The Relation of Self-Compassion to Functioning among Adults with Chronic Pain

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Abstract

Previous research has shown that self-compassion is associated with improved functioning and health outcomes among multiple chronic illnesses. However, the role of self-compassion in chronic pain-related functioning is understudied. The present study sought to understand the association between self-compassion and important measures of functioning within a sample of patients with chronic pain. Treatment-seeking individuals (N= 343 with chronic pain) that were mostly White (97.9%) and female (71%) completed a battery of assessments that included the Self-Compassion Scale (SCS), as well as measures of pain-related fear, depression, disability, pain acceptance, success in valued activity, and use of pain coping strategies. Cross-sectional multiple regression analyses that controlled for age, sex, pain intensity, and pain duration, revealed that self-compassion accounted for a significant and unique amount of variance in all measures of functioning ($r^2$ range: .07 – .32, all $p < .001$). Beta weights indicated that higher self-compassion was associated with lower pain-related fear, depression, and disability, as well as greater pain acceptance, success in valued activities, and utilization of pain coping strategies. These findings suggest that self-compassion may be a relevant adaptive process in those with chronic pain. Targeted interventions to improve self-compassion in those with chronic pain may be useful.

Significance: Self-compassion appears a relevant aspect of physical and psychosocial functioning in those with chronic pain. It is possible that self-compassion interventions may aid in facilitating adaptive behavioral change in these individuals.

Keywords: Chronic pain, self-compassion, pain-related distress, acceptance.
Introduction

Chronic pain is a substantial public health problem, with prevalence rates in the United States among adults estimated to be 19% - 44% (Johannes, Le, Zhou, Johnston, & Dworkin, 2010; Kennedy, Roll, Schraudner, Murphy, & Mcpherson, 2014; Nahin, 2015; Von Korff et al., 2016). The negative physical and psychological impacts of chronic pain are well-documented (Boggero & Carlson, 2015; Ferreira-Valente, Pais-Ribeiro, & Jensen, 2014; Mun et al., 2017; Park & Engstrom, 2015; Viggers & Caltabiano, 2012). Yet, there continues to be a dearth of treatment options, given that prescription opioids are no longer indicated in the management of chronic pain (Dowell, Haegerich, & Chou, 2016; Krebs et al., 2018), and that the growth of interdisciplinary treatment facilities equipped to handle both the complex physical and psychological needs of these patients has slowed significantly (Gatchel, McGeary, McGeary, & Lippe, 2014). Identification of specific, modifiable treatment targets for this population is one potentially feasible way to improve quality of life for individuals with chronic pain within community treatment settings.

Currently, there are a number of reasonably effective treatments for chronic pain (Kerns, Sellinger, & Goodin, 2011). For example, Acceptance and Commitment Therapy (ACT) has shown strong empirical evidence in improving outcomes among numerous pain conditions (APA, 2015). Specifically, ACT and other related mindfulness-based treatments have shown small to medium effect sizes in measures of anxiety, depression, pain interference, and functioning among those with chronic pain (Hilton et al., 2017; Hughes, Clark, Colclough, Dale, & McMillan, 2017; Veehof, Trompetter, Bohlmeijer, & Schreurs, 2016). A proposed and understudied treatment mechanism within ACT and other mindfulness-based interventions is self-compassion. Broadly, self-compassion is defined as the ability to respond to personal
shortcomings, difficult circumstances, and painful experiences with kindness. It was first posited by Kristen Neff (2003), who described it to consist of three components: self-kindness, common humanity, and mindfulness. Generally, self-kindness is understood as being kind and understanding towards oneself, rather than self-critical, particularly during instances of pain and failure. Common humanity pertains to perceiving one’s experience as part of the larger human experience rather than as separate or isolating. Lastly, mindfulness relates to the ability to hold painful thoughts and experiences in awareness rather than over-identifying with them (Neff, 2003). To date, findings indicate that self-compassion is largely associated with better psychological well-being and resilience, and lower negative affect among multiple community adult samples (Muris & Petrocchi, 2017; Zessin, Dickhäuser, & Garbade, 2015). Among the few health conditions studied (e.g. celiac disease, cancer, and arthritis), self-compassion was positively associated with higher quality of life and health promoting behaviors, indicating that it may be an important component in supporting and maintaining physical and emotional health, particularly when faced with managing a chronic medical condition (Dowd & Jung, 2017; Homan & Sirois, 2017; Pinto-Gouveia, Duarte, Matos, & Fráguas, 2014; Sirois, Kitner, & Hirsch, 2015; Sirois, Molnar, & Hirsch, 2015).

Research focusing on self-compassion in the context of chronic pain is limited. Preliminary cross-sectional work has shown self-compassion to have a positive relation to functioning in chronic pain samples. For example, self-compassion has been associated with higher levels of emotional resilience and positive affect, and lower levels of depression, pain catastrophizing, and pain-related disability among those with chronic pain (Costa & Pinto-Gouveia, 2011, 2013; Purdie & Morley, 2016; Wren et al., 2012). In the context of the ACT model, self-compassion was found to mediate the relationship cognitive fusion (i.e. the tendency
to be consumed by thoughts) and depressive symptoms (Carvalho, Gillanders, Palmeira, Pinto-Gouveia, & Castilho, 2018), and was found to be directly and indirectly related to depression symptoms through the activity engagement subscale of a pain acceptance questionnaire (Carvalho, Pinto-Gouveia, Gillanders, & Castilho, 2018). Longitudinal data examining the effectiveness of an interdisciplinary ACT treatment program found changes in self-compassion mediated improvements in disability, depression, pain related anxiety, number of medical visits, and the number of classes of prescribed analgesics (Vowles et al., 2014). Other mindfulness and acceptance-based treatment approaches that have targeted self-compassion have also found increases to be associated with improvements in overall quality of life, pain acceptance, and depression severity (Doran, 2014; Peters et al., 2017).

Taken together, current research indicates that self-compassion is a preliminary factor in developing and maintaining psychological wellbeing. Among chronic pain samples, cross-sectional findings suggest that self-compassion may also be an effective and modifiable treatment target. However, it is unclear if self-compassion on its own may be associated with general measures of functioning and pain-specific processes and outcomes over and above important pain and demographic variables. Given these gaps, the current study sought to better understand the role of self-compassion in chronic pain. To achieve this, a secondary data analysis of self-compassion in relation to eight general and pain-specific domains was carried out in a sample of adults with chronic pain. Measured domains included physical and psychosocial disability, depression, engagement in values-based activity, pain acceptance, pain-related anxiety, and use of pain coping strategies. These domains were selected given their established relevance to chronic pain (Vowles et al., 2014). It was hypothesized that higher levels of self-compassion would be associated with greater functioning across all eight measures, while
controlling for age, gender, pain duration, and usual pain intensity. Specifically, self-compassion would be associated with greater pain acceptance, use of pain coping strategies, and success in values-based activities, and associated with less depression, pain anxiety, and physical and psychosocial disability.

Method

Participants

Data from 343 participants was collected between March 2010 and December 2011 and 339 participants were included in the present analyses. One participant was excluded due to missing data (>75% missing responses), and 3 participants were removed due to outlying scores on one of the nine measures used in the study. Participants were treatment-seeking individuals with chronic pain, who were referred by their primary care providers to a community-based interdisciplinary pain clinic in the Midlands of the United Kingdom. As these data were collected within an established clinical service, the inclusion criteria were fairly broad in that only referral from a primary care provider to the service and patient provision of informed consent to take part in the study were necessary. Individuals with pain related to an active cancerous growth were not seen within the service, nor were individuals with active psychosis.

The sample was primarily White European (97%) in ethnicity and female in gender (71%). A full description of the sample demographic characteristics can be found in Table 1. The median pain duration of the sample was about 7 years (Med = 7.21, Range = .17 - 61.33), with 50% (N = 168) of the sample not working due to pain. The most common pain site reported was low back (53%), followed by full body pain (13%). The most commonly utilized pain treatments reported by patients were pain medications (86%), followed by physiotherapy (65%), and transcutaneous electrical nerve stimulation (TENS; 53%).
Participants were given a set of standardized measures before attending an initial assessment appointment at the clinic. Participants were instructed to fill out all measures before arrival to their initial appointment. A research coordinator was available during appointments to check for missing data, and assist participants in completing the measures, if needed. Participants were not compensated for completing these questionnaires. Informed consent was obtained prior to assessment and the study was approved by the local Research Ethics Board of the National Health Service.

**Measures**

**Self-Compassion Scale.** Self-compassion was measured using the 24-item Self-Compassion Scale (SCS; Neff, 2003), with questions such as, ‘I am kind to myself when I am experiencing suffering’, ‘When I see aspects of myself that I don’t like I get down on myself’, and ‘When things are going badly for me, I see the difficulties as part of life that everyone goes through’. Responses were measured on a 5-point Likert-type scale from 1 (almost never) to 5 (almost always). Total score was used for these analyses, with higher scores indicating higher levels of self-compassion. Among those with chronic pain, higher scores on the SCS have been associated with lower negative affect, pain catastrophizing, and pain disability (Costa & Pinto-Gouveia, 2013). In addition, the SCS has been found to be valid and reliable in a number of clinical and non-clinical samples, including college students, community adults, and those with recurrent depression (Neff, Whitaker, & Karl, 2016). In the current sample, the internal consistency for the SCS was .92, indicating strong reliability.
**Sickness Impact Profile.** Physical and psychosocial functioning was measured using the 136-item Sickness Impact Profile (SIP; Bergner et al., 1981). The measure provides composite scores for Physical Disability and Psychosocial Disability, by assessing twelve domains that measure the effect of a health problem on daily functioning. The physical domain is made up of items that pertain to Ambulation, Mobility, and Body Care and Movement scales, while the psychosocial domain is made up of items that pertain to Social Interaction, Alertness, Emotional Behavior, and Communication scales. Scores can range from 0 to 1 with higher scores indicating higher severity in disability, and are associated with shorter standing/walking times, fewer daily tasks accomplished, poorer satisfaction in social relationships, and increased depression severity (Follick, Smith, & Ahern, 1985; Watt-Watson & Graydon, 1989). Both functioning subscales have demonstrated adequate validity, reliability, and clinical utility in a community-dwelling adult and chronic pain sample (Bergner et al., 1981; Follick et al., 1985). In the current sample, the internal consistency for the Physical Disability domain was .82, and .86 for the Psychosocial Disability domain, indicating good reliability.

**British Columbia Major Depression Inventory.** Depression severity was measured using the 20-item British Columbia Major Depression Inventory (BCMDI; Iverson & Remick, 2004). Items correspond with the Diagnostic Statistical Manual, Fourth Edition criteria for Major Depression (APA, 1994), with the first 16 items pertaining to specific symptoms and the last 4 items assessing impact of symptoms on work, family, school, and social activities. For the symptom items, respondents were asked to endorse symptoms that were present within the past two weeks, and then rate the severity of their symptoms on a 5-point Likert-type scale between 1 (very mild) and 5 (very severe). A total symptom severity score was used for the present analyses, which was calculated by summing only the symptom items together and excluding the
impact items. Higher scores indicate worse symptom severity. The BCMDI demonstrated adequate validity and reliability, and was clinically useful in classifying Major Depression among a community sample, however has not been examined in a chronic pain sample at this time (Iverson & Remick, 2004). In the current sample, the internal consistency for the BCMDI was .90, indicating strong reliability.

**Chronic Pain Acceptance Questionnaire.** Pain acceptance was measured using the 20-item Chronic Pain Acceptance Questionnaire (CPAQ; McCracken & Eccleston, 2006). Items pertain to assessing frequency of behaviors aimed at controlling pain as well as engagement in valued based activities regardless of pain levels (McCracken, Vowles, & Eccleston, 2004). Responses were measured on an 8-point Likert-type scale from 0 (never true) to 7 (always true). A total score was used, with higher scores indicating more pain acceptance. The CPAQ has shown adequate validity and reliability in multiple chronic pain samples (McCracken et al., 2004; Reneman et al., 2010), and has been associated with lower mental distress and disability (McCracken & Eccleston, 2006; Viane et al., 2003). In the current sample, the internal consistency for the CPAQ was .86, indicating good reliability.

**Chronic Pain Values Inventory.** Values success was measured using the 12-item Chronic Pain Values Inventory (CPVI; McCracken & Yang, 2006). It was used to assess values success, or how well one is living in concordance with six broad valued domains: family, intimate relations, friends, work, health, and growth or learning. Responses are measured on a 6-point Likert-type Scale from 0 (not at all important/successful) to 5 (extremely important/successful). A mean success score was used for the present analyses. Higher success scores indicate more success at living in concordance with one’s values, and has demonstrated adequate validity and reliability in a chronic pain sample (McCracken & Yang, 2006). Higher
value success scores have been associated with better physical and psychosocial functioning, and lower depressive symptoms and depression-related interference (McCracken & Yang, 2006; Vowles, McCracken, et al., 2014). In the current sample, the internal consistency for the CPVI was .89, indicating good reliability.

**Brief Pain Coping Inventory-2.** Pain-related coping was measured using the 19-item Brief Pain Coping Inventory – 2 (BPCI-2; McCracken, Eccleston, & Bell, 2005). Items correspond to two subscales: use of flexible pain coping strategies and use of traditional pain coping strategies. Typically, traditional pain coping strategies pertain to attempts to try and control pain levels through strategies such as exercise, relaxation, distraction, and positive self-statements. Flexible coping strategies relate to psychological flexibility, and include accepting pain and pain-related distress, present-moment focused awareness, and engagement in valued based activities with or without pain (McCracken & Vowles, 2007). For each item, respondents were asked to indicate the number of days in the past seven they had used each coping strategy. Both subscales were used in the present analyses and were derived by summing the subscale items together, with higher scores indicating higher utilization of coping strategies. Additionally, higher scores on both subscales have been associated with greater physical and psychosocial functioning, as well as higher engagement in valued activity and pain acceptance (Vowles, McCracken, et al., 2014). Previous research has indicated that the flexible coping subscale may be more strongly associated with positive treatment outcomes than the traditional coping subscale (McCracken & Vowles, 2007; Vowles & McCracken, 2010). In the current sample, the internal consistency for the flexible pain coping subscale was .77, and .70 for the traditional pain coping subscale, indicating adequate reliability.
Pain Anxiety Symptom Scale. Pain anxiety was measured using the 20-item Pain Anxiety Symptom Scale (PASS; McCracken, Zayfert, & Gross, 1992). Items assess four domains that correspond to aspects of pain anxiety, which include cognitions, physiological anxiety symptoms, fear of pain, and attempts at escape/avoidance of pain. Respondents were asked to rate how frequently each item occurred on a 6-point Likert-type scale, with responses ranging from 0 (never) to 5 (always). A total score was used, with higher scores indicating more pain anxiety. The PASS has shown to be adequately valid and reliable in a community sample of adults and chronic pain sample with varying pain diagnoses (McCracken, Zayfert, & Gross, 1992; Osman et al., 1994). The PASS has been shown to predict severity of disability, pain interference, and emotional distress among community and chronic pain samples (McCracken et al., 1992; Osman et al., 1994). In the current sample, the internal consistency for the PASS was .92, indicating strong reliability.

Pain and Demographic Information. Demographic variables included self-reported age, gender, race, marital status, employment status, and years of education. In regard to pain-specific information, pain duration in years, primary and secondary pain sites, and utilization of previous pain treatments were collected. Usual pain intensity over the preceding seven days was measured on a numerical rating scale (Hartrick, Kovan, & Shapiro, 2003) from 0 (no pain) to 10 (worst possible pain).

Data Analysis Plan

Descriptive statistics were calculated for all demographic variables, as well as the eight outcome measures. Assumptions testing for the planned regression analyses included estimates of skew, kurtosis, and multicollinearity (Tabachnick & Fidell, 2013). Potential outliers for each outcome measure were identified via stem and leaf plots and visual inspection. As stated
previously, three cases were removed from the present analyses due to outlying scores on one of
the eight measures. To test the relation of self-compassion to the eight outcome measures, eight
separate cross-sectional linear regressions were conducted, controlling for demographic and pain
variables. For each linear regression, demographic variables were entered in the first step, which
included participant age and gender. Gender was dummy coded (1 = women, 2 = men) before
being entered into each linear regression. In the second step, pain specific variables were entered,
which included the total number of years the participant had experienced pain (pain duration),
and their usual pain intensity for the past week. In the third and final step, self-compassion score
was entered. The criterion variables for the eight linear regressions were physical and
psychosocial disability, depression, pain acceptance, success in valued activities, use of
traditional pain coping strategies, use of flexible pain coping strategies, and pain anxiety. Beta
weights were examined to determine the directional relation between self-compassion and the
outcome measures. The unique variance accounted for by demographic variables, pain variables,
and self-compassion were examined to determine the contribution of each set of variables in the
outcome measures. All statistical analyses were carried out using SPSS Version 25 (IBM Corp.,
2017).

Results

There was no evidence of significant skew, kurtosis, or multicollinearity among any of
the study variables (Tabachnick & Fidell, 2013). The means and standard deviations for all
measures can be found in Table 2. It should be noted that the current sample exhibits similar
physical and psychological disability as compared to other chronic pain samples (Follick et al.,
1985; Vowles, Gross, & McCracken, 2007; Watt-Watson & Graydon, 1989). As hypothesized,
self-compassion was a significant predictor in all eight linear regressions, indicating that self-
compassion accounted for a significant and unique amount of variance in physical and
psychosocial disability, depression, pain acceptance, success in valued activities, use of
traditional pain coping strategies, use of flexible pain coping strategies, and pain anxiety.
Further, beta weights indicated that self-compassion was associated with the outcome measures
in the hypothesized directions. Particularly, self-compassion was positively associated with pain
acceptance, use of traditional and flexible pain coping strategies, and success in values-based
activities, and negatively associated with depression severity, pain anxiety, and physical and
psychosocial disability. These results are displayed in Table 3.

To determine which outcome measures might be more strongly influenced by self-
compassion, variance accounted for by self-compassion scores within each functioning measure
was examined. Self-compassion contributed the largest amount of unique variance in depression
severity. The overall model was significant \[ r^2 = .44, F(5, 199) = 31.23, p < .001 \], with self-
compassion accounting for 32% unique variance in depression severity scores. The second
largest unique variance of self-compassion was observed in pain acceptance. The overall model
was significant \[ r^2 = .38, F(5, 156) = 18.92, p < .001 \], with self-compassion accounting for 29%
unique variance in pain acceptance scores. Third was psychosocial disability, and the overall
model was significant \[ r^2 = .32, F(5, 202) = 18.87, p < .001 \] with self-compassion accounting for
27% unique variance in psychosocial disability scores. Next, self-compassion accounted for an
equal amount of unique variance (23%) in flexibility in pain coping and pain anxiety scores.
Both models were significant [flexibility in pain coping: \( r^2 = .26, F(5, 154) = 10.74, p < .001 \);
pain anxiety: \( r^2 = .31, F(5, 194) = 17.44, p < .001 \)]. Following this, self-compassion accounted
for 14% unique variance in values success scores, and the overall model was significant \[ r^2 =
Lastly, self-compassion accounted for the least amount of unique variance in traditional pain coping and physical functioning scores (7%). Both models were significant [traditional pain coping: $r^2 = .08, F(5, 170) = 3.11, p < .001$; physical disability: $r^2 = .14, F(5, 204) = 6.71, p < .001$].

**Discussion**

The key findings from this study are: (1) self-compassion was positively associated with pain acceptance, use of traditional and flexible pain coping strategies, and success in valued activities, and negatively associated with depression severity, pain anxiety, and physical and psychosocial disability, and (2) self-compassion accounted for more variance in measures of depression, pain acceptance, psychosocial disability, use of flexible pain coping strategies, and success in valued activities, and less variance in measures of physical disability and use traditional pain coping strategies.

In the context of chronic pain, self-compassion entails bringing a nonjudgmental kindness to the experience of pain, suffering, and failures, and understanding these difficult experiences to be unavoidable and part of the human condition. It is to recognize that even in the face of failure and discomfort, one is worthy of compassion, respect, and forgiveness, just as all other human beings are (Neff, 2003). While these definitions coincide with the main tenants of mindfulness and acceptance-based treatments, self-compassion cultivates additional and unique skills. For example, all of these treatments teach individuals to bring a non-judgmental awareness to their experience, no matter the physical sensations, emotions, or thoughts that are present (Kabat-Zinn, 2015; Kabat-Zinn, Lipworth, & Burney, 1985). However, the practice of self-compassion also has individuals actively foster kindness and understanding towards themselves, and to see themselves as part of a larger community. By doing this, individuals may not only effectively
respond to and live better with distress, but also promote an improved sense of self-efficacy and connectedness with others that is not entirely present in other mindfulness and acceptance-based treatments.

More specifically in chronic pain, self-compassion does not aim to reduce primary suffering (i.e. physical pain) but rather attempts to reduce secondary suffering (i.e. ineffective responses to pain; Scott & McCracken, 2015). Therefore, it may reduce critical self judgements and, in turn, foster successive gains in functioning despite pain. This is supported in the current findings, such that self-compassion was related to more success in engaging in valued activities, despite the presence of pain. Self-compassion may also be an important process working against pain avoidance responses, which aim to accomplish short term relief but do not promote long term functioning (Costa & Pinto-Gouveia, 2013). For example, the ability to acknowledge pain and its limitations may be helpful in reducing unrealistic social role standards that often impede pain acceptance, adjustments, and pacing attempts that are often necessary in functioning well with chronic pain (Neff, 2003; Purdie & Morley, 2016). This is also supported in the findings, which found self-compassion to be more strongly related to use of flexible pain coping strategies (e.g. present moment awareness) and pain acceptance rather than use of traditional pain coping strategies (e.g. distraction, medications) and physical disability. Overall, the current findings and previous literature, illustrate that self-compassion may be an effective and adaptive process in reducing pain interference, rather than pain itself. This is particularly highlighted in that self-compassion scores accounted for the highest amount of variance in measures related to emotional and social functioning, pain acceptance, and engagement in values-based activities, rather than measures related to physical disability and use of coping strategies that attempt to reduce pain intensity.
Treatments that involve self-compassion components have shown relative efficacy in improving functioning among chronic pain patients. Acceptance and Commitment Therapy (ACT) has shown that self-compassion contributes to two integral ACT treatment processes (Vowles, Sowden, & Ashworth, 2014). Further, changes in self-compassion after receiving ACT was found to be directly associated with improvements in physical and psychosocial disability, medical visits, and analgesic use (Vowles et al., 2014). Other treatment approaches that include self-compassion training as part of the treatment, such as mindfulness and positive psychology interventions, have also contributed to improvements in happiness, quality of life, and depression (Doran, 2014; Peters et al., 2017). The current findings extend this literature by showing that self-compassion alone is associated with better functioning. It may be warranted to further tailor these interventions to target self-compassion more directly, or broaden some of the newly developed brief self-compassion interventions to chronic pain populations (Friis, Johnson, Cutfield, & Consedine, 2016; Kelman, Evare, Barrera, Muñoz, & Gilbert, 2018). Further, while some data suggest that chronic pain etiology does not predict treatment results, future research may want to examine this specifically in the context of self-compassion (McCracken & Turk, 2002).

Study Limitations

There are at least two limitations to the current study that should be taken into consideration when interpreting these results. First, the analyses presented are cross-sectional in nature and do not imply causation between self-compassion scores and functioning measures. In addition, the temporal precedence between self-compassion and the eight outcome measures cannot be established. While previous literature has examined longitudinal changes in self-compassion and functioning and found some support for causality, this cannot be determined
from the current analyses. Second, the study sample is primarily treatment seeking, cohabitating, white women and may not generalize to other demographic characteristics, such as men, racial/ethnic minorities, and non-treatment seeking populations.

Conclusion

The current study findings, in addition to the previous literature, suggest that self-compassion is an effective and adaptive process in improving functioning among adults with chronic pain. Specifically, it may be most effective in helping to reduce the impact of chronic pain in important and valued domains of life, rather than reducing pain intensity itself. In clinical practice, this may be an efficient and effective process to target as the current findings suggest that it may contribute to improvements in multiple domains, and would be relevant to individuals at any stage in their medical and psychological care. Treatments that target self-compassion, such ACT and other mindfulness-based interventions, have shown promising results within multiple chronic pain samples and impact a broad array of general and pain-specific functioning measures (Hilton et al., 2017; Veehof et al., 2016; Vowles, Sowden, et al., 2014; Vowles, Witkiewitz, et al., 2014). In addition, there are a number of promising brief compassion-focused interventions that are in the early stages of development that may be useful to those with chronic pain (Friis et al., 2016; Kelman et al., 2018; Kirby, 2017; Penlington, 2019). While the evidence behind targeting self-compassion in the general population is fairly robust, emphasis on self-compassion in chronic pain treatment needs further examination. Future research should continue to examine the relationship between self-compassion and functioning among more demographically diverse chronic pain samples to better understand how these findings might generalize to the broader population as well as which individuals this treatment target may be most salient for. Future research should also refine and adapt current interventions, such as ACT.
and Mindfulness, to target self-compassion more directly. Further, it may also be helpful to explore the development and implementation of a brief intervention to increase self-compassion. Findings from the current study suggest that treatment, in any form, may stand to be improved by the addition of self-compassion training to better help individuals cope with the impact of chronic pain.
Footnotes

1 The CPAQ subscales (i.e. pain willingness and activity engagement) were examined separately to be sure there were no substantial differences between subscales. A similar pattern was found between each subscale and the total score, therefore only total score is reported.
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