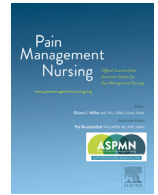




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## Original Article

## Friend or Foe? A Thematic Analysis of Adult Friendships and Chronic Pain Adjustment

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## ABSTRACT

**Background:** Chronic pain is a worldwide public health challenge. Despite chronic pain having biopsychosocial dimensions, its social contexts are less investigated. Although current evidence shows that chronic pain shapes and is shaped by interactions with romantic partners, research about friendships and chronic pain is scarce, and mostly focused on adolescents.

**Aim:** Drawing upon theories on friendship and social support, this study aimed to investigate the role of adult friendships on chronic pain adjustment and, the effect of chronic pain on adult friendships.

**Methods:** This study drew upon a qualitative descriptive methodology. Sixteen adults with primary or secondary (non-cancer) chronic pain participated in individual semi-structured interviews, conducted using voice over internet protocol applications. Data analysis was guided by Clarke and Brown's guidelines for thematic analysis.

**Results:** The analysis of participants' (87.5% women;  $M_{age} = 43$  years) stories revealed two themes. The first captured how friends promote/hinder adjustment to chronic pain by being: (1) (un)available and providing (un)needed support; and (2) (not)accepting and (not)accommodating to support life engagement. The second captured the negative effect of chronic pain on both parties' attitudes and behaviors towards the relationship, leading to smaller and more homogeneous friendship networks.

**Conclusions:** This study stresses the relevance of including adult friends in interventions to reduce the negative effect of chronic pain on friendships, harnessing their power to promote chronic pain adjustment. The findings bring new insights on a topic that has rarely been investigated in the pain field, hence pointing out innovative directions for future research and practice.

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Chronic pain (CP) shapes and is shaped by interactions with significant others. It exerts negative pressures on close relationships by increasing conflicts and decreasing closeness and intimacy (Leonard et al., 2006; Philpot et al., 2020; Swift et al., 2019). Significant others' responses to individuals' pain and well-behaviors may either promote (e.g., pain-related distress validation [Emond & Keefe, 2015; Nicola et al., 2022]) or hinder (e.g., solicitousness [Jensen et al., 2011; Nees et al., 2022]) CP adjustment. Most of this research has focused on romantic partnerships with very little known about adult friendships (Bernardes et al., 2017). Yet, adults

(mostly women) with chronic illnesses have an increased risk of marital dissolution (Karraker & Latham, 2015), and friendships are vital extra-familial sources of support, especially for single people (Wrzus et al., 2017). Therefore, investigating the relationship between adult friendships and CP is paramount.

Friendships are reciprocal, voluntary, egalitarian, and platonic relationships involving a wide variety of activities (Rubin & Bowker, 2018). Theories and evidence identify two main psychological dimensions of adult friendships (Wrzus et al., 2017): (1) emotional closeness, associated with perceived friend similarity (Byrne, 1997; Montoya & Horton, 2013) and self-disclosure processes (Taylor & Altman, 1987); and (2) reciprocity of social support, associated with perceptions of equity and fairness (Hatfield & Rapson, 2012; Silk, 2003). Although most studies on social relationships and health rarely analyze the effects of friendships in isolation, some evidence suggests a bidirectional association

*Abbreviations:* CP, chronic pain; ICs, Individuals with chronic pain.

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between adult friendships and health (Holt-Lundstad, 2017). The effects of friendships on health are ambiguous, as these relationships may be a source of well-being or stress depending on their quality and the extent to which friends model and encourage protective or risk health behaviors (Amati et al., 2018; O'Malley & Christakis, 2011). The effects of health on friendships are more consistent. Poor health negatively influences the development, maintenance and may contribute to dissolution of friendships; e.g., adults with (stigmatized) chronic illnesses have smaller social networks and are less prominent within these networks (Holt-Lundstad, 2017; O'Malley & Christakis, 2011).

A similar pattern of findings emerges in studies on friendships and CP, which have mainly focused on adolescents (Forgeron et al., 2011; 2013; 2018). Adolescents with CP may interpret their friends' responses toward their pain as supportive or non-supportive, leading them to feel either valued or undervalued as a friend (Forgeron et al., 2013). Perceived unsupportive friend behaviors include lack of understanding and disbelief of pain and not being willing to accommodate pain-related limitations (Forgeron et al., 2011; 2013). Conversely, perceived supportive behaviors include acknowledging the challenges of living with CP, willingness to listen, distracting from pain, and initiating contact when adolescents are absent from school to discuss social activities (Forgeron et al., 2011; 2013).

Adolescents' friendships not only influence CP, but CP can influence their friendships. Adolescents with clinically significant CP are less often selected as best friends, have fewer reciprocal friendships, and are perceived as less likeable compared with healthy peers (Kashikar-Zuck et al., 2007). Although they report no difficulty in making close friends (Guite et al., 2007) nor in the number of friends they have (Van Alboom et al., 2022), they experience more best friendship loss compared with peers, potentially losing the protective power of friendships (Forgeron et al., 2013; 2022). The catalyst to lost friendships is multifaceted. It may include adolescents' expectations of friends and self-protective withdrawal behaviors, the characteristics of pain experiences (e.g., irritability, fatigue, activity limitations [Fales & Forgeron, 2014]), as well as friends' reactions to the effects of CP (Forgeron et al., 2011).

It is not known if similar experiences occur amongst adults with CP, where friendships may be long standing. As motives to seek friends (Carstensen, 1995), as well as friendship network size and quality change across the life span partly due to normative life events (Wrzus et al., 2017), uncovering the reciprocal relationships between adult friendships and CP is paramount. Therefore, drawing upon friendships and social support theories from a structural (Berkman et al., 2000) and functional perspective (Thoits, 2011; Uchino, 2009), the purpose of this study was to understand the friendship experiences of adults with chronic pain and how chronic pain influences, and is influenced by, friendships.

## Methods

### Study Design

A qualitative descriptive methodology was used to discover and gain a deeper understanding of friendship experiences of individuals with chronic pain (ICPs) from their own perspectives, meanings, and worldviews (Bradshaw et al., 2017; Merriam & Tisdell, 2016).

### Participant Recruitment

Participants were sought using community advertisement postings through several Portuguese pain associations and Facebook groups targeting ICPs. The postings included a brief description of the study and its general aims, emphasized the confidentiality of

the individual interviews, and provided the researchers' contacts for those interested in taking part in the study. To take part individuals had to be aged over 18 years old, currently living in Portugal, able to read and converse in Portuguese, and living with primary or secondary (non-cancer) CP, i.e., pain that persists or recurs for more than 3 months (Treede et al., 2019).

This study followed the Code of Ethical Conduct in Research of Iscte and the ethical principles of the World Medical Association Declaration of Helsinki (2013). All interested individuals were sent an informed consent form via email, which provided information on the study's purpose, its potential risks, and benefits, stressed that participation was voluntary, acknowledged the need to audio-tape and transcribe the interviews for analysis, and ensured the steps to store and protect the confidentiality of the data. Consenting individuals, i.e., those who provided verbal consent after reading the consent form, were then scheduled for an individual interview with the second author (IA). Participation in the study was not compensated financially or otherwise.

### Data Collection

Individual semi-structured interviews were conducted. (Merriam & Tisdell, 2016). Interviews started with the general opening question "Can you tell me a bit about your pain?", to tap into individuals' pain stories. At this stage, probe questions were used, when necessary, to elicit specific details of pain experiences, such as, pain onset, duration, location(s), frequency, severity, (un)know etiology/diagnosis, and coping strategies. Next, a more specific question to explore the effect of CP on adult friendships was put forth "Has your pain affected, or does it currently affect your relationships with friends? If so, how?". Probe questions were used to explore the positive and negative effects of CP on the structural (e.g., network size [Holt-Lundstad, 2017]) and functional (e.g., equity, reciprocity, closeness [Wrzus et al., 2017]) dimensions of friendships. Finally, to investigate how friendships influence adaptation to CP, participants were first asked "Did your friendships influence or continue to influence your pain experiences? If so, how?". Then, the questions "Can you tell me about a situation where your friends tried to help you when you were in pain, and you felt that action was (not) helpful? Why?" further explored which friends' attitudes and behaviors were considered helpful or unhelpful to CP adaptation. Sociodemographic data (sex, age, marital and employment status) were collected at the end of each interview.

The interviews were conducted using voice over internet protocol applications (i.e., Zoom® or Facebook®), varied in length from 15 minutes (one interview) to 1 hour (average length around 30 minutes). All interviews were conducted with web cameras on, which facilitated face-to-face communication between the researcher and participant (Moylan et al., 2015). Moreover, videoconferencing allowed the inclusion of participants who lived various distances from the researcher and adhered to social distancing restrictions because of COVID-19. All interviews ran smoothly with no connectivity issues hampering communications.

The audio recording was transcribed and translated into English by the second author. During the transcription of the interviews, the participants were given an alias (Table 1) and identifying information (e.g., friends names, places of work) were removed or changed to protect their identity. Sample size was informed by the principle of saturation, i.e., data collection stopped when no new data, codes, or themes were being gathered (Fusch & Ness, 2015), which was determined amongst the team.

### Data Analysis

The data were analyzed using a qualitative thematic analysis, following Clarke and Braun's six-step process (Clarke &

**Table 1**  
Participants' Alias, Sex, Age, Type of Pain, Pain Duration, Marital and Employment Status

Participant Alias	sex	Age (years)	Type of Pain	Pain Duration/ Pain Onset	Marital Status <sup>a</sup>	Employment Status <sup>b</sup>
Rosa	Woman	26	Endometriosis	5 years	M	E
Jessica	Woman	50	Fibromyalgia	17 years	D	U
Maria	Woman	48	Fibromyalgia	9 years	M	E
Bianca	Woman	36	Fibromyalgia	6 years	D	E
Patricia	Woman	55	Fibromyalgia	>10 years	D	R
Raquel	Woman	56	Arthritis; Fibromyalgia	45 years	M	R
Luísa	Woman	61	Fibromyalgia	31 years	M	R
Ana	Woman	53	Ankylosing Spondylitis	26 years	M	E
Paulo	Man	18	Spinal Pathology	4 years	S	E
Tiago	Man	37	Fibromyalgia	Since childhood	CL	E
Amelia	Woman	59	Spinal Pathology	16 years	S	E
Joana	Woman	45	Connective Tissue Disease; Fibromyalgia	Since childhood	D	E
Dora	Woman	28	Arthritis	5 years	S	E
Sara	Woman	49	Sjogren's Syndrome	Since adolescence	M	E
Vanessa	Woman	29	Fibromyalgia	Since childhood	S	U
Alice	Woman	45	Lupus; Vasculitis	33 years	S	E

<sup>a</sup> Marital status: CL = Common-law; D = Divorced; M= Married; S = Single.

<sup>b</sup> Employment status: E = Employed; R = Retired; U = Unemployed.

Braun, 2014). The first step, familiarization with the data and the identification of potential pieces of information that may be of interest, was accomplished by reading the transcripts of the interviews and highlighting pieces of relevant text. The second step involved the generation of initial codes to identify important aspects of the data relevant in answering the research questions. In this study interviews were coded inductively from the text with a brief description or a word. In the third step researchers looked for greater patterns of meaning which was achieved with the examination of the codes previously created and sorting these into larger categories and then themes that represent the data. In step four the created themes were reviewed and refined in a way that aimed to answer the research questions. During the fifth step the themes were named and fully defined to represent a close description of the participants' voices. Step six involved the creation of the narrative that situated the data with the existent literature. All three authors were involved in steps 4 to 6 to ensure that the findings were grounded in the data. Thematic analysis ended when no new themes were identified. Data analysis was assisted by utilizing NVivo 12 Pro software (Lumivero, 2018).

#### Quality Criteria

Lincoln and Guba's four criteria to determine qualitative studies' trustworthiness (Lincoln & Guba, 1995) guided the study processes. In this study, peer debriefing amongst the team was used to ensure credibility (Nobel & Smith, 2015), as inputs from the other authors were sought in the creation of the codes and themes. Dependability is aided by the degree to which procedures are documented, which in this study was achieved by maintaining records of the de-identified interview transcripts, the data reduction process, and drafts of the final document. Confirmability was achieved by setting regular meetings between all authors to review codes, findings, and discuss themes, and by using close descriptions of what was shared by the participants with exemplifying quotes. Lastly, transferability is aided by the explicit inclusion of data collection process, data analysis, and inclusion of rich descriptions of participants and findings with their quotes.

## Results

#### Participant Characteristics

Seventeen individuals responded to the advertisements and were subsequently contacted, but one man was not interviewed

because he did not have CP. Table 1 summarizes some of the participants' socio-demographic and clinical characteristics. Of the 16 participants, 14 were women (87.5%) and 2 were men (12.5%), 37.5% were married (n = 6), 6.25% lived with their romantic partner (n = 1), 25% were divorced (n = 4), and 31.3% were single (n = 5). The respondents ages ranged between 18 and 61 years old, with the average age being 43 years (standard deviation [SD] = 12.98). Two participants had only completed elementary school (12.5%), 31.3% completed high school, and 56.3% completed higher education (Bachelor or Master). Most, 68.8%, were employed (n = 11), 12.5% were unemployed (n = 2), and 18.8% were retired (n = 3).

One of the collaborating patient associations was specifically focused on fibromyalgia, which may have accounted for the fact that this was the most reported condition (56.25%). Most of the participants reported feeling pain every day (93.8%), with the majority (81.3%) reporting mild to moderate pain, and a pain duration of at least 4 years. The most common locations of pain were back (43.8%), extremities (31.3%), arms (25%), and knees (25%), with 35.3% of the respondents also reporting generalized pain.

#### Thematic Analysis

Thematic analysis revealed two main themes each with sub-themes describing the friendship experiences of adults with CP. The first main theme illustrates how *Friends promote or hinder adjustment to CP*. The second main theme illustrates how *CP affects adult friendships*.

##### *Friends Promote or Hinder Adjustment to CP*

This theme reflects the role friends may have in promoting or hindering adjustment to CP by: (1) showing (un)availability to provide support and providing (un)needed support; and (2) being (not)accepting and (not)accommodating to support life engagement.

##### *Friends Are (Un)available and Provide (Un)needed Support*

Friends were the main source of social support for most of the participants. *Friends could promote adjustment to CP by being available and providing needed support*. Indeed, when friends were perceived as available to provide support and/or able to provide it, participants felt valued as a person and a friend. Availability to provide social support could be both in person or at a distance as described by Paulo (aged 18 years) and echoed by most of the others,

Just to say that I have friends in several other places, because I have lived in several places, and even those who are further away, always stayed my friends and when I was down, because there were times when I was very down, although they could not be with me, they wanted to talk to me and see if they would help me.

Although the types and amount of support desired could vary among participants, overall positive adjustment to CP was promoted by friends whose provision of support fit the ICP's needs for support. Joana (aged 45 years) describes how the provision of instrumental support, in particular situations, could be helpful, "When I make big trips, I can't get out of the car, then they [friends] help me getting out of the car [it] is a big help, although I don't like it." Even though, in this example, Joana reported not liking the need for help as it makes her condition visible, without it she would not engage in the outing. Friends were also supportive by showing that they cared about their friend and could be key in assisting their friends to access care for their CP condition. Here Tiago (aged 37 years) spoke of how his friend took him to the hospital to garner more care,

He took me to the hospital, to his psychiatrist and said 'please see my friend, my friend needs help, he needs something, because it's not normal for me to see my friend grabbing and biting on a pillow, full of pain, so something has to be done, and that's when I curiously accepted that I needed extra help....

Conversely, friends could also hinder the adjustment to CP, when they were perceived as not available or did not provide social support. Participants viewed this form of behaviors as their friends not even trying to help when they were in need, which made ICPs feel devalued as a friend and a human being. Raquel (aged 56 years) shares her experience, which was voiced by several others, "Now those [friends] who sometimes say, 'ah if you need help say something', but we don't see them [after that]..." In an extreme case, one participant felt abandoned, alone, and uncared for as her friends did not even try to reach out to her and understand how she was doing,

My friends are common friends with my ex-husband. They knew and nobody called me asking if I was okay, if I needed anything, they heard the story...then they heard the other side of the story 'ah we didn't know you were so sick'. And the reality is that I don't have anyone to help, even when I'm in crisis, so I always have my pantry with something, just in case of a crisis so I don't have to make food (Jessica aged 50 years).

However, it was not only the friends' perceived unavailability to provide support that hindered CP adjustment, but it was also when friends provided support that ICPs did not want or need, which could, at times, be perceived as overbearing and stressful. Bianca (aged 36 years) illustrates this situation, which was experienced by most of the participants.

There are moments for everything, I was feeling vulnerable and the person was insisting (it was a friend of mine at work) that she wanted to come pick me up and take me to her house and I kind of wanted to be in my corner and tell her to leave me alone, so much so that it ended up stressing me out more and I ended up turning off my phone and disappearing from the face of the earth, and I don't think that helped me at all.

Participants also described situations of unwanted or misplaced help, described as when friends demonstrate too much sympathy for their condition or are oversolicitous. Amelia (aged 59 years) described such a situation which was voiced by others,

I have a friend, she always reacts in a way that doesn't do me any good, she tells me 'oh poor little A, poor little A, can I go

there now? Maybe I could come and do the dishes or whatever you need' This excess of concern, this excessive need to express that you're sorry and that you understand, that's something that makes me uncomfortable. It's not exactly good for me.

Overall, most participants, including the two men who participated, reported that their friends were available to provide support and did provide needed support, both of which were helpful in adjusting to living their CP condition. However, not all participants were that fortunate.

#### *Friends Are (Not)accepting and (Not)accommodating to Support Life Engagement*

Participants spoke of times when friends promoted their adjustment to CP by being accepting and accommodating. In these situations, friends promoted ICP's life engagement by providing a nurturing environment that appears to promote growth and give a sense of direction to ICPs. These friends still tried to spend time with ICPs by engaging in activities in which the latter could participate. Here Rosa (aged 26 years) talks of the importance of her friends' flexibility, which was shared by many of the participants,

I say I'm avoiding red meat [increases her abdominal pain] and people say, 'so let's not eat a hamburger, let's eat salmon or go to a different restaurant'. There was that attention from people, and I think that's the positive part. They tried not to make me feel bad, like eating a steak in front of me and I can't.

Another way that friends promoted life engagement was by actively seeking out information on ICPs' health condition to better understand their needs, making the person with pain feel supported, cared about, and understood. Although not all friends displayed this form of support, when they did it was powerful, as described here by Vanessa (aged 29 years),

I have a colleague of mine [who is also a friend] who I think understands my situation the most, when she sees something about it [fibromyalgia], she immediately sends me a message, and tries to find out more about it, which I think is good, because it is good when your friends show interest in understanding what is going on with you, and I think that right now she is the only one, apart from my boyfriend, who tries to find out about it.

Friends were also found to be integral to helping ICPs remain autonomous in their normal functions of daily living or to adapt to their new reality with pain providing them a way to engage and socialize,

People who hang out with people with CP are actually miraculous because they have this ability to make us forget that we have pain, because in CP, and I learned this a long time ago, we have to shift the focus, we have to focus on a lot of things to try and forget what we are feeling physically (Sara, aged 49 years).

Conversely, friends could hinder CP adjustment by not being accepting or accommodating to support life engagement. Friends who do not accept the ICPs' limitations, are not flexible toward their condition, nor do they try to accommodate their needs were viewed as unhelpful and resulted in some participants disengaging by distancing themselves from these friends. It was not solely the inflexibility in changing plans that caused some of the participants to distance themselves from friends but also that unaccommodating friends typically exhibited attitudes and/or behaviors that were dismissal of pain complaints and/or devaluation of their feelings, mostly by not believing their pain was real or as intense as they

stated. The fluctuating nature of CP as well as the fact that many participants experienced constant pain was an added complexity for some friends. These pain-related characteristics resulted in exchanges with friends and colleagues that left participants feeling judged or harassed for experiencing pain,

There was a situation where there was an activity in which I had offered to participate, it involved using my hands, peeling food and so on, and when the day came I couldn't, I was in pain and I couldn't, but I went there anyway, 'I came but I can't help, I can't even stand here' and people said to me 'so go home, go away', and I didn't see it that way, I wish I had stayed there. (Sara, aged 49 years)

Friends were also found to inadvertently discourage pain talk, even if the individual does not usually speak much about it, as seen in Patricia's (aged 55 years) words: "Men ask 'so Patricia, is everything okay? I don't want to hear any whining' and I think so, do you want me to say that I'm okay if I'm not? I'm not even a whiner." This sort of exchange reminded participants that some friends may not truly be interested in their well-being, leaving them to provide socially acceptable answers.

In extreme instances non-acceptance was in the form of stigma and discriminating responses by friends. The few who did experience this stated that it was mostly from colleagues and more casual friends, but it still led to loneliness and lack of support as illustrated by Vanessa (aged 29 years),

But at first it was very complicated. I felt very lonely... and for those of us who are going through a process that hurts and we don't know how to solve it... it's hard because we don't have support, we just want it to end, or in my case that something would be noticed so as not to get that discrimination.

Friends could also promote life disengagement by attributing a sick role to ICPs. More specifically, some friends treated participants as someone who is not able to do anything for fear that they may exacerbate their pain. These responses were viewed as unhelpful leading the person in pain to feel extremely frustrated and useless, as Joana (aged 45 years) stated,

At times when I'm worse off, they do treat me like a sick person, and that's something I don't like, as a matter of fact I've split up [with partner] largely because of that, I'm separated, because at one point I was the sick one in the family, I don't deal with that status well.

In conclusion, friends promote adjustment to CP by being accepting, accommodating, and providing ICPs a safe, nurturing, and empathic environment, thereby encouraging the latter to engage in their lives despite pain. However, some participants described some friends as hindering individuals' adjustment to CP by attributing them a sick role, questioning the validity of their pain, and even displaying discriminating and stigmatizing behaviors. The two men in this study spoke of their friends' ability to support their life engagement or disengagement similarly to the women.

#### *CP Effects on Adult Friendships*

This theme, with its two subthemes, addresses how the experience of CP influenced friendships, by its effect on friends' and ICPs' reactions towards the relationship.

#### *CP Effects on Friends' Reactions Towards the Relationship*

Once CP emerged in their lives, adults experienced multiple negative reactions when interacting with their friends. Some friends were perceived as being unable or unwilling to understand the participants' pain experiences, out of a lack of knowledge

about CP. This is described here by one of the youngest adults in the study but endorsed by all participants:

It's an illness that you don't see, the people around me, no matter how much they tell me that they understand, that they know, as they don't live it with me they end up not really understanding...(Vanessa, aged 29 years).

A result of being an invisible condition generally without objective medical evidence of pathology, such as diabetes, people associate those who live with CP to have solely a mental health condition as opposed to a change in pain processing with physical elements. This leap to solely a mental health condition devalued the participants' feelings and sensations,

While for example, I sometimes think, diabetes, everybody knows what it is, most of them will know what it is (...), but when we talk about chronic pain, people always associate it with a psychological ill-being. When it's not, in fact, it's not... it's actually taken me many years to realize that this wasn't all in my mind" (Sara, aged 49 years).

Participants described those friends who were not able to acknowledge the effects of pain as making assumptions about it including viewing the ICP as a malingerer. This changed the strength of these friendships, and in some cases, friends walked away from their relationship with the ICP. For some participants this meant the termination of some friendships, whereas for others it changed the strength and closeness of the friendship. Regardless of the degree of friendship losses, participants spoke of these as troubling, as illustrated here by Raquel (aged 56 years), "Some people who were friends and questioned [the pain] and who have now drifted apart. And it's hard to see them walk away."

Participants with CP also described feeling rejected by friends when they could not keep up with the activities friends wanted to engage in, resulting in ICPs having a decrease in/or lack of companionship. This loss of companionship, which is captured in the quote below by Luísa (aged 61 years), was widespread among the participants "(...) because then people end up not inviting you to come over...." However, for many participants the friendships that were lost were more superficial or casual:

It decreased [friendship contact], yes it decreased, counting on those social [casual] friends, those friends from the outings, yes it decreased, people drifted away, they couldn't handle what I was dealing with (Tiago, aged 37 years).

Although these friendship losses resulted in loss of companionship, most participants were able to maintain their stronger friendships. Overall, there were no notable differences between the men and women on how they spoke of rejection by friends. Noteworthy is that when most of the participants spoke of their experiences, they did not describe an understanding of their friends' position in terms of why the friendship dissolved.

#### *CP Effects on ICPs' Reactions Towards the Relationship*

This subtheme depicts the variation in ICPs' reactions towards their friendships, namely, actions they report taking to avoid feeling misunderstood, helpless, or a burden within their relationships. Four reactions were identified: (1) ICPs distance themselves from some friendships; (2) ICPs stop self-disclosure; (3) ICPs reduce contact and engage in a restricted range of activities with friends; and (4) ICPs become more selective in their friendships.

Distancing themselves from friendships was used as a way for ICPs to protect themselves from negative reactions by no longer engaging in certain activities that they were able to do before they experienced pain. Participants distanced themselves from friends to various degrees, ranging from reducing contact to completely



stopping interactions. Many of the participants also disengaged from activities that were difficult because of their pain as a strategy to protect their friends' from having to worry about them, as they did not want to be a burden to others if something happened. Here Alice (aged 45 years) describes her decision making to miss out on socializing with her friends,

But it's largely to not upset others,... I want to see others well; I don't think I can be a burden to others and therefore I don't want to be that burden and I don't want them to be worried ....

Participants also distanced themselves from friends by becoming very selective in what activities they agree to do, which emphasizes the limitations participants have when attending an outing with a friend. Dora (aged 28 years) discusses these limitations here, which was shared by many participants,

There are certain things, I don't do... For example, if they get together and go kickboxing, like they did a while ago, I'm not going. I wish sometimes I was normal enough to do that. And that affects me negatively.

Not only did distancing take physical forms, as described above by Alice and Dora, but participants also distanced themselves by minimizing self-disclosures (e.g., how they were feeling, if they are in pain), as some friends were perceived as not able or interested in understanding their situation. A consequence of avoiding pain-related talk with friends meant that many of the participants missed out on opportunities to garner social support as noted here by Bianca (36 years old): "I only ask for help, usually when I can't stand it anymore" and further supported by Vanessa "My closest friends don't talk about it much to me..." (Vanessa, aged 29 years).

Some exceptions to avoiding self-disclosure were found amongst the participants but these were not the experiences of the majority of ICPs. Here Tiago (aged 37 years) describes that he involved his friends in the disease, giving them the tools and the knowledge to understand his limitations and to realize that if he declined an invitation, it was not because he did not want to spend time with them but rather it was because he was not able to:

I also started to involve my friends in my life and in my disease, either through information or through sharing interviews that I gave about the disease, that is, I started talking to them in a normal way, so that they realized that there were days that I would be able to be [present], there were days that I wouldn't be able to, and [for them to] realize that although I wasn't going, it wasn't because I didn't like them, but in fact because I couldn't go.

The reactions of others and the limitations and effect of CP resulted in ICPs becoming more selective in their friendships, which led to a quantitative reduction in friends. Participants reported that the friendships they cultivated were people with whom they had a strong and close bond, and were described as valuing their friendship, as demonstrated here: "My friends are not many, but they are people who remain, our relationship is not based on the pains of one or the other, do you understand? There are always other reasons" (Amélia, aged 59 years).

Selectivity of friendships changed not only the frequency of interactions but also how and who they socialized with. Some participants started to gravitate towards others who had CP, citing that these shared experiences resulted in feeling accepted and understood. Not all these interactions with peers were face to face, as noted in this quote by Dora (aged 28 years).

I went through this alone because I don't have anyone in my environment who has a similar illness, only now do I have a

friend who recently discovered that she had fibromyalgia, but I was the only one. The only way I had to find people like me was with the association, they have a forum, a Facebook group with people from all over the world who have arthritis and suffer with CP and they talk, and it's the only thing I have from people who understand me in certain issues, you know?

ICP's reaction towards friendships resulted in reduced network size but these friends were viewed as critical to their well-being. The need to engage in pain-related talk and understanding resulted in some participants seeking out support from others with pain.

## Discussion

This study investigated the effects of adult friendships revealing that friends had a role in CP adjustment and that CP affects adult friendships. Over 50% of participants were not in a romantic relationship, highlighting that understanding the experiences of friendships of adults with CP is essential. These are illustrated by two major themes: (1) *Friends promote or hinder adjustment to CP* (2) *CP effects on adult friendships*.

### *Friends Promote or Hinder Adjustment to CP*

Like friendships of adolescents with CP (Carter et al., 2002; Forgeron et al., 2011; 2013), adult friendships may promote or hinder CP adjustment. The extent to which friends were perceived to be available to help when needed (i.e., perceived social support [Uchino, 2009]) was paramount to CP adjustment. Albeit perceived social support is strongly determined by individuals' attachment patterns (Moreira et al., 2003), it may also be influenced by others' actions. In this study, friends were perceived as available to provide support when asking about participants' needs, reaching out even when at a distance, and actively seeking information about CP. These responses made participants feel valued, understood, and supported. Conversely, friends were perceived as unavailable when they did not try to help or distanced themselves, which made participants feel devalued, unsupported and, in extreme cases, abandoned. These findings align with the widely supported contention that higher perceived social support buffers the effect of stressful events on health (Uchino 2009; Thoits, 2011) and CP adjustment (Che et al., 2018), by shaping individuals' appraisals. Our findings also reflect the strong link between low perceptions of social support and loneliness, a major risk factor for health and illness adaptation (Wang et al., 2018).

Friends promoted CP adjustment by providing instrumental (physical assistance, performing a task) or emotional support (being present and offering a sympathetic ear) that fit participants' needs. Conversely, when friends' support was not timely nor needed, it hindered CP adjustment, as it was perceived as misplaced help and friends were viewed as overbearing. Similarly, literature on received social support (i.e., self-reported past social support exchanges [Uchino, 2009]), shows that help is more effective when it has an optimal timing and matches stressor demands and recipients' needs/preferences (Rafaeli & Gleason, 2009). Whereas untimely and unwanted/unneeded support may interfere in individuals' sense of autonomy and self-worth (Rafaeli & Gleason, 2009). Moreover, although most participants welcomed instrumental assistance in specific times of need, most disliked friends' solicitousness, suggesting that this helping pattern is not inherently a positive reinforcement (Newton-John & Williams, 2006).

Friends also promoted participants' adjustment to CP by being flexible, non-judgmental, accommodating their needs/limitations, and providing encouragement to remain active despite pain. Adolescents with CP identified that friends' emotional support helped

them engage in social activities as they felt valued (Forgeron et al., 2013). Conversely, some adult friends hindered CP adjustment by not being accepting, being judgmental and discriminating, and/or promoting life disengagement. These behaviors left participants feeling devalued, disbelieved, and distressed. While again supporting the less adaptive role of solicitousness (Caño & Leong, 2012; Leonard et al., 2006) and the clear hindering effects of CP invalidation and stigmatization (Nicola et al., 2019), these findings also stress the adaptiveness of less investigated pain-related social support responses, such as emotional validation and support for life engagement (Bernardes et al., 2017). Spousal validation of pain-related distress increases relationship intimacy and facilitates emotional regulation (Edmond & Keefe, 2015), and their facilitative responses to well behaviors are associated with less pain avoidance behaviors and better relationship satisfaction (Rosen et al., 2012; 2015). Similarly, formal caregivers' support for functional autonomy buffers the effect of pain severity on older adults' pain disability by increasing their pain-related self-efficacy (Matos et al., 2017). Adult friends, by displaying such types of supportive actions, may also contribute to better CP adjustment.

#### *Effect of CP on Adult Friendships*

This theme stresses the bidirectional and reciprocal nature of friendships, and how CP might negatively affect all parties involved. Participants described loss of friendships mostly due to friends not understanding CP (by equating it with mental illness or acute pain), not wanting to hear pain talk, not believing pain, and/or not accommodating participants' limitations. Similar to adolescents with CP this resulted in decreased companionship, fewer friends, and increased social isolation (Forgeron et al., 2013; 2018). The detrimental effect of CP on the size of social networks and social isolation has been previously supported (Ashton-James et al., 2021; Nicola et al., 2019). In this study, the detrimental effect of pain on relationships was mainly attributed to friends' lack of knowledge of CP, which was perceived as underlying invalidation and stigmatization. This pattern of findings resembles previous studies that found that adults with stigmatized chronic illnesses tend to have smaller social networks (Holt-Lundstad, 2017; O'Malley & Christakis, 2011). However, CP may also result in friends having unmet needs, reducing relationship equity and reciprocity (Forgeron et al., 2013), which may lead to friendship deterioration and dissolution (Rubin & Bowker, 2018; Silk, 2003; Taylor & Altman, 1987). Additionally, CP-related characteristics (e.g., irritability, fatigue, low mood) may hinder friendships (Fales & Forgeron, 2014), as well as its cognitive demands may disrupt individuals' ability to attend to and interpret social cues (Beck et al., 2011). Yet, these characteristics were not reported within the interviews suggesting that exploring friends perspective is warranted. Noteworthy, participants' reported friendship loss mostly amongst casual friends (vs. closest and intimate), which contrasts with the experiences of adolescents with CP, who reported rejections and friendship loss of some of their closest friends (Forgeron et al., 2013; 2022). It may be that the onset of CP in adults occurs after close friendships have a long history of reciprocity and affection, thus, being more poised to withstand the pressures of CP on relationship equity (Wrzus et al., 2017).

The reduction in network size and relationship closeness was also due to participants' distancing themselves from friends when they felt stigmatized or dependent, an experience highlighted in a few previous pain studies (Affleck et al., 1988). They spoke of distancing themselves physically by reducing contact, engaging in a more restricted range of activities, as well as, emotionally by stopping self-disclosures as forms of self-protection against feel-

ing helpless, misunderstood or a burden. Adolescents with CP also used these self-distancing practices to protect themselves from feeling different and unlovable and protect friends from witnessing the challenges of living with CP (Forgeron et al., 2013). Such self-protective strategies partly result from perceived social constraints on disclosure (Lepore & Revenson, 2007), which lead individuals to feel invalidated when they are trying to garner support from their social network (Herbette & Rimé, 2004). Being reticent to self-disclose may also be explained by the cycle of perceived indebtedness created when individuals with CP accepted support but were not able to reciprocate, which ultimately may lead to friendship deterioration (Affleck et al., 1988; Silk, 2003; Taylor et al., 1987). To minimize such social constraints, participants in this study became very selective of their friendships; only allowed people with whom they had close bonds with to stay in their lives and/or gravitated towards other individuals with CP (e.g., in peer-led support groups), as they felt more accepted and understood. Peer-led support groups may provide practical and emotional support, while contributing to an increase in autonomy and agency (Cowan, 2012). Overall, the emergence of CP was voiced as leading to smaller and more homogeneous friendship networks, perhaps useful in maintaining positive social identities and consequently, well-being and health.

#### *Limitations and Implications for Nursing and Interdisciplinary Practice and Research*

There are several limitations to this study. First, most of the participants were women, hindering an in-depth understanding of gender differences. Second, friends of individuals with CP were not included thus results represent a one-sided view of the meanings and consequences of befriending a person with CP. Third, only Portuguese adults participated so the extent to which our findings may be transferred to other cultures is unknown. Fourth, although many of our participants had fibromyalgia, our sample included adults with several other types of chronic pain conditions. If such heterogeneity may help transferability of our findings, it hampers any conclusions on whether specific conditions come along with specific relational dynamics. However, many pain-related symptoms (e.g., irritability, low mood, physical limitations) are similar regardless of the specific type of chronic pain, albeit some symptoms may be more prominent with one type (e.g., fatigue and fibromyalgia) than perhaps others. Future studies should be designed to further explore friends' perspectives and diversity issues in friendship dynamics in CP contexts. Moreover, prospective quantitative designs are needed to clarify the effect of CP on the structural and functional dimensions of friendship networks and the predictive role of adult friendship characteristics on individuals' CP adjustment over time.

Despite these limitations, new insights on interpersonal dynamics of friendships for those living with CP were found which suggest that, like interventions focusing on spouse-patient dyads (Tankha et al., 2020), programs could be developed aiming at close friend-patient dyads. Nurses working with individuals with CP need to include questions about friendships as part of their assessment as friendships may be an individual's main sources of social support. Psychosocial interventions to address beliefs, affects and skills to increase their perceived social support as well as their ability to mobilize, increase and/or maintain friendship networks need to be developed and tested. Nurses (e.g., public health nurses) should promote programs to increase public knowledge and reduce public stigma and/or increase local communities' social capital and cohesion as this may be useful for promoting social integration of people with CP.

## Conclusions

CP has a detrimental effect on friendships and can have a durability effect on CP adjustment. Acknowledging friendship challenges and supporting adults with CP and their friends to maintain and strengthen positive relationships may contribute to reduce the individual and societal burden of CP.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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