontinuation of ibuprofen/NSAIDs	14	23.3%
Symptom tracking/Headache journal	10	16.7%
Pain clinic/headache clinic specific recommendation	10	16.7%
Psychosocial concerns	9	15.0%
Need more information	4	6.7%
Close follow-up with PMD	3	5.0%
<b><i>Why would you recommend this treatment?</i></b>		
Gather more information	22	36.7%
Symptom concerns	16	26.7%
Concern for rebound headaches	11	18.3%
Psychosocial concerns/stress reduction	11	18.3%
Pain relief	8	13.3%
Lifestyle changes (other than psychosocial)	4	6.7%
Specialty treatment	4	6.7%
Typical migraine treatment	3	5.0%

Table 7. What treatment(s) would you recommend? Differences by patient gender

Variable	n (%)	Phi coefficient
Medication		
Female	15 (63%)	0.22
Male	9 (38%)	
Additional Testing		
Female	9 (31%)	0.13
Male	13 (43%)	
Referral		
Female	12 (41%)	0.16
Male	8 (27%)	
Lifestyle changes		
Female	10 (35%)	0.16
Male	6 (20%)	
Discontinue ibuprofen		
Female	9 (31%)	0.17
Male	5 (17%)	
Symptom tracking		
Female	6 (21%)	0.10
Male	4 (13%)	
Pain/Headache clinic referral		
Female	4 (14%)	0.08
Male	6 (20%)	
Psychosocial considerations		
Female	6 (21%)	0.15
Male	3 (10%)	
More information needed		
Female	2 (7%)	0.01
Male	2 (7%)	
Close follow-up with PMD		
Female	2 (7%)	0.08
Male	1 (3%)	

Table 8. Why would you recommend this treatment? Differences by patient gender

Variable	n (%)	Phi coefficient
Gather more info		
Female	9 (41%)	0.13
Male	13 (59%)	
Symptom concerns		
Female	7 (24%)	0.07
Male	9 (30%)	
Concern for rebound headaches		
Female	7 (24%)	0.14
Male	4 (13%)	
Psychosocial concerns		
Female	9 (31%)	0.31*
Male	2 (7%)	
Pain relief		
Female	5 (17%)	0.11
Male	3 (10%)	
Lifestyle changes		
Female	3 (10%)	0.14
Male	1 (3%)	
Specialty treatment		
Female	3 (10%)	0.14
Male	1 (3%)	
Typical migraine treatment		
Female	2 (7%)	0.08
Male	1 (3%)	

\* $p < .05$

## Appendix A

### Informational Document

I am Eva Iglar, a PhD candidate at the University of Wisconsin-Milwaukee, under the supervision of Hobart Davies, PhD and currently working on a project examining the medical provider reactions to an adolescent chronic pain complaint in order to complete the dissertation requirement for my degree.

The project aims to gather information on how medical providers would treat an adolescent chronic pain complaint and how they would react to a scenario in which an adolescent presents with a chronic headache complaint during a medical visit. Participation in the study will take approximately 15 minutes.

Prescribing providers such as physicians, physician assistants, and nurse practitioners are eligible to participate. Participants are eligible if they have completed their medical training (including completing residency for physicians) and treat adolescents in primary care settings including urgent care, family medicine or pediatric primary care clinic, or an emergency department.

Once a provider agrees to participate they will be asked to complete a short survey, listen to a hypothetical scenario of an adolescent pain complaint, and watch a short video clip of a provider-patient interaction. They then will answer a series of open- and closed-ended questions about the scenario and the video clip.

We will not ask for any identifying information, and the survey will be anonymous. The website used for completing the survey uses encryption technology to help safeguard answers. The survey is encrypted using 128-bit SSL Technology that is the equivalent to the industry standard for securely transmitting credit card information over the Internet. Once research data is stored on the Qualtrics server, it is held in an isolated database that can only be accessed by the Principal Investigator and core members of the research team. Despite these protections, there is always the chance that someone could access information on the website through hacking, but the information we will collect is neither sensitive nor potentially damaging. We will not record any IP addresses or other information about the computer you are using.

There is no direct benefit to providers from participating in this project, but the information they provide will help us understand medical provider's reactions and treatment of adolescent pain complaints in a primary care setting. Additionally, the study team and I hope the information from this study will help us assist providers in how to most effectively communicate with young patients presenting with chronic pain complaints in the future.

If you have any question or want more information about this project, please contact me at:

Eva Iglar, MA

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PO Box 413, Milwaukee, WI 53201-0413

[evaigler@uwm.edu](mailto:evaigler@uwm.edu)

## Appendix B

### Dismissive Scenario Script

Provider: So I understand that you've been experiencing headaches recently.

Patient: Yes. They are so bad that sometimes I have to come home from school, or I can't go to school at all.

Provider: They're so bad that you're missing school? It sounds like you've always been very healthy. *Headaches like this are rare for someone at your age and with your medical and family history.* When did these headaches start?

Patient: About three months ago, in September, around when school started.

Provider: *Ahh I see. Has something at school been stressful? How is school going? Maybe stress has something to do with these headaches?*

Patient: School is fine, besides these terrible headaches. I don't feel more stressed, except for having these headaches.

Provider: *Have you ever seen a counselor for stress or your mood?*

Patient: No. I don't think I need a counselor. I'm still trying to go to school every day, but I wonder if I need a doctor's note for the days my headaches are really bad and I can't go.

Provider: I don't know if that is necessary. *I think if you've been able to go to school now, you should be able to keep going.* Did anything else happen around this time? Did you hit your head really hard or lose consciousness?

Patient: No. They just started happening.

Provider: Ok. On a scale of 1-10 how severe are your worst headaches?

Patient: It's hard to say. Probably like a 7 or an 8? I'm not sure. I guess it ranges everyday. Sometimes bright lights and loud sounds make them worse. It's really bad.

Provider: *So you're not sure how severe your headaches are? A 7 or 8 out of 10 is very severe, debilitating pain. You seem to be functioning pretty normally.* How often are the headaches happening?

Patient: Almost every day. It's really awful.

Provider (in surprised tone): You look so young and healthy! *You know, you're very active. You're probably dehydrated. I'm assuming they're mostly happening on school days, not on weekends.*

Patient: Not really. Sometimes I get headaches on weekends too I guess. I guess I'm not sure. It's hard to remember all of these details.

Provider: *It sounds like you need to drink more water and stop taking over the counter medicine as much and the headaches should get better.*

Patient: I've tried drinking more water! My head hurts so much sometimes that I can't think straight. Maybe I need to see a specialist or something.

Provider: *I don't think it's time for that yet.* It's probably something that limiting the ibuprofen and drinking more water can help. It might be important for you to talk to someone about stress at school and your mood. Let's talk to your parents about what we can do with lifestyle first without getting you stronger meds or referring you to a specialist.

### Non-dismissive Scenario Script

Provider: So I understand that you've been experiencing headaches recently.

Patient: Yes. They are so bad that sometimes I have to come home from school, or I can't go to school at all.

Provider: Oh no! That sounds really difficult and frustrating. Typically, headaches like this are rare for someone at your age and with your medical and family history, but that doesn't mean they can't happen. When did these headaches start?

Patient: About three months ago, in September, around when school started.

Provider: Well, a lot of things can play into getting headaches, from dehydration to caffeine, to stress. Stress can manifest as headaches and other symptoms but no matter what it comes from it can still be frustrating. Have you experienced more stress than usual since school started? Did anything else happen around this time? Did you hit your head really hard or lose consciousness?

Patient: No and school is fine, besides these terrible headaches. I don't feel more stressed, except for having these headaches.

Provider: These headaches do sound stressful. It might be possible that the increased stress because of the headaches may then make the headaches worse. It is possible that talking to someone might help you manage some everyday stressors.

Patient: No. I don't think I need a counselor. I'm still trying to go to school every day, but I wonder if I need a doctor's note for the days my headaches are really bad and I can't go.

Provider: I can certainly talk to you and your parents about what we can do to make school easier for you when you have headaches. This could be talking to school to allow you to have pain



medication available or allowing you to step out of the classroom for a short period of time until the headache improves. I'd like you to keep trying to go to school as best you can.

Patient: Ok. I'd like to try to figure something out.

Provider: I would too. On a scale of 1-10 how severe are your worst headaches?

Patient: It's hard to say. Probably like a 7 or an 8? I'm not sure. I guess it ranges every day. Sometimes bright lights and loud sounds make them worse. It's really bad.

Provider: Ok a 7 or an 8. How often are the headaches happening?

Patient: Almost every day. It's really awful.

Provider: Hmm, do you think you're drinking enough water during the day? You're pretty active. It sounds like you could also be dehydrated.

Patient: I've tried drinking more water! My head hurts so much sometimes that I can't think straight.

Provider: Ok. So it's probably more than just dehydration. Are they mostly happening on school days?

Patient: Not really. Sometimes I get headaches on weekends too I guess. I guess I'm not sure. It's hard to remember all of these details.

Provider: Ok. It sounds like we need to get a better picture of how often the headaches are happening and when. It's often hard to remember these details much later. It will be helpful for you to keep a diary of your headaches.

Patient: Maybe I need to see a specialist or something.

Provider: Before we do that we need to get a better understanding of your symptoms. I need you to keep a diary of when you get headaches, how long they last and how severe the pain is using the 1-10 pain scale. It will guide the treatment plan we make. I will recommend a medication that has been shown to be effective in medical studies for the symptoms you have described. I think it will work for you but the diary will help us to know whether it is working well enough or if we need to consider an alternative that is best for you. I'd like to talk to you and your parents about this medication and keeping a diary. And, I'd like to see you back in two to three weeks to follow up on your headaches and look at the diary together.

## Appendix C

### Demographic Questionnaire

1. What is your gender
  - a. Female
  - b. Male
  - c. Other (please specify) \_\_\_\_\_
2. What is your current age? \_\_\_\_\_
3. What race/ethnicity do you consider yourself to be?
  - a. African-America/Black
  - b. Asian (including South Asian and Southeast Asian)
  - c. Latino/Hispanic
  - d. Middle Eastern
  - e. Native American
  - f. Pacific Islander
  - g. White
  - h. Mixed
  - i. Other (please specify) \_\_\_\_\_
4. What is your profession?
  - a. Physician
  - b. Nurse Practitioner
  - c. Physician Assistant
  - d. Other (please specify) \_\_\_\_\_
5. In what clinic do you primarily practice?
  - a. Primary Care
  - b. Urgent Care
  - c. Emergency Medicine
  - d. Other (please specify) \_\_\_\_\_
6. Ages primarily seen in primary practice (select all that apply):
  - a. Birth-6
  - b. 6-12
  - c. 12-18
  - d. 18 plus
7. How many years have you been in practice? (If a physician, consider only post-residency years as years in practice) \_\_\_\_\_

## Appendix D

### Vignette Questionnaire

Please indicate how much you agree or disagree with the following statements.

1=disagree, 2=somewhat disagree, 3=somewhat agree, 4=agree

1. The patient is likely exaggerating their headache pain severity.
2. The patient is likely looking to get out of school and/or other obligations.
3. There is likely a psychological component to the patient's headache complaint.
4. The patient needs specialty treatment for their headache symptoms.
5. The patient may have an organic brain concern that requires further treatment.
6. What treatment(s) might you recommend? \_\_\_\_\_
7. Why would you recommend this treatment? \_\_\_\_\_
8. How would you explain the recommended treatment (or lack of treatment) to the patient?  
\_\_\_\_\_

## Appendix E

### Dismissive Scenario Questionnaire

Please indicate how much you agree or disagree with the following statements.

1=disagree, 2=somewhat disagree, 3=somewhat agree, 4=agree

1. Overall, the provider addressed the patient's pain complaint appropriately.
2. The provider listened to the patient.
3. The provider believed that the patient was reliably reporting their symptoms.
4. The following statement was dismissive of the patient's pain:
  - a. "It sounds like you've always been very healthy. Headaches like this are rare for someone at your age and with your medical and family history."
  - b. "A 7 or 8 out of 10 is very severe, debilitating pain. You seem to be functioning pretty normally."
  - c. "You look so young and healthy! You know, you're very active. You're probably dehydrated."
  - d. "It might be important for you to talk to someone about stress at school and your mood."
  - e. "On a scale of 1-10 how severe are your worst headaches?"
5. Please rate the overall quality of the provider's interaction with the patient on a scale from 1 to 10 (1=very poor; 10=excellent).
6. What did the provider do well in the in the video? \_\_\_\_\_
7. What could the provider have done better? \_\_\_\_\_
8. What (if anything) would you do differently than the provider in the video? \_\_\_\_\_

## Appendix F

### Non-Dismissive Scenario Questionnaire

Please indicate how much you agree or disagree with the following statements.

1=disagree, 2=somewhat disagree, 3=somewhat agree, 4=agree

1. Overall, the provider addressed the patient's pain complaint appropriately.
2. The provider listened to the patient.
3. The provider believed that the patient was reliably reporting their symptoms.
4. Please rate the overall quality of the provider's interaction with the patient on a scale from 1 to 10 (1=very poor; 10=excellent).
5. What did the provider do well in the in the video? \_\_\_\_\_
6. What could the provider have done better? \_\_\_\_\_
7. What (if anything) would you do differently than the provider in the video? \_\_\_\_\_

## Curriculum Vitae

### Education

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- In Progress    PhD Psychology, University of Wisconsin-Milwaukee, Milwaukee WI  
Clinical Psychology Track  
Advisor: W. Hobart Davies, PhD  
Defense Passed: August 2019  
*Dissertation: Medical Provider Reactions to an Adolescent Chronic Pain Complaint and a Dismissive Interaction*
- 2012            MA Clinical Psychology, Minnesota State University, Mankato, MN  
Advisor: Jeffrey Buchanan, PhD  
*Thesis: Determining musical preferences in persons with dementia: Comparing caregiver options to stimulus preference assessment*
- 2008, 2010    BA Psychology (2010) and Spanish (2008)  
University of Wisconsin-Stevens Point, Stevens Point, WI  
Advisor: Anne Gervasio, PhD

### Clinical Experience

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#### **Children's Hospital and Clinics of Minnesota-St Paul Campus, Doctoral Intern**

(8/2019-present)

Provide ongoing evidence-based treatments for children and adolescents with a variety of mental health concerns including ADHD, anxiety, depression, adjustment, trauma, and impulse control disorders. Conduct psychodiagnostics assessments for children and adolescents. Provide consultation-liaison services for children, adolescents and their families in inpatient medical units. Provide brief screening and psychiatric consultation in a community pediatric primary care clinic.

Supervisors: Sharon Berry, PhD; Kevin Coleman, PsyD; Rebecca Vaurio, PhD; Sarah Jerstad, PhD

#### **Children's Hospital of Wisconsin Hematology/Oncology/Bone Marrow Transplant Clinic**

(8/2018-6/2019)

Conducted brief screenings and psychiatric consultation with patients in multidisciplinary sickle cell disease, acute lymphoblastic leukemia, and survivorship clinics. Provided acceptance-based interventions for patients and families adjusting to new diagnoses. Implemented cognitive-behavioral interventions for patients with procedural anxiety, depression, sleep problems, treatment adherence issues, and treatment related stressors. Conducted neuropsychological evaluations for sickle cell and bone marrow transplant patients.

Supervisors: Kristen Bingen, PhD; Jennifer Hoag, PhD; Jeffrey Karst, PhD

#### **Supervision of Assessments in the UWM Psychology Clinic (8/2018-5/2019)**

Conducted live observation of child and adult psychodiagnostic assessments of junior clinical psychology graduate students. Provided feedback on clinical interviewing and testing skills.

Supervisors: Bonita Klein-Tasman, PhD; Kristin Smith, PhD

**Children’s Hospital of Wisconsin High Risk Asthma Clinic (9/2017-6/2018)**

Conducted brief screenings and psychiatric consultation with patients in a multidisciplinary clinic for children and adolescents with high-risk and poorly controlled asthma. Provided behavioral based interventions and motivational interviewing in order to work with patients and families to improve adherence to asthma and allergy medications, and implemented behavioral interventions for procedural/medical anxiety and needle phobia. Coordinated care plans with members of the high-risk asthma team including pulmonologists, allergists, advanced practice nurses, social workers, and nursing staff.

Supervisors: Patricia Marik, PsyD; Jacquelyn Smith, PhD

**Children’s Hospital of Wisconsin Psychiatry and Behavioral Medicine Clinic (9/2017-6/2018)**

Provided evidenced-based treatments for child anxiety (Modular Cognitive Behavioral Therapy for Childhood Anxiety Disorders; Mindfulness based interventions), depression (Behavioral Activation and Cognitive Behavioral Therapy), ADHD (Behavioral Therapy for ADHD), and disruptive behavior (Behavior Therapy), along with parent training for management of anxiety, disruptive behavior and ADHD.

Supervisor: Matthew Jandrisevits, PhD

**Therapy Practicum in the UWM Psychology Clinic (8/2016-6/2019)**

Provided evidence-based treatments for social anxiety and GAD (Cognitive Behavioral Therapy, Acceptance and Commitment Therapy), depression (Behavioral Activation, Cognitive Behavioral Therapy) and eating disorders and body image issues (Cognitive Behavioral Therapy for Eating Disorders) with adolescent and adult members of the community. Co-led an adolescent/young adult Body Image therapy group using *The Body Image Workbook* (Cash, 2008).

Supervisor: Stacey Nye, PhD, FAED

**Child Neuropsychology Specialty Clinic in the UWM Psychology Clinic (6/2016-5/2019)**

Conducted psychodiagnostic evaluations for community children and adolescents with attention and/or learning disorder concerns. Coordinated with special education and school administration staff and participate in IEP and 504 planning meetings.

Supervisor: Bonita Klein-Tasman, PhD

**Psychology Clinic Teaching Assistant in the UWM Psychology Clinic (8/2017-8/2018)**

Conducted structured intake interviews using the Multi-International Neuropsychiatric Interview 7.0 (MINI 7.0) for potential new community therapy clients. Assigned new clients to fellow graduate students working in the UWM Psychology Clinic. Worked with community providers to refer clients to appropriate treatment. Monitored and audited student therapist paperwork and client files. Assisted in supervision of more junior student therapists. Organized UWM Clinical Psychology interview day.

Supervisor: Stacey Nye, PhD, FAED

**Children’s Hospital of Wisconsin Outpatient Toileting Clinic (10/2016-6/2017)**

Conducted structured intake assessments and implemented brief interventions utilizing behavioral strategies to promote appropriate toileting and medication adherence in children with enuresis or encopresis.

Supervisors: Alan Silverman, PhD; W. Hobart Davies, PhD

**Assessment Practicum in the UWM Psychology Clinic (8/2015-5/2016)**

Conducted psychodiagnostic evaluations and learning disability assessments using an array of achievement, cognitive, personality, and behavioral measures for community adolescent and adult clients. Completed structured clinical interviews, reports, and feedback sessions.

Supervisors: Kristin Smith, PhD, Hanjoo Lee, PhD

**Project Associate: Awakenings Project at Minnesota State University-Mankato (3/2011-6/2011)**

The *Awakenings Project* is a statewide nursing home project designed to reduce the use of psychotropic medications taken to reduce problem and aggressive behaviors of individuals with dementia. Observed daily behaviors of multiple elderly residents, interviewed nursing staff in a memory care unit of a local nursing home regarding the topography and frequency of problem behaviors. Conducted preference assessment and guided nursing staff in performing interventions to reduce problem behaviors during routine daily cares.

Supervisor: Jeffrey Buchanan, PhD

**Clinical Practicum Student at Mayo Clinic Health Systems (6/2011-11/2011)**

Conducted psychodiagnostic testing for adult clients using a variety of cognitive, achievement, personality, and memory tests. Assisted with report writing and observed feedback sessions.

Supervisor: Angela Buffington, PhD

**Research Experience**

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**Graduate Student Researcher, UWM Child Stress and Coping Lab (8/2015-present)**

Organize and co-lead qualitative coding teams for community health-related research projects. Supervising undergraduate senior thesis projects pertaining to chronic pain, parental psychosocial variables, and eating disorders. Develop mixed-methods data collection program for community adolescents/young adults to investigate the impact of serious illness diagnosis/injury on peer relationships and explore pain dismissal experiences and attitudes. Developed and assisted in the development and validation of two measures regarding patient/family evaluation of communication about medication by providers during a medical visit.

Supervisor: W. Hobart Davies, PhD

**Clinical Research Assistant at the Medical College of Wisconsin (8/2015-6/2017)**

Assisted in development, implementation, and assessment of a community group intervention to promote healthy behaviors with rural high school students at high risk for development of drug and alcohol abuse. Coordinated with community organizers and teachers. Organized literature reviews for grant applications; managed statistical database; conducted statistical analyses; prepared conference materials. Assisted in development and design of an online toolkit in order to distribute the group intervention materials to similar high-risk rural communities.

Supervisor: Angela Stanley, PsyD



### **Clinical Research Coordinator at the Medical College of Wisconsin (10/2012-8/2015)**

Worked within the Clinical Trials Office as the non-therapeutic Clinical Research Coordinator. Managed investigator initiated research projects of psychologists and physicians in the Hematology/Oncology/BMT Department. Screened, enrolled, and followed child, adolescent, and family participants for psychosocial research. Maintained research databases; ran statistical analyses; submitted IRB documents and reports. Communicated and collaborated with other MCW departments, Froedtert Memorial Lutheran Hospital Cancer Center, and American Family Children's Hospital.

Supervisors: Kristen Bingen, PhD; Jennifer Hoag, PhD; Matthew Myrvik, PhD

### **Graduate Student Research Assistant at Minnesota State University-Mankato (8/2010-5/2012)**

Assisted in research involving behavioral functional analyses and implementation of behavioral plans for individuals with dementia in memory care units. Developed and implemented a single subject research project involving systematic preference assessment with elderly participants with a diagnosis of moderate to severe dementia.

Supervisor: Jeffrey Buchanan, PhD

### **Publications**

---

- Myrvik, M.P., Beverung, L.M., Panepinto, J.A., **Igler, E.C.**, Englebert, N., & Bingen, K. M. (2014). Integration of electronic patient-reported outcomes (ePROs) into pediatric clinic settings across hematology/oncology/bone marrow transplant. *Clinical Practice in Pediatric Psychology*, 2, 39-49.
- Acquazzino, M., **Igler, E.**, Dasgupta, M., Simpson, P., Browning, M., & Brandow, A.M. (2017). Patient-reported neuropathic pain in adolescent and young adult oncology patients. *Pediatric Blood and Cancer*, 64, 1-7.
- Igler, E.C.**, Defenderfer, E.K., Lang, A.C., Bauer, K., Uihlein, J., & Davies, W.H. (2017). Gender differences in the experience of pain dismissal in an adolescent sample. *Journal of Child Health Care*, 21, 381-391. doi: 10.1177/1367493517727132
- Defenderfer, E.K., Bauer, K., **Igler, E.**, Uihlein, J., & Davies, W.H. (2018). The experience of pain dismissal in adolescence. *Clinical Journal of Pain*, 34, 162-167. doi: 10.1097/AJP.0000000000000530
- Karst, J., Hoag, J., Sherilyn, C., Schmidt, D., Anderson, L., Englebert, N., **Igler, E.**, & Bingen, K. (2018). Assessment of end-of-treatment transition needs for pediatric cancer and HSCT patients and their families. *Pediatric Blood & Cancer*, 65, e27109. doi: 10.1002/pbc.27109
- Lang, A.C, **Igler, E.C.**, Defenderfer, E.K., Uihlein, J.A., Brimeyer, C.T., & Davies, W.H. (2018). Evaluating differential effects of specific pain dismissal interactions with physicians. *Clinical Journal of Pain*, 34, 664-669. doi: 10.1177/1367493517727132
- Plevinsky, J., Greenley, R., Bugno, L., Carreon, S., **Igler, E.**, & Davies, W.H. (2018). Development and preliminary validation of the Communication about Medication by Providers – Adolescent and Young Adult (CAMP-AYA) version. *Children's Healthcare*. doi: 10.1080/02739615.2018.1531757

- Hoag, J.A., **Igler, E.C.**, Karst, J., Bingen, K., & Kupst, M.J. (2019). Decision making, knowledge, and psychosocial outcomes in pediatric siblings identified to donate hematopoietic stem cells. *Journal of Psychosocial Oncology*, 3. doi: 10.1080/07347332.2018.1489443
- Igler, E.C.**, Sejkora, E.K.D., Greenley, R.N., Plevinsky, J.M., Bugno, L.T., Carreon, S., & Davies, W.H. (2019). Development and initial validation of the Communication about Medication by Providers-Parent Scale (CAMP-P). *Global Pediatric Health*, 6, 1-11. doi: 10.1177/2333794X19857980
- Igler, E.C.**, Sejkora, E.K.D., Austin, J., & Davies, W.H. (2019). Friendship changes following a friend's school absence after serious illness or injury. *Journal of Child Health Care*. doi: 10.1177/1367493519853437
- Igler, E.C.**, Lang, A.C., Balistreri, K., Sejkora, E.K.D., Drendel, A., Davies, W.H. (2020). Parent perceptions of dismissive provider reactions to pediatric chronic pain reports. *Clinical Journal of Pain*, 36, 80-87. doi: 10.1097/AJP.0000000000000776
- Defenderfer, E.K., **Igler, E.C.**, & Davies, W.H. (in press). Parent reported toilet training practices and the role of pediatric primary care providers. *Journal of American Association of Nurse Practitioners*

### **(In Preparation)**

- Igler, E.C.**, Austin, J., Sejkora, E.K.D., & Davies, W.H. (in preparation). Friends' perspective: Reactions to adolescent disclosure of chronic conditions.
- Igler, E.C.**, Brown, S.A., Austin, J.E., Lang, A.C., & Davies, W.H. (in preparation). Perspectives on weight measurement within a physical education classroom.
- Igler, E.C.**, Reynolds, S.I., & Davies, W.H. (in preparation). Stability and change in friendship following a chronic illness or injury in adolescence.
- Lang, A.C., **Igler, E.C.**, Linneman, N.G., Drendel, A., & Davies, W.H. (in preparation). Reactions to physician-generated explanations of psychogenic causes of pain.
- Reynolds, S.I., **Igler, E.C.**, & Davies, W.H. (in preparation). Friendship changes following a mental health diagnosis in adolescence.

## **Presentations**

### **Invited Oral Symposia**

1. Bever, J., **Igler, E.**, Stanley, A., & Vacho, K. (2016, September). *Teen Leadership Academy: A novel intervention for reducing substance use and enhancing community advocacy among youth in a rural Midwestern county*. Presented at the National Prevention Network Conference, Buffalo, NY.
2. Hirsh, A., **Igler, E.**, Davies, W.H., & Salomons, T. (2018, September). *Sex and gender differences in pain perception and experience*. Presented at the International Association for the Study of Pain, 17<sup>th</sup> World Congress on Pain, Boston, MA.
3. Sejkora, E.K.D., **Igler, E.C.**, Brimeyer, C., & Logan, D. (2019, April). *Real pain? Patterns and clinical implications of provider pain dismissal in adolescents and emerging adults*. Presented at the Society of Pediatric Psychology 2019 Annual Conference, New Orleans, Louisiana.

### **Oral Presentations**

4. Davies, W.H., Greenley, R.N., & **Igler, E.C.** (2016, November). *Development and preliminary validation of the Communication about Medication by Providers –*

*Adolescent and Young Adult and Parent versions.* Presented at the Self-Management Science Center in the College of Nursing, Milwaukee, WI.

### International Conference Poster Presentations

5. **Igler, E.C.**, Brown, S.A., Lang, A.C., Austin, J.E., Davies, W.H. (2018, April). *Perspectives on weight measurement within a physical education classroom.* Presented for presentation at International Conference of Eating Disorders 2018 Annual Conference, Chicago, Illinois.

### National Conference Poster Presentations

6. Acquazzino, M.A., **Igler, E.**, Dasgupta, M., Hoffman, R., Browning, M., & Brandow, A. (2015, May) *The feasibility of quantitative sensory testing in pediatric oncology patients treated with vincristine.* Presented at the American Society of Pediatric Hematology/Oncology Meeting, Phoenix, AZ.
7. Bingen, K., Anderson, L., Schmidt, D., **Igler, E.**, Leuthner, L., Karst, J., Englebert, N., Puccetti, D., Kupst, MJ., & Hoag, J. (2015, June). *Health-related quality of life at the end of treatment for childhood cancer and hematopoietic cell transplant (HCT) survivors.* Presented at the 14<sup>th</sup> International Conference of Long-Term Complications of Treatment of Children and Adolescents for Cancer, Arlington, VA.
8. Karst, J.S., Hoag, J.A., Anderson, L., Englebert, N., **Igler, E.**, Schmidt, D., & Bingen, K. (2016, April). *Evaluation of end of treatment transition needs for pediatric cancer survivors and their families.* Presented at the Society of Pediatric Psychology 2016 Annual Conference, Atlanta, GA.
9. Wentz K., Defenderfer E., **Igler E.**, Erato G., & Davies W.H. (2016, April). *Parenting Styles and Behavioral Problems in Children with Chronic Illnesses.* Presented at the 2016 National Conference on Child Health Psychology, Atlanta, GA, April 2016 and the 2016 UWM Undergraduate Research Symposium, Milwaukee, WI.
10. Erato, G., Defenderfer, E.K., **Igler, E.C.**, Wentz, K.A., & Davies, W.H. (2016, May). *Relationships between mindfulness, parenting traits, and child behavior problems.* Presented at the Midwestern Psychological Association Annual Meeting, Chicago, Illinois.
11. **Igler, E.C.**, Defenderfer, E.K., Erato, G.A., Wentz, K.A., & Davies, W. H. (2016, August). *Friends' perspectives: Friendship changes following serious illness onset in adolescence.* Presented at the American Psychological Association Annual Convention, Denver, CO.
12. **Igler, E.C.**, Defenderfer, E.K., Lang, A.C., Uihlein, J., & Davies, W.H. (2017, March). *Gender differences in the experience of perceived pain dismissal in adolescence.* Presented for presentation at the Association for Women in Psychology Annual Conference, Milwaukee, WI.
13. Stanley, A., **Igler, E.C.**, Bever, J., & Vacho, K. (2017, March) *Teen Leadership Academy (TLA): An intervention for enhancing community advocacy and reducing substance use among youth in a rural community.* Presented for presentation at the 2017 Annual Meeting of the Society for Adolescent Health and Medicine, New Orleans, LA.
14. Bugno, L., Plevinsky, J., Carreon, S., **Igler, E.**, Davies, W.H., & Greenley, R. (2017, April). *An analysis of provider-patient communication about medication prescriptions using the CAMP-AYA.* Presented at the Society of Pediatric Psychology Annual Conference, Portland, OR.

15. Defenderfer, E.K., **Igler, E.C.**, Austin, J.E., & Davies, W.H. (2017, April). *Parent compliance with AAP toilet training recommendations and the role of primary care providers*. Presented at the Society of Pediatric Psychology Annual Conference, Portland, OR.
  16. **Igler, E.C.**, Defenderfer, E.K., Plevinsky, J.M., Greenley, R.N., Bugno, L.T., & Davies, W.H. (2017, April). *Development and psychometric properties of the communication about medication by providers – parent (CAMP-P) version*. Presented at the Society of Pediatric Psychology 2017 Annual Conference, Portland, OR
  17. Lang, A.C., **Igler, E.C.**, Defenderfer, E.K., Uihlein, J.A., Davies, W.H., & Brimeyer, C. (2017, April). *Reactions to different physician pain dismissal topographies*. Presented at the Society of Pediatric Psychology 2017 Annual Conference, Portland, OR.
  18. Sowinski, B., **Igler, E.C.**, Austin, J., Defenderfer, E.K., & Davies, W.H. (2017, April). *Healthy friends' acceptance of a potential standardized message to promote social support for children diagnosed with a chronic illness*. Presented at the Society of Pediatric Psychology 2017 Annual Conference, Portland, Oregon.
  19. Defenderfer, E.K., **Igler, E.C.**, Lim, P.S., Davies, W.H. (2018, April). *Toilet training challenges as an early manifestation of childhood behavior problems*. Presented for presentation at Society of Pediatric Psychology 2018 Annual Conference, Orlando, Florida.
  20. Brown, S.A., **Igler, E.C.**, Lang, A.C., Austin, J.E., Davies, W.H. (2018, April). *Attitudes toward weight measurement in a secondary school setting*. Accepted for presentation at Society of Pediatric Psychology 2018 Annual Conference, Orlando, Florida.
  21. **Igler, E.C.**, Defenderfer, E.K., Lang, A.C., Brimeyer, C.T., Uihlein, J., & Davies, W.H. (2018, April). *The association of stress and reaction to physician-generated pain dismissal*. Presented for presentation at Society of Pediatric Psychology 2018 Annual Conference, Orlando, Florida.
  22. Wandrey, R.L., Defenderfer, E.K., **Igler, E.C.**, & Davies, W.H. (2018, April). *Parental experiences of raising children with chronic illness: A case for non-disease-specific approaches*. Presented for presentation to the annual convention of the Midwestern Psychological Association, Chicago, Illinois.
  23. Sejkora, E.K.D., **Igler, E.C.**, & Davies, W.H. (2019, April). *Common toilet training challenges and parent solutions*. Accepted for presentation at Society of Pediatric Psychology 2019 Annual Conference, New Orleans, Louisiana.
  24. **Igler, E.C.**, Lang, A.C., Sejkora, E.K.D., Uihlein, J., & Davies, W.H. (2019, April). *Parental perception of dismissive provider-child interactions in chronic pain: The influence of provider gender*. Accepted for presentation at Society of Pediatric Psychology 2019 Annual Conference, New Orleans, Louisiana.
  25. **Igler, E.C.**, Drendel, A.L., Lang, A.C., & Davies, W.H. (2020, March). *Medical providers reliably recognize pain dismissal by physicians*. Accepted for presentation at Society of Pediatric Psychology 2020 Annual Conference, Dallas, Texas.\*
- \*Poster not presented due to COVID19 pandemic

## **Teaching Experience**

**Teaching Assistant: University of Wisconsin-Milwaukee**

Spring 2017 Psychology 660: Survey: Clinical Research Methods; Instructor: W. Hobart Davies, PhD

- Fall 2016 Psychology 660: Survey: Clinical Research Methods; Instructor: W. Hobart  
Davies, PhD
- Spring 2016 Psychology 660: Survey: Clinical Research Methods; Instructor: W. Hobart  
Davies, PhD
- Fall 2015 Psychology 320: Psychology of Women; Instructor: Pamela Schaefer, PhD

**Graduate Assistant: Minnesota State University-Mankato**

- Spring 2011 Psychology 455: Abnormal Psychology; Instructor: Barry Ries, PhD
- Fall 2010 Psychology 340: Social Psychology; Instructor: Barry Ries, PhD

**Academic Awards and Honors**

- 2018-2019 Distinguished Dissertator Fellowship, a merit-based research fellowship from the University of Wisconsin-Milwaukee Graduate School
- 2017 Summer Graduate Student Fellowship, a merit-based award in support of graduate student research from the University of Wisconsin-Milwaukee Graduate School
- 2017 Erin Riederer Foundation Academy for Eating Disorder Scholarship, a merit-based travel award in support of clinicians interested in eating disorder treatment and research
- 2016 American Psychology Association Travel Award
- 2010-2012 High Honors, Minnesota State University-Mankato
- 2006-2009 High Honors, University of Wisconsin-Stevens Point

**Editorial Service**

- 2018 *Ad hoc* Reviewer for Journal of Social and Personal Relationships

**Service to Community**

- 2018-2019 Guest Speaker – University School of Milwaukee
- 2013-2019 Metro Milwaukee Optimist Club: Board Member
- 2009-2010 Student Mentor – University of Wisconsin-Stevens Point

**Professional Memberships**

- 2015-present Society for Pediatric Psychology – Student Affiliate
- 2015-present American Psychological Association – Student Affiliate
- 2007-present Member of Psi Chi