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Relationship Between Future Orientation and Pain Severity in Fibromyalgia Patients:

Self-Compassion as a Coping Mechanism

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**Abstract**

The present study examined the relationship between future orientation and fibromyalgia-related pain severity in a sample of 287 adults with fibromyalgia. Specifically, we examined dimensions of self-compassion (e.g., self-kindness, isolation, mindfulness) as possible mechanisms through which future orientation might be associated with pain severity. Results of conducting a multiple mediator test with 10,000 bootstraps indicated that the significant negative association between future orientation and pain severity was mediated through one specific self-compassion dimension, namely, isolation. Some implications of the present findings for working with fibromyalgia patients are discussed.

*Keywords:* Future Orientation; Self-Compassion; Fibromyalgia; Pain; Adults

Relationship Between Future Orientation and Pain Severity in Fibromyalgia Patients:  
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Fibromyalgia is a rheumatic condition that is difficult to diagnose due to a lack of reliable biomarkers on which to base a diagnosis (Wolfe et al., 2010). The prevalence rate of this condition is estimated at 1.75% among the general population (Walitt, Nahin, Katz, Bergman, & Wolfe, 2015). Fibromyalgia symptoms are varied, but often include chronic and widespread pain at specific bodily locations, tenderness to touch, physical exhaustion, and cognitive difficulties pertaining to attention and memory, among other physical and psychological symptoms (Arnold et al., 2016; Bennett et al., 2009; Hirsch & Sirois, 2016; Wolfe et al., 2010). Until the 1980s, fibromyalgia was considered largely a psychosomatic illness (Inanici & Yunis, 2004), and some medical professionals continue to question its existence (Sturge-Jacobs, 2002). As a result, fibromyalgia patients have to not only deal with chronic pain experiences associated with their condition, but they often also have to deal with the added strain of not being understood by others, including health experts (Wierwille, 2012).

In the context of fibromyalgia patients, there are at least two reasons to consider the usefulness of *future orientation*, the belief that the future will get better even when faced with difficult situations (Hirsch et al., 2007), for understanding adjustment in this population. First, findings from past studies have shown that other positive future cognitions (e.g., optimism) are associated with pain severity in fibromyalgia patients (e.g., Hellström, Jansson, & Carlsson, 2000; Morea, Friend, & Bennett, 2008). Second, and relatedly, unlike broad positive future cognitions like optimism or hope, future orientation is predicated on embodying resilience during times of distress (Hirsch et al., 2007). Thus, for fibromyalgia patients, believing that their future will get better might help establish a positive outlook that is associated with experiencing less

pain severity. However, such an association is likely due to the behaviors fibromyalgia patients engage in or use when coping with their distressing condition (Purdie & Morley, 2016). In that regard, growing research focusing on the importance of self-compassion as an important coping mechanism might be useful for understanding pain severity in fibromyalgia patients. According to Neff (2003), *self-compassion* refers to a multidimensional construct involving an inward process of relating to oneself during stressful times, and is made up of six distinct dimensions, the presence of three positive processes (e.g., self-kindness, common humanity, & mindfulness) and the absence of three negative processes (e.g., isolation, self-judgement, & over-identification). Because higher levels of self-compassion have been linked to lower levels of pain severity in other patient populations (e.g., obese adults; Wren et al., 2012), it would be useful to determine if any association found between future orientation and pain severity in fibromyalgia patients might be accounted for by their engagement in different forms of self-compassion. Accordingly, the present study was conducted to examine whether dimensions of self-compassion represent possible mechanisms through which future orientation might be associated with pain severity in fibromyalgia patients.

### **Purpose**

Given these considerations, the present study was conducted in an adult population of fibromyalgia patients to: (a) examine the associations between future orientation, self-compassion, and fibromyalgia pain symptomatology; and (b) determine if the expected association to be found between future orientation and pain severity might be mediated by components of self-compassion.

Consistent with past research pointing to the role of future orientation in adjustment, including pain severity (e.g., H ellstrom et al., 2000), we expected future orientation to be

negatively associated with pain severity in fibromyalgia patients. Furthermore, consistent with the notion that self-compassion might operate as an important means by which fibromyalgia patients cope with experiences of pain, we expected to find the expected association between future orientation and pain severity to be mediated by self-compassion. Given that there has not been much research examining the different dimensions of self-compassion as a potential mediator of the link between individual differences variables and pain severity in adults, we did not have any basis to make a strong hypothesis regarding which dimensions of self-compassion would uniquely mediate the association. That said, however, given some research on how positive constructs can often lead to “upward spirals” (Garland et al., 2010), we tentatively surmised that future orientation might have the strongest indirect association with pain severity by potentially bolstering engagement in positive self-compassion activities, rather than by diminishing engagement in negative self-compassion activities.

## Methods

### Participants

A sample of 287 adults with fibromyalgia (275 females & 12 males) was recruited for the present study using an online platform. Ages ranged from 18 to 76 ( $M = 48.07$ ,  $SD = 12.31$ ). Of all participants, 92.7% ( $n = 266$ ) identified as White.

### Measures

***Future Orientation.*** Future orientation was assessed using the Future Orientation Scale (FOS; Hirsch et al., 2006). The FOS is a 6-item measure designed to assess the belief that the future is changeable even during difficult times (e.g., “No matter how badly I feel, I know it will not last”). Participants are asked to indicate the extent to which each item is important to how they deal with stressors on a 5-point Likert-type scale, ranging from 1 (*extremely unimportant*) to

5 (*extremely important*). Higher FOS scores indicate a greater belief in a positive, changeable future.

***Self-Compassion.*** Self-compassion was assessed using the Self-Compassion Scale (SCS; Neff, 2003). The SCS is a 26-item measure designed to assess for dimensions of self-compassion (e.g., “I try to be loving towards myself when I’m feeling emotional pain”). Participants are asked to indicate how often they behave in the manner stated in each item on a 5-point Likert-type scale ranging from 1 (*almost never*) and 5 (*almost always*). Higher SCS scores indicate greater self-compassion.

***Pain Severity of Fibromyalgia Symptoms.*** Pain severity was assessed using the third component (i.e., Domain 3) of the Revised Fibromyalgia Impact Questionnaire (FIQ-R; Bennett et al., 2009), a 10-item subscale of the total FIQ-R that is designed to assess for severity of fibromyalgia symptoms in the previous seven days (e.g., “Please rate your level of pain”). For each symptom, participants rate their experience with the respective symptom using a scale ranging from no symptomatology (e.g., *No pain*) to high experience of symptomatology (e.g., *Unbearable pain*). Higher scores on this FIQ-R subscale indicate greater fibromyalgia-related pain severity.

## **Procedure**

Approval for the study was obtained from the Institutional Review Board prior to data collection. Participants were recruited online, via a secure server, with respondents recruited from local, regional, and national organizations and support groups focused on chronic pain conditions. Upon providing written informed consent, participants then completed the survey electronically.

## **Results**

All correlations were significant and in the expected directions (for a copy of the correlation table, please contact the author). For example, future orientation was negatively associated with pain severity ( $r = -.15, p < .001$ ). Similarly, future orientation was positively associated with the three positive self-compassion dimensions ( $r_s = .17$  to  $.29, p < .01$ ), and negatively associated with the three negative self-compassion dimensions ( $r_s = -.20$  to  $-.28, p < .001$ ).

To examine self-compassion dimensions as mediators of the association between future orientation and pain severity, we used Preacher and Hayes' (2008) bootstrapping methods (with 10,000 bootstraps) for detecting total effects and specific indirect effects for instances where multiple mediators are involved in the prediction model. Results of this analysis is indicated that the total indirect effect was found to be significant ( $p < .05$ ), as the confidence interval did not contain a zero. That said, an examination of the indirect effects of all six self-compassion dimensions indicated that only one was significant. Specifically, the indirect effect of isolation was the only dimension found to be significant ( $p < .05$ ), without a confidence interval containing a zero. As shown in **Figure 1**, isolation emerged as the only dimension of self-compassion to mediate the association between future orientation and pain severity. Because the total effect of future orientation on pain severity became non-significant ( $c' = -.10, n.s.$ ) after the inclusion of self-compassion, our findings indicate that isolation fully mediated the previously significant association found between future orientation and pain severity ( $c = -.32, p < .01$ ).

### Discussion

The present study examined the associations between future orientation, self-compassion, and pain severity in fibromyalgia patients. Consistent with expectations, we found that future orientation was associated with less pain severity in fibromyalgia patients. Thus, fibromyalgia



patients who held the resilient conviction that the future would be better despite their situation were more likely to experience less pain severity associated with their condition. Importantly, however, results from our mediation testing indicated that the manner in which this association exists might be through self-compassion, specifically, by thwarting experiences of isolation. That is, we found that greater belief in a changeable future was associated with less ruminative thinking associated with one's lack of connectedness with others (e.g., "When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world"). In turn, the tendency to engage in less rumination about one's disconnectedness with others was associated with less experience of pain severity in fibromyalgia patients. This is consistent with findings from other studies pointing to a reliable association between loneliness and pain experiences in fibromyalgia patients (e.g., Wolf & Davis, 2014). Thus, future orientation may do more to abate "downward spirals", than activate "upward spirals", involved in experiences of pain severity among fibromyalgia patients (Garland et al., 2010).

Although our findings are preliminary, they may be taken to suggest two possible ways that might prove to be useful for mental health professionals working with fibromyalgia patients experiencing high levels of pain. First, our findings suggest that in addition to existing multidisciplinary strategies for treatment (e.g., narratives, medication, physical therapy; Kelley & Clifford, 1997; Wells, Pasero, & McCaffery, 2008; Wijma, van Wilgen, Meeus, Nijs, 2016), it might be useful to help fibromyalgia patients build a strong sense of future orientation. For example, social workers might work with fibromyalgia patients with low future orientation to build greater positive expectancies for their future. This might be done by not only having patients work on identifying and acknowledging personal strengths and sources of resilience (e.g., social support) that are available to them (Boehm, Eisenberg, & Lampel, 2011), but also

helping them learn to reframe stressful situations as opportunities for positive personal change and growth (Robitschek et al., 2012). For example, social workers might work with patients to help identify supportive individuals in their life (e.g., spouse, partner, & parents) and have those significant individuals play a collaborative role in fostering a positive and supportive environment for the patient (Montoya, Larbig, Braun, Preissl, & Birbaumer, 2004). Indeed, findings from studies show that the greatest impact of social support on reports of pain severity among pain patients is by encouraging the use of effective coping strategies (e.g., Holtzman, Newth, & DeLongis, 2004). Thus, social workers using, for example, cognitive behavioral strategies that focus on the training of effective and meaningful coping skills (e.g., cognitive restructuring, problem solving) to directly (e.g., increase tolerance of pain) or indirectly (e.g., reduce emotional distress associated with pain experiences) manage pain experiences among fibromyalgia patients, might achieve greater positive outcomes when significant others are included as facilitators or partners in the patient's pain management program. In more extreme cases in which such efforts appear to have little to no beneficial effect for the patient, the practitioner may suggest expanding the management team to include medical professionals to determine if pharmacological treatments might be warranted (e.g., opioids; Rosenblum, Marsh, Joseph, & Pertony, 2008).

Second, and relatedly, given our mediation findings, there might be specific value in working to build future orientation only insofar as such efforts reduce the tendency of fibromyalgia patients to engage in ruminative processes that isolate them from others. Alternatively, as noted above, working to also increase and sustain the support system available to fibromyalgia patients (e.g., patient groups, online support groups) might also help disrupt the tendency to resign themselves to the belief that they are isolated and alone. In that regard, social

workers might help establish a weekly support group for both fibromyalgia patients and members of their support network to not only help offer a space to discuss any challenges and concerns patients may sometimes have about increased perceptions of social isolation or lack of social support, but to also help sustain their collective commitment to overcoming this condition (Turner, 2011). For example, the social worker can help articulate or codify a plan of commitment between the patient and support members to collaborate in the success of the pain management treatment (e.g., Veehof, Trompetter, Bohlmeijer, & Schreurs, 2016).

These said, some limitations to the present study are worth noting. First, the present study focused on examining one potentially important mediator, namely, self-compassion, of the association between future orientation and pain severity in fibromyalgia patients. Future studies might examine the comparative influence of other important processes (e.g., perfectionism; Sirois & Molnar, 2014). Second, the present sample was predominantly White and female. As noted by Mogil (2012), pain conditions appear to be predominantly reported by females, with as much as 80% of some pain conditions being reported by females, relative to males. Although White females represent the majority of those with fibromyalgia (Walitt et al., 2015), the condition is not exclusive to them. Therefore, it would be important to determine the extent to which the present findings might be generalizable to males and to other ethnoracial groups (e.g., African Americans, Hispanics; Pryma, 2017). Third, although pain severity represents one of the central concerns for those with fibromyalgia, it would be important to determine if the present model might be useful in understanding other important outcomes in this patient population (e.g., depression, suicide risk; Calandre et al., 2015). Finally, given the cross-sectional nature of the present findings, it would be important in future studies to examine the extent to which future

orientation in fibromyalgia patients predicts changes in self-compassion and experiences of pain severity across time.

### **Conclusion**

The present study is the first to identify an association between future orientation and pain severity in fibromyalgia patients. Importantly, we were able to show that this association was uniquely mediated by one specific self-compassion dimension, namely, isolation. Future research focusing on pain severity in fibromyalgia patients should continue to examine for the potential usefulness of studying other positive psychological variables that might be involved (e.g., self-efficacy, grit) and the mechanisms by which they might operate through.

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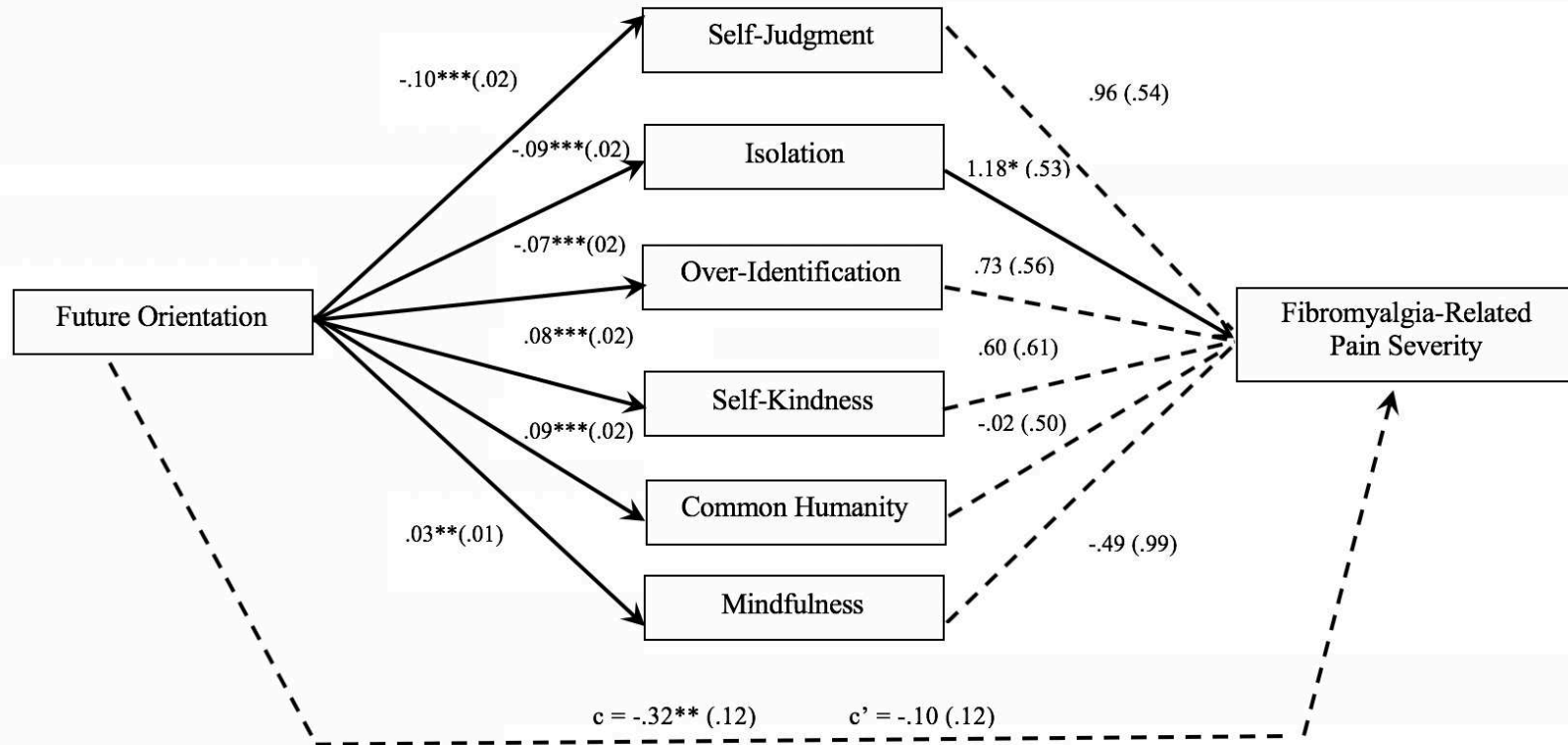


Figure 1. *Estimated mediation model of future orientation and pain severity through self-compassion in an adult community sample of Fibromyalgia patients (N = 288). All numbers are non-standardized regression coefficients and their standard errors. Notes. \*p < .05. \*\*p < .01. \*\*\*p < .001.*