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The relationships between self-compassion, rumination, and depressive symptoms among older adults: the moderating role of gender

Jessica Hodgetts[a], Suzanne McLaren[a,b], Bridget Bice[a] and Alexandra Trezise[a]

[a]School of Health and Life Sciences, Federation University, Australia; [b]School of Psychology, Charles Sturt University, Port Macquarie, New South Wales, Australia

ABSTRACT

Objectives: Depression is a significant mental health issue for older adults. Rumination is a key risk factor for depressive symptoms, and self-compassion is a protective factor. The aim of the current study was to test the processes by which self-compassion might act as a protective factor among older adults by investigating a mediation model, and whether the model is conditional on gender. It was hypothesised that self-compassion and its six components (self-kindness, common humanity, mindfulness, self-judgement, isolation, and over-identification) would be indirectly associated with depressive symptoms via rumination.

Method: A sample of 135 older Australian women and 106 older Australian men aged between 65 and 89 years completed the Centre for Epidemiologic Studies Depression Scale, the Ruminative Thought Style Questionnaire, and the Self-Compassion Scale.

Results: Results supported the mediation models for self-compassion for both men and women, however, support for the models involving the individual components of self-compassion varied according to gender. The mediation effects were stronger for women than men.

Conclusion: Interventions aimed at increasing self-compassion might have benefits for older adults. Future research investigating whether tailoring interventions according to gender of participants is efficacious is needed.

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Depression; mood disorders; positive psychology; quantitative methods and statistics

Introduction

Depressive symptoms are a significant international public health concern among older adults. For example, data from Australia indicated that 19.1% of older adults residing in their own home and 58.4% of older adults living in residential facilities reported significant levels of depressive symptoms (McLaren, Turner, Gomez, McLachlan, & Gibbs, 2013). A more recent study indicated that 30.65% of older Australian adults reported clinically significant levels of depressive symptoms (Trezise, McLaren, Gomez, Bice, & Hodgetts, 2018). Elevated levels of depressive symptoms are experienced by older adults from a range of countries, with 39.86% of older Chinese (Yu, Li, Cuijpers, Wu, & Wu, 2012), 22.3% of older Korean (Kim, Hayward, & Reed, 2014), 28.5% of older European (Calvo-Perxas, Vilalta-Franch, Turro-Garriga, Lopez-Pousa, & Garre-Olmo, 2016), and 13.8% of older US (Laborde-Lahoz et al., 2015) adults reporting clinically significant levels of depressive symptoms.

Gender differences in depression evident earlier in the lifespan continue in older adulthood, with older women significantly more likely to develop depressive disorders or experience depressive symptoms than older men (Calvo-Perxas et al., 2016; Laborde-Lahoz et al., 2015; Mohebbi et al., 2019; Tintle, Bacon, Kostyuchenko, Gutkovich, & Bromet, 2011). The prevalence of depressive symptoms among women has led researchers to examine the mechanisms by which depressive symptoms develop. One prominent theory is the Ruminative Response Styles Theory (Nolen-Hoeksema, 1991). Within the context of this theory, 'rumination is a mode of responding to distress that involves repetitively and passively focusing on symptoms of distress and on the possible causes and consequences of these symptoms' (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008, p. 400).

The Ruminative Response Styles Theory proposes that the gender discrepancy in the prevalence of depression is a consequence of the different way men and women respond to their experiences of depressive mood: women ruminate and men distract (Nolen-Hoeksema, 1991; Ricarte Trives, Navarro Bravo, Latorre Postigo, Ros Segura, & Watkins, 2016). Research indicates that women engage in rumination more often than men (Kwon, Yoon, Joormann, & Kwon, 2013; Ricarte Trives et al., 2016), a finding demonstrated in older adults (Chen, Pu, Shi, & Zhou, 2020). It has been argued that women are more likely to engage in rumination as it may be a gender-stereotyped coping behaviour, which is connected to gender role identity and learnt through socialisation processes (Broderick, 1998; Cox, Mezulis, & Hyde, 2010). Other researchers have suggested that women engage in rumination as they are likely to face more stressors of which they have little control, and may experience more negative affect and feel less able to engage in active problem solving in comparison to men (Broderick & Korteland, 2004).

Therefore, there is a need to understand protective factors that reduce rumination and depression among older adults, particularly women. One possible protective factor is self-compassion. Self-compassion entails thinking about

CONTACT Suzanne McLaren smclaren@csu.edu.au

the self in a way that promotes resilience (Ehret, Joormann, & Berking, 2015). Self-compassion is compassion turned inward, and involves treating oneself with the same care, concern, and kindness that one displays to others who are in difficult circumstances (Terry, Leary, & Mehta, 2013). Often regarded as an adaptive emotion regulation strategy, self-compassion allows individuals to create distance from their own suffering by at least partially transforming negative affect into more positive affect and by increased self-regulation (Ehret et al., 2015; Neff, 2003b).

Neff (2003b) proposed there are three bipolar components which underpin the construct of self-compassion: self-kindness versus self-judgement (treating oneself with warmth and understanding, as opposed to negative self-appraisal, including self-criticism), common humanity versus isolation (recognition that all humans are imperfect, as opposed to feeling isolated by one's failures or inadequacies), and mindfulness versus over-identification (one's awareness and acceptance of their present moment experience, as opposed to being carried away by the experience and over-identifying with painful thoughts and feelings). Self-compassion is typically assessed using the Self-compassion Scale (Neff, 2003a), with the bipolar components reflected in three positive (self-kindness, common humanity, and mindfulness) and three negative (self-judgement, isolation, and over identification) subscales. A meta-analysis of studies using the Self-compassion Scale (Yarnell et al., 2015) and a recent study of university students and community adults (Yarnell, Neff, Davidson, & Mullarkey, 2019) demonstrated that men score higher on self-compassion than women, although the effect size was small. The large majority of studies investigating self-compassion use a total score, rather than analysing the components of self-compassion (Yarnell et al., 2015).

There is growing evidence that self-compassion is an important protective factor that promotes emotional resilience among adults (Ehret et al., 2015; Krieger, Altenstein, Baettig, Doerig, & Holtforth, 2013; Neff & McGehee, 2010; Raes, 2010; Van Dam, Sheppard, Forsyth, & Earleywine, 2011) and older adults (Allen, Goldwasser, & Leary, 2012; Brown, Huffman, & Bryant, 2019; Homan, 2016; Imtiaz & Kamal, 2016). A meta-analysis indicated that there was a large effect size for the association between self-compassion and psychopathology (depression, anxiety, and stress) among adults, and that this relationship was not moderated by gender (Macbeth & Gumley, 2012). A recent systematic review (Brown et al., 2019) demonstrated that there was a medium to strong relationship between self-compassion and depressive symptoms among adults aged 65 years and older.

Imtiaz and Kamal (2016) conducted a study among 209 older adults aged 60–90 years in Pakistan and found that all components of self-compassion were significantly correlated with psychological well-being. Research among 203 Koreans aged 65 years and older found higher levels of the positive aspects of self-compassion (i.e. a total score for self-kindness, common humanity, and mindfulness) and lower levels of the negative aspects of self-compassion (i.e. a total score for self-judgement, isolation, and over-identification) predicted lower levels of depressive symptoms and sleep disturbance, and higher levels of life satisfaction (Kim & Ko, 2018). In addition, the negative aspects of self-compassion predicted anxiety symptoms.

Self-compassion has also been associated with lower levels of rumination among adults (Blackie & Kocovski, 2018; Krieger et al., 2013; Purdie & Morley, 2015) and older adults (Imtiaz & Kamal, 2016). Blackie and Kocovski (2018) found that self-compassion was associated with lower levels of a form of rumination, post-event processing, among university students. In addition, higher levels of self-kindness and mindfulness, and lower levels of self-judgement, isolation, and over-identification were associated with lower levels of state and trait post-event processing. In a second sample, adults seeking help for social anxiety and shyness, relationships were found between each of the components of self-compassion and post-event processing.

In one of the only studies among older adults, Imtiaz and Kamal (2016) found that self-compassion, and the components of self-judgement, isolation, and over-identification, were correlated with rumination among a sample of 209 Pakistani adults aged 60–90 years. In a regression analysis, the three negative aspects of self-compassion and common humanity contributed to the prediction of rumination.

Despite self-compassion being identified as a protective factor, a paucity of research has investigated the mechanisms by which self-compassion works as a protective factor among older adults. In light of evidence demonstrating that self-compassion is related to less rumination (Blackie & Kocovski, 2018; Imtiaz & Kamal, 2016; Krieger et al., 2013; Purdie & Morley, 2015), and rumination is related to depressive symptoms (Buckman et al., 2018; Nolen-Hoeksema, 2000; Nolen-Hoeksema et al., 2008; Trick, Watkins, Windeatt, & Dickens, 2016), self-compassion is likely to be indirectly related to depressive symptoms via rumination. Raes (2010) supported this mediation model in undergraduate university students. Higher levels of self-compassion were associated with lower levels of brooding which, in turn, were associated with lower levels of depressive symptoms. Whether each of the components of self-compassion were indirectly related to depressive symptoms via rumination was not tested. A study of adults seeking treatment for anxiety and mood disorders found that rumination mediated the relationship between mindfulness and depressive symptoms (Desrosiers, Vine, Klemanski, & Nolen-Hoeksema, 2013).

In summary, depressive symptoms are a significant health issue for older adults. Rumination is a key risk factor for depressive symptoms among adults, and self-compassion is a protective factor. The mechanism by which self-compassion is protective has received minimal attention, but there is evidence it is indirectly related to depressive symptoms via rumination in an adult sample. Whether the components of self-compassion are indirectly related to depressive symptoms via levels of rumination among older adults has not been investigated.

The aim of the current study was, therefore, to investigate whether self-compassion and its components were indirectly related to depressive symptoms via rumination (mediation model) among older adults. It was hypothesised that higher levels of self-compassion, self-kindness, common humanity, and mindfulness would be related to lower levels of rumination and lower levels of rumination would

be related to lower levels of depressive symptoms. In addition, it was hypothesised that higher levels of self-judgement, isolation, and over-identification would be related to higher levels of rumination, and in turn, higher levels of depressive symptoms. In addition, an exploratory aim was to investigate whether the mediation effect was conditional on gender. While there are gender differences in self-compassion, rumination, and depressive symptoms, it is unknown whether the pathways in the proposed model are conditional on gender. Given the central role of rumination in depressive symptoms among women, it was hypothesised that the indirect effects would be stronger for women than men. The hypothesised models are shown in Figure 1.

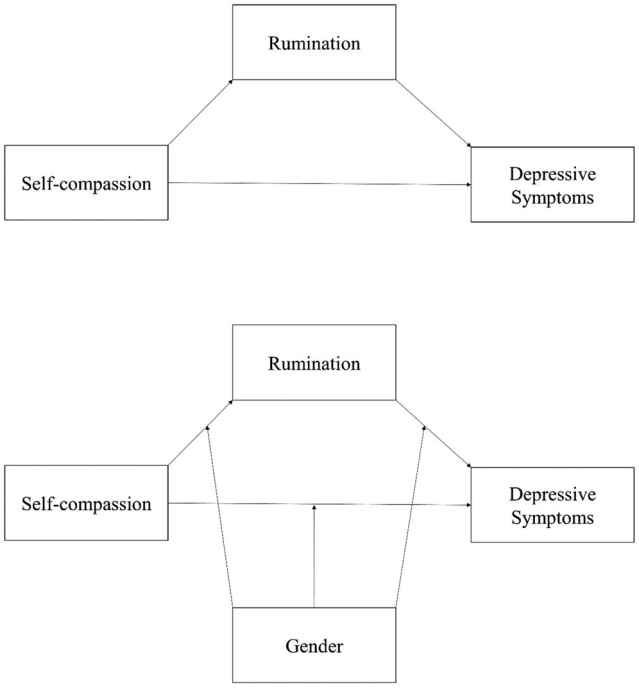

Figure 1. Proposed moderation and moderated-mediation models.

Method

Participants

A convenience community sample of 135 older Australian women aged between 65 and 89 years ($M = 70.30$ $SD = 4.40$) and 106 older Australian men aged between 65 and 89 years ($M = 71.31$, $SD = 5.72$) participated in the study.

Materials

Participants received a cover letter that detailed the nature and purpose of the study and explained that participation in the study was voluntary. In addition, it provided resources that could be accessed in the event participants experienced any distress during or after completing the questionnaire.

In the demographic section of the questionnaire, participants reported their gender, age, current relationship status, highest education level attained, and their current employment status. Participants then rated their overall health by selecting one of the following options: excellent, very good, good, fair, or poor.

The 20-item Centre for Epidemiologic Studies Depression Scale measured depressive symptoms within the past week (Radloff, 1977). The items assess individual's experiences of feelings of guilt and/or worthlessness, depressed mood, feelings of hopelessness and helplessness, psychomotor retardation, sleep disturbance, and loss of appetite. Items are scored on a 4-point scale (0 = *less than one day* and 3 = *5 to 7 days*), with higher scores indicating greater impairment. Scores of 16 or higher indicate the potential presence of a clinical depressive disorder. High internal consistency was demonstrated among a sample of older adults (α =.86; McLaren et al., 2013), and in the current sample ($\alpha = .93$).

The Ruminative Thought Style Questionnaire is a 20-item self-report measure that assesses an individual's general tendency to ruminate (Brinker & Dozois, 2009). The measure examines a broad conceptualisation of rumination, including positive, negative, and neutral thoughts, as well as past and future-oriented thoughts, and it has less overlap with depressive content than the Response Styles Questionnaire (see Brinker & Dozois, 2009). Items are scored using a 7-point scale (1 = *not at all* and 7 = *very well*), with higher scores indicating a greater tendency to ruminate. The scale has been found to be a reliable and valid measure, with Brinker and Dozois (2009) reporting a high internal consistency ($\alpha = .95$), and sound construct validity ($r = .64$) among an adult sample. Cronbach's alpha coefficient for the current sample indicated high internal consistency ($\alpha = .96$).

The Self-Compassion Scale is a 26-item self-report scale used to measure how individual's typically act towards themselves in difficult times (Neff, 2003a). The scale assesses the degree to which individuals display self-kindness versus self-judgement, common humanity versus isolation, and mindfulness versus over-identification. Items are scored using a 5-point scale (1 = *almost never* and 5 = *almost always*), with higher mean item scores indicating higher levels of self-compassion and each component. The scale has been found to be a reliable and valid measure, with Neff (2003a) reporting high internal consistency ($\alpha = .92$) and test-retest reliability over a three week period ($r = .93$) among an adult sample. For the current sample, the Cronbach's alpha coefficient for the total score ($\alpha = .85$) and subscales indicated good internal consistency (self-kindness $\alpha = .80$; common humanity $\alpha = .82$; mindfulness $\alpha = .79$; self-judgement $\alpha = .84$; isolation $\alpha = .82$; and over-identification $\alpha = .78$).

Procedure

The University's Human Research Ethics Committee approved the research protocol. The sample was recruited using several strategies. Older adults were recruited from community groups, senior citizens clubs, and retirement villages, and online. The nature of the study was explained to potential participants either verbally or via the cover letter, and those interested in participating in the study were given a questionnaire package. The completion of the questionnaire was voluntary and participants provided their informed consent upon reading the cover letter and returning the completed questionnaire. Participants completed

the questionnaire either at the place of recruitment or at home, and returned it either in person or via a supplied postage paid envelope. The questionnaire was also available online, where a link was placed on websites aimed at older adults.

The order of the questionnaires was counterbalanced. Participants completed either a paper ($n = 159$, 66%), or online ($n = 82$, 34%) questionnaire. The response rate for the paper questionnaires was 53.7%. With regards to the online questionnaire package, comparisons between the number of questionnaire packages accessed and the number of questionnaire packages completed, indicated a response rate of 73%.

Data analysis

Initially, descriptive statistics and correlations between the key variables were calculated. The mediation models and the moderated-mediation models were tested using the Process macro (Models 4 and 59, respectively; Hayes, 2018) in SPSS. The number of bootstrap samples for bias corrected bootstrap confidence intervals was 10,000, and a bootstrapped 95% confidence interval (CI) devoid of zero was used to infer significance.

Given that the variables of age, relationship status, education level, retirement status (Laborde-Lahoz et al., 2015), physical health (Homan, 2016), and method of completing a questionnaire (paper or online; Trezise et al., 2018) are related to depressive symptoms among older adults, these variables were controlled for in the analyses. In addition, gender was controlled for in Model 4.

Results

Table 1 displays the demographic characteristics of the sample. The majority of the sample were partnered, had completed secondary school education (or equivalent including a trade), were retired, and rated their overall health as good or very good.

Table 2 displays the mean scores, standard deviations, and the bivariate and partial correlations between the variables. Results indicated that 21.2% of the sample scored 16 or higher on the Centre for Epidemiologic Studies Depression Scale, an indication of significantly high levels of depressive symptoms. Results of the partial correlations demonstrated that higher levels of rumination were associated with higher levels of depressive symptoms, self-judgement, isolation, and over-identification, and lower levels of mindfulness. Lower levels of self-kindness and mindfulness, and higher levels of self-judgement, isolation, and over-identification, were associated with higher levels of depressive symptoms.

Mediation models

The indirect effect of self-compassion, $B = -3.42$, 95% CI = −5.06, −1.97, self-judgement, $B = 3.13$, 95% CI = 1.91, 4.43, isolation, $B = 2.64$, 95% CI = 1.61, 3.76, and over-identification, $B = 2.88$, 95% CI = 1.61, 4.21, on depressive symptoms via rumination was significant. In contrast, the indirect effect of self-kindness, $B = -0.57$, 95% CI = −1.53, 0.40, common humanity, $B = 0.06$, 95% CI = −0.85, 1.01, mindfulness, $B = -0.80$, 95% CI = −1.75, 0.05, was not significant. Higher levels of self-compassion were associated with lower levels of rumination, and lower levels of rumination were associated with lower levels of depressive symptoms. In contrast, higher levels of the three negative components of self-compassion were associated with higher levels of depressive symptoms via higher levels of rumination.

The direct effect of self-compassion, $B = -5.17$, 95% CI = −7.64, −2.70, self-kindness, $B = -2.51$, 95% CI = −4.04, −0.99, common humanity, $B = -1.41$, 95% CI = −2.77, −0.05, mindfulness, $B = -2.21$, 95% CI = −3.69, −0.73, isolation, $B = 2.34$, 95% CI = 0.64, 4.04, and over-identification, $B = 2.59$, 95% CI = 0.76, 4.42, on depressive symptoms was significant. In contrast, the direct effect of self-judgement, $B = 1.55$, 95% CI = −0.26, 3.56, was not significant.

The total effect for each model was as follows: self-compassion, $B = -8.59$, 95% CI = −10.90, −6.28; self-kindness, $B = -3.08$, 95% CI = −4.81, −1.35; common humanity, $B = -1.35$, 95% CI = −2.90, 0.20; mindfulness, $B = -3.01$, 95% CI = −4.67, −1.34, self-judgement, $B = 4.68$, 95% CI = 3.09, 6.28; isolation, $B = 4.99$, 95% CI = 3.43, 6.54, and over-identification, $B = 5.47$, 95% CI = 3.94, 7.00.

Table 1. Demographic information for the sample.

	Women		Men		Total	
	n	%	*n*	%	*N*	%
Relationship status						
Partnered	97	71.9	87	82.1	184	76.3
Unpartnered	38	28.1	19	17.9	57	23.7
Education						
Primary	2	1.5	4	3.8	6	2.5
Secondary	101	74.8	65	61.3	166	71.4
Tertiary	32	23.7	37	34.9	69	28.6
Employment						
Full-time	2	1.5	8	7.5	10	4.1
Part-time	10	7.4	11	10.4	21	8.7
Not working	123	91.1	87	82.1	210	87.1
Perceived health						
Excellent	11	8.1	11	10.4	22	9.1
Very good	37	27.4	28	26.4	65	27.0
Good	56	41.5	48	45.3	104	43.2
Fair	23	19.3	17	16.0	43	17.8
Poor	5	3.7	2	1.9	7	2.9
Questionnaire type						
Paper	86	63.2	75	70.1	161	66.3
Online	50	36.8	32	29.9	82	33.7

Moderated-mediation models

The results testing whether the indirect effects of self-compassion and its components on depressive symptoms were conditional on gender can be seen in Table 3 (Self-compassion total score), Table 4 (positive components), and Table 5 (negative components). The indirect effect of self-compassion on depressive symptoms through rumination was significant for older men, $B = -1.20$, 95% CI = −2.88, −0.003, and older women, $B = -5.03$, 95% CI = −7.45, −2.78. The index of moderated mediation was significant, $B = -3.83$, 95% CI = −6.52, −1.13; the mediation effect was stronger for women than men. The direct effect of self-compassion on depressive symptoms was also significant for men, $B = -7.16$, 95% CI = −11.25, −3.07, and women, $B = -3.67$, 95% CI = −6.07, −0.67, with higher levels of self-compassion being associated with lower levels of depressive symptoms. Gender moderated the self-compassion-

Table 2. Descriptive statistics and Pearson's correlation coefficients between variables.

Variable	1	2	3	4	5	6	7	8	9	*M*	SD
1. Depression	–	.50***	−.48***	−.17**	−.23***	−.28***	.40***	.44***	.47***	12.02	11.48
2. Rumination	.48***	–	−.49***	−.02	−.06	−.18**	.58***	.54***	.61***	64.20	23.75
3. Self-compassion	−.43***	−.48***	–	.59***	.66***	.67***	−.72***	−.70***	−.75***	3.27	0.59
4. Common humanity	−.11	.01	.55***	–	.56***	.63***	−.05	−.04	−.12	3.19	0.93
5. Self-kindness	−.23**	−.09	.68***	.55***	–	.65***	−.17**	−.10	−.17**	2.98	0.81
6. Mindfulness	−.23***	−.13*	.64***	.62***	.68***	–	−.12	−.17**	−.20**	3.24	0.84
7. Self-judgement	.36***	.57***	−.69***	.02	−.16*	−.05	–	.76***	.79***	2.65	0.85
8. Isolation	.38***	.52***	−.66***	.05	−.08	−.09	.74***	–	.78***	2.50	0.89
9. Over-identification	.42***	.42***	−.73***	−.07	−.17*	−.15*	.78***	.77***	–	2.56	0.87

Note. Bivariate correlations appear above the diagonal and partial correlations are below the diagonal. Partial correlations controlled for questionnaire type, age, gender, relationship status, education level, employment status, and ratings of health.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Moderated-mediation model results for self-compassion.

Variable	*B*	95% CI
Outcome = rumination		
Constant	123.05**	[45.77, 200.32]
Questionnaire type[a]	−1.80	[−8.10, 4.50]
Age	−0.71*	[−1.25, −0.16]
Gender[b]	39.22*	[6.74, 71.70]
Relationship status[c]	2.42	[−3.93, 8.76]
Education level	−2.76	[−8.86, 3.35]
Employment status	−1.42	[−7.09, 4.26]
Health	0.34	[−2.76, 3.43]
Self-compassion	−3.11	[−20.71, 14.48]
Gender × self-compassion	−9.91*	[−19.71, −0.10]
R^2	.30	
F	11.25***	
ΔR^2	.01	
ΔF	3.96*	
Outcome = depressive symptoms		
Constant	31.44	[−11.04, 73.91]
Questionnaire type[a]	1.18	[−1.68, 4.05]
Age	0.05	[−0.20, 0.30]
Gender[b]	−20.06	[−40.66, 0.55]
Relationship status[c]	4.66**	[1.76, 7.55]
Education level	0.04	[−2.75, 2.83]
Employment status[d]	1.04	[−1.55, 3.64]
Health	1.44*	[0.03, 2.85]
Self-compassion	−10.64	[−19.18, −2.11]
Rumination	−0.04	[−0.24, 0.17]
Gender × self-compassion	3.49	[−1.44, 8.41]
Gender × rumination	0.13*	[0.01, 0.25]
R^2	.39	
F	13.40***	
ΔR^2 (gender × self-compassion)	.005	
ΔF (gender × self-compassion)	1.95	
ΔR^2 (gender × rumination)	.01	
ΔF (gender × rumination)	4.28*	

Note. [a]1 = online, 2 = paper. [b]1 = male, 2 = female. [c]1 partnered, 2 = unpartnered. [d]1= full-time, 2 = part-time, 3 = not working.
*$p < .05$. **$p < .01$. ***$p < .001$.

rumination relationship. Higher levels of self-compassion were associated with lower levels of rumination for men, B = −13.02, 95% CI = −22.59, −4.45, and women, B= −22.93, 95% CI = −28.37, −17.48, however the relationship was stronger for women than men. In addition, gender moderated the rumination–depressive symptoms relationship. Higher levels of rumination were associated with higher levels of depressive symptoms for women, B = 0.22, 95% CI = 0.14, 0.29, but not men, B = 0.09, 95% CI = −0.003, 0.19.

The indirect effect of self-kindness on depressive symptoms was not significant for men, B = −0.01, 95% CI = −0.98, 1.10, or women, B = −1.02, 95% CI = −2.44, 0.45. The index of moderated mediation was not significant, B = −1.01, 95% CI = −2.76, 0.72. The direct effect was significant for both men, B = −3.06, 95% CI = −5.56, −0.55, and women, B = −2.02, 95% CI = −3.93, −0.11, with higher levels of self-kindness being associated with lower levels of depressive symptoms. Gender moderated the rumination–-depressive symptoms relation. Higher levels of rumination were related to higher levels of depressive symptoms for both men, B = 0.14, 95% CI = 0.05, 0.24, and women, B = 0.26, 95% CI = 0.19, 0.32, with the relationship being stronger for women than men.

The mediation model including common humanity was significant for men, B = 1.24, 95% CI = 0.33, 2.52, but not women, B = −1.21, 95% CI = −2.58, 0.15. The index of moderated mediation was significant, B = −2.45, 95% CI = −4.24, −0.87, indicating that the mediation effect was stronger for men than women. The direct effect of common humanity on depressive symptoms was not significant for men, B = −1.10, 95% CI = −3.32, 1.11, or women, B = −1.13, 95% CI = −2.88, 0.61. Gender moderated the relationship between common humanity and rumination. Higher levels of common humanity were associated with higher levels of rumination among men, B = 7.88, 95% CI = 2.84, 12.92, and lower levels of rumination among women, B = −4.65, 95% CI = −8.73, −0.57.

The indirect effect of mindfulness on depressive symptoms was significant for women, B = −1.89, 95% CI = −3.49, −0.51, but not men, B = 0.27, 95% CI = −0.48, 1.22. The index of moderated mediation was significant, B = −2.16, 95% CI = −3.95, −0.64, with the mediation effect being stronger for women than men. The direct effect of mindfulness was significant for men, B = −3.04, 95% CI = −5.32, −0.76, but not women, B = −1.34, 95% CI = −3.26, 0.58. Higher levels of mindfulness were related to lower levels of depressive symptoms among men. Gender moderated the mindfulness–rumination relation, with this relationship being significant for women, B = −7.31, 95% CI = −11.83, −2.78, but not men, B = 1.87, 95% CI = −3.68, 7.42.

Self-judgement was indirectly associated with depressive symptoms for women, B = 4.55, 95% CI = 2.77, 6.49, but not men, B = 1.09, 95% CI = −0.38, 2.71. The index of moderated mediation was significant, B = 3.47, 95% CI = 1.11, 5.83; the mediation effect was stronger for women than men. The direct effect was significant for men, B = 2.88, 95% CI = 0.12, 5.64, but not women, B = 0.58, 95% CI = −1.74, 2.89. Higher levels of self-judgement were associated with higher levels of depressive symptoms among men. Gender moderated the rumination–depressive symptoms relation, with higher levels of rumination being related to higher levels of depressive symptoms among women, B = 0.26, 95% CI = 0.18, 0.34, but not men, B = 0.08, 95% CI = −0.02, 0.20.

Isolation was indirectly associated with depressive symptoms for both men, B = 1.02, 95% CI = 0.01, 2.33, and women, B = 3.76, 95% CI = 2.17, 5.43. The index of moderated mediation was significant, B = 2.74, 95% CI = 0.74, 4.73, indicating that the mediation effect was stronger for

Table 4. Results for the moderated-mediation models for the positive components of self-compassion, with gender as a moderator.

	Self-kindness		Common humanity		Mindfulness	
Variable	*B*	95% CI	*B*	95% CI	*B*	95% CI
Outcome = rumination						
Constant	92.65**	[23.86, 161.44]	43.52	[−16.86, 103.89]	65.95*	[1.37, 130.53]
Questionnaire type[a]	3.74	[−3.31, 10.78]	4.18	[−2.72, 11.07]	3.26	[−3.72, 10.23]
Age	−0.77*	[−1.39, −0.15]	−0.80**	[−1.40, −0.20]	−0.76*	[−1.37, −0.15]
Gender[b]	18.13	[−5.60, 41.87]	45.35***	[24.42, 66.29]	35.75**	[12.06, 59.45]
Relationship status[c]	0.34	[−6.95, 7.62]	−0.29	[−7.36, 6.77]	0.92	[−6.19, 8.03]
Education level	−3.91	[−10.90, 3.08]	−4.62	[−11.43, 2.20]	−2.97	[−9.85, 3.91]
Employment status	0.21	[−6.27, 6.68]	0.79	[−5.52, 7.10]	0.19	[−6.18, 6.56]
Health	2.27	[−1.23, 5.77]	2.30	[−1.13, 5.73]	2.29	[−1.15, 5.72]
Self-compassion	3.78	[−9.50, 17.06]	20.42***	[9.68, 31.15]	11.05	[−0.80, 22.89]
Gender × self-compassion	−3.88	[−11.66, 3.89]	−12.53***	[−18.90, −6.17]	−9.18*	[−16.22, −2.13]
R^2	.09		.14		.12	
F	2.59**		4.07***		3.54***	
ΔR^2	.004		.06		.03	
ΔF	0.97		15.04***		6.58*	
Outcome = depressive symptoms						
Constant	1.58	[−29.20, 32.35]	−12.14	[−39.79, 15.50]	0.84	[−28.93, 30.61]
Questionnaire type[a]	2.14	[−0.71, 4.99]	3.07	[−0.83, 4.98]	1.80	[−1.07, 4.68]
Age	0.06	[−0.19, 0.31]	0.11	[−0.15, 0.36]	0.12	[−0.13, 0.38]
Gender[b]	−10.65	[−22.74, 1.44]	−7.26	[−18.44, 3.91]	−13.73*	[−26.36, −1.09]
Relationship status[c]	4.43**	[1.48, 7.37]	4.16**	[1.19, 7.14]	4.21**	[1.28, 7.14]
Education level	−0.50	[−3.33, 2.33]	−0.001	[−2.88, 2.87]	0.06	[−2.78, 2.89]
Employment status[d]	1.42	[−1.20, 4.04]	1.49	[−1.17, 4.15]	1.40	[−1.23, 4.03]
Health	1.65*	[0.24, 3.07]	1.72*	[0.27, 3.17]	1.72*	[0.30, 3.14]
Self-compassion	−4.09	[−9.45, 1.26]	−1.08	[−5.78, 3.63]	−4.74	[−9.65, 0.17]
Rumination	0.03	[−0.16, 0.22]	0.05	[−0.15, 0.26]	0.03	[−0.16, 0.23]
Gender × self-compassion	1.04	[−2.11, 4.18]	−0.03	[−2.80, 2.75]	1.70	[−1.25, 4.65]
Gender × rumination	0.11*	[0.002, 0.22]	0.01	[−0.01, 0.22]	0.11	[−0.001, 0.22]
R^2	.37		.35		.37	
F	12.46***		11.41***		12.26***	
ΔR^2 (gender × self-compassion)	.001		.00		.004	
ΔF (gender × self-compassion)	0.42		0.00		1.29	
ΔR^2 (gender × rumination)	.01		.01		.01	
ΔF (gender × rumination)	4.04*		3.06		3.85	

Note. [a]1 = online, 2 = paper. [b]1 = male, 2 = female. [c]1 partnered, 2 = unpartnered. [d]1= full-time, 2 = part-time, 3 = not working.
*$p < .05$. **$p < .01$. ***$p < .001$.

women than men. The direct effect of isolation on depressive symptoms was significant for men, $B = 2.67$, 95% CI = 0.09, 5.23, but not women, $B = 2.05$, 95% CI = −0.13, 4.24. Higher levels of isolation were associated with higher levels of depressive symptoms among men. Gender moderated the rumination–depressive symptoms relation, with higher levels of rumination being related to higher levels of depressive symptoms among women, $B = 0.23$, 95% CI = 0.15, 0.30, but not men, $B = 0.09$, 95% CI = −0.01, 0.20.

Over-identification was indirectly related to depressive symptoms among women, $B = 4.07$, 95% CI = 1.92, 6.16, but not men, $B = 1.20$, 95% CI = −0.07, 2.66. The index of moderated mediation was significant, $B = 2.87$, 95% CI = 0.36, 5.35; the mediation effect was stronger for women than men. The direct effect was significant for women, $B = 2.53$, 95% CI = 0.05, 5.00, but not men, $B = 2.26$, 95% CI = −0.39, 4.90. Higher levels of over-identification were associated with higher levels of depressive symptoms among women. Gender moderated the relationship between over-identification and rumination, with this relationship being stronger for women, $B = 19.76$, 95% CI = 16.30, 23.21, than men, $B = 11.66$, 95% CI = 7.10, 16.22.

Discussion

The current study appears to be the first to explore the associations between self-compassion, rumination, and depressive symptoms among a sample of older adults. The primary aim of the study was to investigate whether self-compassion and its components were indirectly related to depressive symptoms via rumination (mediation model) among older adults. The secondary exploratory aim was to determine whether the indirect effect was conditional on gender. For the whole sample of older adults, controlling for a range of demographic variables including gender, results supported the mediation model for self-compassion and the three negative components of self-judgement, isolation, and over-identification; the model was not supported for the three positive components of self-compassion. In addition, results indicated that the mediation models for self-compassion and all components except self-kindness were conditional on gender, lending support for the second hypothesis.

Support for the mediation model for self-compassion is consistent with the only previous study to investigate this model (Raes, 2010). Like Raes' findings among a sample of university students, the results of the current study indicate that higher levels of self-compassion were related to lower levels of rumination, and lower levels of rumination were, in turn, associated with lower levels of depressive symptoms. The current study extends the findings of Raes by investigating the role of the six components of self-compassion. Results indicated that only the three negative components of self-compassion were indirectly related to depressive symptoms via rumination. Higher levels of self-judgement, isolation, and over-identification were each associated with higher levels of depressive symptoms via higher levels of rumination.

The lack of support for the mediation models involving the three positive components of self-compassion are inconsistent with the one study which demonstrated that

Table 5. Results for the moderated-mediation models for the negative components of self-compassion, with gender as a moderator.

	Self-judgement		Isolation		Over-identification	
Variable	*B*	95% CI	*B*	95% CI	*B*	95% CI
Outcome = rumination						
Constant	92.75***	[43.57, 141.94]	96.74***	[45.74, 147.73]	117.94***	[72.25, 163.63]
Questionnaire type[a]	−1.19	[−7.06, 4.68]	−4.38	[−10.64, 1.87]	−2.53	[−8.15, 3.10]
Age	−0.76**	[−1.27, −0.25]	−0.55*	[−1.08, −0.02]	−0.77**	[−1.25, −0.28]
Gender[b]	−8.30	[−24.84, 8.24]	−9.15	[−24.90, 6.60]	−17.15*	[−32.12, −2.18]
Relationship status[c]	3.41	[−2.56, 9.38]	2.37	[−3.83, 8.57]	0.76	[−4.91, 6.44]
Education level	−1.83	[−7.58, 3.92][	−3.79	[−9.76, 2.19]	−3.43	[−8.90, 2.04]
Employment status	−1.38	[−6.71, 3.96]	−1.40	[−6.94, 4.13]	−1.94	[−7.03, 3.16]
Health	0.86	[−2.02, 3.73]	0.91	[−2.08, 3.89]	0.63	[−2.14, 3.39]
Self-compassion	7.84	[−2.33, 18.01]	5.14	[−5.00, 15.29]	3.57	[−6.08, 13.21]
Gender × self-compassion	4.98	[−0.99, 10.95]	5.68	[−0.27, 11.63]	8.10**	[2.47, 13.72]
R^2	.39		.34		.44	
F	16.12***		13.14***		20.21***	
ΔR^2	.01		.01		.02	
ΔF	2.70		3.53		8.04**	
Outcome = depressive symptoms						
Constant	−16.31	[−42.44, 9.81]	−14.40	[−40.44, 11.63]	−10.56	[−36.48, 15.37]
Questionnaire type[a]	2.07	[−0.84, 4.98]	1.23	[−1.75, 4.21]	1.64	[−1.27, 4.56]
Age	0.05	[−0.21, 0.31]	0.09	[−0.16, 0.35]	0.05	[−0.21, 0.31]
Gender[b]	−5.76	[−14.58, 3.06]	−7.96	[−16.39, 0.47]	−8.43	[−16.96, 0.11]
Relationship status[c]	4.31**	[1.34, 7.29]	4.27**	[1.33, 7.22]	4.1**3	[1.17, 7.08]
Education level	0.15	[−2.72, 3.02]	−0.12	[−2.99, 2.76]	−0.35	[−3.20, 2.49]
Employment status[d]	1.26	[−1.40, 3.93]	1.20	[−1.45, 3.85]	1.24	[−1.41, 3.90]
Health	1.87*	[0.44, 3.30]	1.77*	[0.35, 3.20]	1.72*	[0.29, 3.15]
Self-compassion	5.18	[−0.76, 11.11]	3.27	[−2.25, 8.78]	1.99	[−3.79, 7.77]
Rumination	−0.09	[−0.32, 0.14]	−0.04	[−0.26, 0.18]	−0.001	[−0.23, 0.22]
Gender × self-compassion	−2.30	[−5.86, 1.26]	−0.61	[−3.92, 2.71]	0.27	[−3.30, 3.84]
Gender × rumination	0.17*	[0.04, 0.30]	0.13*	[0.004, 0.26]	0.10	[−0.03, 0.24]
R^2	.36		.37		.37	
F	11.68***		12.08***		11.99***	
ΔR^2 (gender × self-compassion)	.005		.00		.00	
ΔF (gender × self-compassion)	1.62		0.13		0.02	
ΔR^2 (gender × rumination)	.02		.01		.01	
ΔF (gender × rumination)	6.31*		4.13*		2.27	

Note. [a]1 = online, 2 = paper. [b]1 = male, 2 = female. [c]1 partnered, 2 = unpartnered. [d]1 = full-time, 2 = part-time, 3 = not working.
*$p < .05$. **$p < .01$. ***$p < .001$.

mindfulness was associated with lower levels of depressive symptoms via rumination in a sample of adults seeking treatment for anxiety and mood disorders (Desrosiers et al., 2013). In the current study, self-kindness and common humanity were not significant predictors of rumination, and mindfulness just reached significance. These results are inconsistent with research investigating the relationship between components of self-compassion and rumination among older adults which demonstrated that only self-kindness was correlated with rumination (Imtiaz & Kamal, 2016) and with the findings from a study of university students and adults seeking help for anxiety (Blackie & Kocovski, 2018). The overall pattern of results in the current study is, however, somewhat consistent with findings indicating that only the negative components of self-compassion and common humanity predicted rumination among older adults (Imtiaz & Kamal, 2016). Imtiaz and Kamal (2016) proposed that the negative components of self-compassion expressed through judging oneself harshly, isolating oneself, and allowing emotions to overwhelm oneself may be antecedents for responding with a passive coping style such as rumination. Overall, the results of the mediation models for the whole sample highlight the importance of the negative components of self-compassion for the experience of rumination and depressive symptoms among older adults, regardless of gender.

Within the mediation models, self-compassion and all components except self-judgement were directly related to depressive symptoms. This is similar to previous research with older adults, where all components of self-compassion (Imtiaz & Kamal, 2016) or total scores of the positive and negative components (Kim & Ko, 2018) were associated with measures of mental health. The exception is that in the current study, self-judgement was not directly associated with depressive symptoms, although it was correlated with depressive symptoms. In the current study, self-judgement was only indirectly associated with depressive symptoms via rumination.

The current study also explored the role of gender in the mediation models. Results indicated that the indirect effect of self-compassion on depressive symptoms via rumination is conditional on gender. While there are a few exceptions when considering the results for each component of self-compassion, a pattern demonstrating that the indirect effects are generally stronger for women than men is evident. The indirect effect of self-compassion, mindfulness, self-judgement, isolation, and over-identification was stronger for women. The indirect effect for common humanity was stronger for men. Self-kindness was the only component where the indirect effect was not conditional on gender. Insight into the role of gender in influencing the indirect effects of self-compassion and its components on depressive symptoms can be gained by examining individual pathways in the mediation models.

In a number of the models, specific pathways were conditional on gender. Gender moderated the relationship between self-compassion and rumination. Whereas the relationship between higher levels of self-compassion and lower levels of rumination were significant for both men and women, the effect was stronger for women than men. This particularly protective nature of self-compassion for women may be explained by the characteristics of self-

compassion being aligned to femininity and therefore socially more appropriate for women than men (see Yarnell et al., 2019). Thus women higher in self-compassion are able to self-soothe and comfort oneself when suffering is experienced (Neff, 2009), and are less likely to ruminate. While this relationship is also significant for older men, it is weaker, perhaps because self-compassion is related to lower levels of adherence to masculine norms (Reilly, Rochlen, & Awad, 2014). When older men are self-compassionate, they are less likely to ruminate, but not to the same extent as women high in self-compassion, possibly because adherence to masculinity norms may be associated with a degree of rumination as a result of a perceived incongruence between self-compassion and masculinity. This explanation, while plausible, is inconsistent with a recent finding that higher levels of masculinity were a strong predictor of higher levels of self-compassion (Yarnell et al., 2019). Yarnell et al. (2019) discuss this perceived incongruency in the positive association between masculinity and self-compassion, proposing that masculine traits such as self-assertion and independence may result in greater ownership of addressing one's needs. The interplay between self-compassion and masculinity needs further investigation.

Higher levels of over-identification were associated with higher levels of rumination for men and women, with the relationship being stronger for women than men. The stronger relationship between over-identification and rumination among women may be explained by women's tendency to be overly critical of themselves, evidenced through more negative self-statements compared to men (DeVore, 2013). This overly critical tendency of women may result in an exaggerated focus on the negative characteristics of themselves or their life (i.e. over-identification; Yarnell et al., 2019), and subsequently rumination ensues.

Gender also moderated the common humanity–rumination relationship, with the direction of the relations different for men and women. Higher levels of common humanity were associated with higher levels of rumination among men, whereas higher levels of common humanity were associated with lower levels of rumination among older women. It is evident that for older men, comparing one's level of suffering to others and recognising their experience in the broader context is associated with more ruminative thought, possibly due to becoming overwhelmed by the suffering of others during the comparative process (Imtiaz & Kamal, 2016). This finding has potential implications for interventions aimed at increasing common humanity among older men.

Gender also moderated the relationship between rumination and depressive symptoms in five of the seven models. In four of those models (self-compassion, mindfulness, self-judgement, isolation), the relationship between rumination and depressive symptoms was significant for women but not men, and in one model (self-kindness) the relationship was stronger for women than men. These findings are consistent with theory that rumination is a key risk factor for depressive symptoms among women (Nolen-Hoeksema, 1991), and highlights the need to identify protective factors related to a reduction in rumination among older women.

A final result to note is that the direct effect of self-compassion and its components on depressive symptoms also varied according to gender. Self-compassion and self-kindness were directly related to depressive symptoms for both men and women, whereas common humanity was not directly related to depressive symptoms among men or women. Mindfulness, self-judgement, and isolation were directly associated with depressive symptoms among men only, whereas over-identification was associated with depressive symptoms for women only. These results of the total self-compassion score are consistent with a meta-analysis that demonstrated gender did not moderate the relationship between self-compassion and psychopathology (depression, anxiety, and stress) among adults (Macbeth & Gumley, 2012). Analysis of the components of self-compassion, however, suggests that most of the direct effects are conditional on gender among older adults, with direct effects more likely to occur among older men than older women.

In summary, self-compassion and its components are associated with depressive symptoms among older adults, but the pathways vary according to gender. On the balance of evidence, it would appear that self-compassion is indirectly related to depressive symptoms via rumination for older women, and directly related to depressive symptoms among older men. The findings of this study indicate there is value in examining the components of self-compassion, rather than only a total score. The majority of studies have only used a total score, limiting our understanding of self-compassion and the influence of gender (Yarnell et al., 2019).

The current study's findings have implications for those who work with older adults. The results imply that interventions aimed at increasing self-compassion among older adults are likely to be protective via two pathways: directly and indirectly via lower levels of rumination. Research investigating the efficacy of self-compassion interventions among older adults are in their infancy, with recent pilot studies indicating a significant reduction in depressive symptoms among midlife and older adults with chronic illness (Brown et al., 2019) and older adults with dementia (Craig, Hiskey, Royan, Poz, & Spector, 2018). These results, together with findings from interventions studies among younger adults (Neff & Germer, 2013; Smeets, Neff, Alberts, & Peters, 2014), indicate that future research evaluating self-compassion programs among older adults is warranted. Given the role of the negative components of self-compassion in depressive symptoms via rumination among older adults, and particularly older women, interventions which specifically address self-judgement, isolation, and over-identification may prove beneficial.

There is evidence that participation in interventions aimed at increasing mindfulness among older adults have been successful (Foulk, Ingersoll-Dayton, & Fitzgerald, 2017; Zhou, Peng, & Xie, 2018), as well as improving psychological well-being and lowering rumination (Foulk et al., 2017). A recent review of mindfulness-based interventions among older adults indicated such interventions are feasible among older adults, however, there were mixed findings as to the efficacy of these intervention in improving psychological health or levels of mindfulness (Geiger et al., 2016). The failure to control for gender or investigate differences in efficacy for men and women separately may explain inconsistent findings. Further research investigating the potential role of mindfulness as a protective factor among older adults is needed.

The current study has increased our understanding of the associations between self-compassion and its components, rumination, and depressive symptoms among older adults, and the role of gender in these associations. The results, however, need to be interpreted in light of some

limitations. First, the current study is correlational in design, therefore it is not possible to infer any causal relationships between the variables. Future research would benefit from a longitudinal design to allow for the examination of causal relationships between these variables.

This study used depressive symptoms as the outcome variable. Findings may not apply to adults with a diagnosed depressive disorder. Furthermore, as only self-report measures were used, the results may be subject to response bias and social desirability. Due to the stigma surrounding mental health, social desirability may have affected the way in which some participants answered the questions, particularly the questions examining depressive symptomology.

The current study used a small convenience sample, which may not be representative of older Australians. The current sample was composed of older adults who were mostly married, well-educated, and in good health. These variables were controlled for in the analyses, but future research needs to be inclusive of a more diverse sample.

A further limitation of the current study is that not all participants who received or commenced a questionnaire package completed it. It is impossible to know how non-completers differed from completers, but it is possible that non-completers may have experienced increased levels of rumination and depressive symptoms in comparison to those who completed and returned the questionnaire.

In summary, the current study appears to be the first to explore whether mediation models explain the relationships between self-compassion and its components, rumination, and depressive symptoms among older adults, and whether the relationships are conditional on gender. Findings indicate that self-compassion and its components can be considered protective through their indirect or direct relationship with depressive symptoms, and that it is relevant to consider gender when determining the pathways by which self-compassion and its components are protective. Future research should continue to investigate the role of self-compassion and its components in the experience of rumination and depressive symptoms among older adults, as well as the role of gender. A greater understanding of the pathways by which components of self-compassion are protective, and the influence of gender, is imperative in establishing effective prevention, intervention, and treatment programs for older men and women.

Disclosure statement

The authors report no conflict of interest.

ORCID

Suzanne McLaren http://orcid.org/0000-0002-4121-2320

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