



# Self-compassion mindsets: The components of the self-compassion scale operate as a balanced system within individuals

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## Abstract

Self-compassion is theorised to represent a synergistic system of interplay between self-kindness, self-judgement, common humanity, isolation, mindfulness, and overidentification. This study evaluated this proposition by identifying how the six components tend to interact within individuals to form self-compassion mindsets. Australian adults ( $N = 353$ ;  $M_{age} = 41.54$ ; 50.1% male) completed a web-based survey that included the Self-Compassion Scale (SCS). Latent Profile Analysis of the six SCS subscale variables identified three self-compassion mindsets in the sample that reflected incremental increases in total self-compassion: *Uncompassionate Self-Responding*, *Moderately Self-Compassionate*, and *Highly Self-Compassionate*. A second LPA in a student sample validated the three-mindset solution. The highly self-compassionate mindset was over-represented by male, older, retired, and highly educated individuals and the uncompassionate self-responding profile was over-represented by females and students. Partial correlations revealed that the predictive strength of each self-compassion component on psychological well-being and emotion regulation differed across mindsets. Results indicate that the positive and negative self-compassion components operate in unison, and that vulnerable individuals may benefit most from training programs that focus on increasing self-kindness to improve psychological well-being or on decreasing overidentification to improve emotion regulation.

**Keywords** Self-compassion · Latent profile analysis · Psychological well-being · Emotion regulation · Self-compassion scale

Adverse experiences such as failures, mistakes, misfortune, or loss may impact us physically, psychologically, and emotionally. Self-compassion is a positive self-attitude that can be called upon during difficult times to alleviate suffering (Neff 2003b; Gilbert 2009). Neff (2003b) proposed that self-compassion includes six components that represent positive and negative poles of three dimensions: *self-kindness* versus *self-judgement*, *common humanity* versus *isolation*, and *mindfulness* versus *overidentification*. Self-kindness entails providing oneself with warmth, support, and understanding rather than imposing harsh self-judgement. Common humanity involves recognising that all people fail and make mistakes, and that suffering therefore connects us with others

rather than causing isolation. Mindfulness involves being aware of our suffering with clarity and balance, without overidentifying with negative thoughts and emotions. As a whole, self-compassion is theorised to help individuals to navigate difficult life experiences and to foster psychological well-being (Neff 2003b).

According to (Neff 2003b, 2016b; Neff et al. 2017), the six components of self-compassion represent different ways that an individual may respond to suffering, and their relative balance determines an overall frame of mind that may range from low in self-compassion (i.e., uncompassionate self-responding) to high in self-compassion (i.e., self-compassionate). The components are usually assessed by subscales of the Self-Compassion Scale (SCS; Neff 2003a), which also generates a total self-compassion score. To date, most self-compassion researchers have used the total score to identify associations with low levels of psychopathology (MacBeth and Gumley 2012), high levels of positive well-being (Zessin et al. 2015), greater use of adaptive emotion regulation strategies (Neff et al. 2007), and less use of maladaptive strategies (Raes 2010; Finlay-Jones et al. 2015). Furthermore, interventions and experimental studies have indicated that many

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of these beneficial correlates are products of self-compassion (Neff and Germer 2013; Leary et al. 2007).

Despite abundant empirical support for self-compassion's theorised effects, the theorised structure of Neff's (Neff 2003b, 2016b; Neff et al. 2017) view of self-compassion as a balanced system *within individuals* remains unexamined. Also, demographic characteristics of individuals who may be classified as self-compassionate or uncompassionate self-responders have not been identified, and no previous study has determined whether each self-compassion component may differentially predict outcomes depending on its interaction with the other five components. This study takes a first step toward addressing these gaps in the literature.

## The Structure of Self-Compassion

Neff (Neff et al. 2017; Neff 2016b) has proposed that a self-compassionate frame of mind is best conceptualised as a dynamic, interactive, and synergistic system. The components are posited to mutually enhance and engender each other (Neff 2003b). From one perspective, the six components are thought to operate independently and to predict distinct outcomes; but from another perspective, they are believed to combine to create a single experience (i.e., a mindset). For example, ceasing harsh self-judgement may make way for the experience of self-kindness. The resulting increased self-kindness may lessen the impact of negative experiences, which makes it easier to maintain balanced awareness of thoughts and emotions. Further, recognising that suffering connects us with others may reduce the degree of harsh self-judgement, which may also reduce feelings of isolation, and so on (Neff 2003b, 2016b).

However, debate currently surrounds the inclusion of self-judgement, isolation, and overidentification in the definition and measurement of self-compassion. Muris and colleagues (Muris and Petrocchi 2017; Muris et al. 2016b, 2019) argued that: 1) an absence of uncompassionate self-responding does not perform the theorised protective function of self-compassion, 2) the compassionate (positive) and uncompassionate (negative) SCS items assess distinct constructs, and 3) a conceptual overlap between the negative SCS items and psychopathology may inflate correlations between total SCS scores and psychopathology. To support their view, Muris and Petrocchi (2017) found that the negative components exhibited stronger zero-order relationships with psychopathology than the positive components in 18 samples. But Neff and colleagues countered this finding by observing that: 1) the positive and negative components exhibited similarly strong zero-order relationships with many indicators of psychological functioning in seven samples (Neff et al. 2018), and 2) a single self-compassion factor explained 95% of the item

variance in 20 samples whereas two-factor solutions exhibited poor model fit or weak factor loadings (Neff et al. 2019).

Neff's theorised system of self-compassion has also been supported by a bifactor model of the SCS (Kotsou and Leys 2016; Neff et al. 2017, 2019; Veneziani et al. 2017). The bifactor model positions SCS items simultaneously loading on six latent factors that represent the six self-compassion components and a single latent factor that represents a general construct of self-compassion. The model therefore supports the use of total SCS scores and also supports the independence of the self-compassion subscales.

Statistical independence of the six subscales makes it possible to test whether the components do, in fact, operate as a balanced system within individuals, as theorised by Neff (Neff et al. 2017; Neff 2016b). Independence makes it *statistically possible* for the six components to coexist in many combinations, and that an increase in one component may not necessarily be accompanied by similar increases or decreases in the other five components. For example, individuals with the same total SCS score could conceivably score highly on different subscales, and some individuals may score high or low on all components. This possibility is supported by observed inter-correlations between the polar-opposite components (self-kindness and self-judgement, common humanity and isolation, and mindfulness and overidentification) that do not approach unity. Moderate to strong inverse relationships found in student, community, and clinical samples (e.g., Castilho et al. 2015; Veneziani et al. 2017) suggest that the components tend to operate in unison, but that some individuals may not exhibit theorised combinations of self-compassion components.

Only one previous study has investigated interactions between the components. Using a German translation of the SCS, Körner et al. (2015) averaged self-kindness, common humanity, and mindfulness scores to create a positive (self-compassion) composite variable, and averaged scores on self-judgement, isolation, and overidentification to create a negative (self-coldness) composite variable. They found that the association between self-coldness and depressive symptoms was weaker among individuals with high levels of the self-compassion composite. Körner and colleagues also identified a similar interaction between isolation and self-kindness in the prediction of depression. These results are consistent with Neff's (Neff et al. 2017; Neff 2016b) concept of a dynamic, interactive, system of self-compassion, but they do not reveal how the six components coexist within individuals to form self-compassion mindsets.

## Identifying Self-Compassion Mindsets

Traditional variable-centred analyses are not well-suited to examining patterns of reciprocal associations between the

six self-compassion components. Analyses that evaluate more than three interacting variables are difficult to interpret and can result in statistical problems, such as increased multicollinearity and reduced statistical power (Cohen et al. 2003). The capacity to draw inferences about individuals is also limited, because results are at the level of the variable rather than the person (Merz and Roesch 2011). For these reasons, person-centred analyses have been used to mimic higher order interactions (Lanza et al. 2010; Merz and Roesch 2011) and to describe how traits are organised within individuals (Merz and Roesch 2011). One useful person-centred approach is latent profile analysis (LPA). LPA is a model-based procedure that groups participants according to shared responses across multiple measures. For example, Merz and Roesch (2011) used LPA to identify three homogeneous personality profiles (well-adjusted, reserved, and excitable) that reflected groups of individuals who scored similarly across five scales that assessed the Five Factor Model of personality (McCrae and Costa 1987).

LPA may be similarly well-suited to exploring whether self-compassion involves a balanced system of interactions between self-kindness, self-judgement, common humanity, isolation, mindfulness, and overidentification, as proposed by Neff (Neff et al. 2017; Neff 2016b). Grouping participants according to their scores on the six SCS subscales may facilitate insight into how the components co-exist within individuals to form self-compassion mindsets. As noted above, recent research has indicated that the negative components correlate more strongly with some forms of psychopathology than do the positive components, but they exhibit similar zero-order correlations with other psychological outcomes (Muris and Petrocchi 2017; Neff et al. 2018). Yet, it is not known whether these relationships are evident in the whole population or whether their predictive influence depends on levels of the other components in an individual's specific self-compassion mindset. Determining which components of self-compassion drive relationships with outcomes amongst individuals with an uncompassionate self-responding mindset may inform the refinement, focus, and suitability of training programs that aim to increase self-compassion.

Identifying self-compassion mindsets may also reveal demographic characteristics that can enrich our understanding of self-compassion by complementing relationships found in previous variable-centred analyses. On average, men have been found to score slightly higher than women on total self-compassion, although some studies have observed higher scores among women or no gender difference (Yarnell et al. 2015). Yarnell et al. observed slightly stronger effects in North American ethnic samples, but the variations did not reflect differences between clinical, student, and community samples (although these differences were not formally assessed). Similarly, higher levels of education have been associated with self-

compassion (López et al. 2018; Murn and Steele 2019) but some studies have found no association (Kreemers et al. 2018). Although weak associations between total self-compassion and age tend to be found in samples with limited age ranges, such as adolescents (Muris et al. 2016a) or older adults (Phillips and Ferguson 2013), significant moderate positive relationships are typically found in multi-generational samples (Homan 2016; Murn and Steele 2019), suggesting that self-compassion increases throughout life but is only statistically observable in samples that span a wide age range. Overall, these results suggest that unique self-compassion mindsets may differ demographically.

## The Current Study

This study primarily aimed to explore Neff's (Neff et al. 2017; Neff 2016b) proposition that self-compassion operates as a balanced system of interactions between self-kindness, self-judgement, common humanity, isolation, mindfulness, and overidentification. Specifically, it aimed to identify sub-groups of individuals who exhibit similar patterns of scores across the six SCS subscales; thereby identifying self-compassion mindsets that occur in the population and interactions between the six components that occur within individuals. LPA of the six SCS subscale scores was expected to reveal groups of individuals who possess: 1) an *uncompassionate self-responding* mindset comprising high levels of self-judgement, isolation, and overidentification along with low levels of self-kindness, common humanity, and mindfulness, or 2) a *self-compassionate* mindset comprising high levels of self-kindness, common humanity, and mindfulness accompanied by low levels of self-judgement, isolation, and overidentification. Given the statistical independence of the subscales, additional mindsets comprising various combinations of the components were also expected to emerge, but no specific predictions were made about their composition.

This study also sought to identify demographic characteristics of the emergent mindset profiles, and to determine which self-compassion components explained the most unique variance in each of 12 outcomes variables drawn from two life domains: *Well-being* (life satisfaction, meaning in life, resilience, depression, anxiety, stress); and *Emotion regulation* (cognitive reappraisal, positive refocusing, rumination, suppression, self-blame, and difficulties in emotion regulation). Given that distinct self-compassion mindsets are likely to include self-compassion components with different means and ranges, different patterns of associations across the profiles were expected.

## Method

### Participants

This study employed two samples. The main sample included 353 Australian residents (50.1% men) aged between 18 and 88 years ( $M = 41.54$ ,  $SD = 16.11$ ) who were recruited from a Qualtrics™ (2017) panel of individuals who had previously registered as survey respondents. Most participants were born in Australia (80.2%). Regarding education, over half (53.0%) reported completing post-secondary qualifications (certificate, diploma or undergraduate degree), with others completing year 12 (20.7%), a post-graduate qualification (14.7%), year 10 (11.0%), or “other” (0.6%). Their occupations included full-time or part-time employment (56.9%), retired (13.6%), home duties or unable to work (11.3%), unemployed (8.8%), student (7.1%), and “other” (1.7%). Six participants did not indicate their occupation. For taking part, each respondent received AUD14.00.

The second sample comprised 312 psychology undergraduates (82.4% women) aged between 18 and 87 years ( $M = 35.43$ ,  $SD = 13.18$ ) whose responses were extracted from pre-existing datasets ( $n = 158$ , Phillips, 2018;  $n = 154$ , Phillips, 2014). Student participants received course credits for their participation.

### Procedure

Participants in the main sample completed a web-based survey. They indicated their informed consent, answered demographics questions, completed the SCS, and then responded to a battery of measures presented in randomized order. Participants in the student sample completed the SCS before completing other measures in their respective web-based study, which assessed their future-outlook or emotion regulation tendencies. Only their responses to the SCS were used in the current study.

### Profiling Measure

**Self-Compassion** Participants completed the 26-item Self-Compassion Scale (SCS; Neff 2003a), by indicating how often they respond to difficult situations with self-kindness (5 items, e.g., “I try to be understanding and patient towards those aspects of my personality I don’t like”), self-judgement (5 items, e.g., “I’m disapproving and judgemental about my own flaws and inadequacies”), common humanity (4 items, e.g., “I try to see my failings as part of the human condition”), isolation (4 items, 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”), mindfulness (4 items, e.g., “When something

painful happens I try to take a balanced view of the situation”), and over-identification (4 items, e.g., “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”). Response options ranged from 1) *almost never* to 5) *almost always*. Subscale scores were computed by averaging items within each subscale. Total scores were calculated by averaging all items after reverse-scoring negative items. All variable scores had possible ranges of 1 to 5. High internal consistency was observed in both samples for total self-compassion (main,  $\alpha = .92$ ; student,  $\alpha = .95$ ), self-kindness (.84; .88), self-judgement (.82; .87), common humanity (.75; .76), isolation (.80; .85), mindfulness (.78; .78) and overidentification (.83; .83).

### Psychological Well-Being Measures

**Life Satisfaction** The five-item Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) assessed participants’ agreement with evaluative statements about their satisfaction with life on a scale from 1) *strongly disagree* to 7) *strongly agree*. Variable scores were calculated by summing items, with a possible range of 5 to 35. The variable exhibited high reliability ( $\alpha = .91$ ).

**Meaning in Life** The 5-item presence subscale of the Meaning in Life Questionnaire (MLQ-P; Steger et al. 2006) asked participants to indicate the accuracy of statements that described their life as meaningful. Response options ranged from 1) *absolutely untrue* to 7) *absolutely true*. Variable scores were calculated by averaging items, with a possible range of 1 to 7. The scale was internally consistent ( $\alpha = .88$ ).

**Resilience** The 15-item Dispositional Resilience Scale (DRS; Bartone 2007) assessed three facets of hardiness. Participants indicated the accuracy of statements regarding their levels of commitment, control, and challenge. Response options ranged from 1) *not at all true* to 4) *completely true*. Variable scores were calculated by averaging items, with a possible range of 1 to 4. The scale exhibited good internal consistency ( $\alpha = .78$ ).

**Depression, Anxiety, and Stress** The 21-item Depression, Anxiety, and Stress Scales (DASS; Lovibond & Lovibond, 1995) asked participants to indicate how often they generally experience seven symptoms of depression (DASS-D), seven symptoms of anxiety (DASS-A), and seven symptoms of stress (DASS-S). Response options ranged from 1) *does not apply to me at all* to 4) *applies to me very much, or most of the time*. Variable scores were calculated by averaging items, with possible ranges of 1 to 4. The depression ( $\alpha = .93$ ), anxiety ( $\alpha = .90$ ), and stress ( $\alpha = .91$ ) variables demonstrated high internal consistency.



## Emotion Regulation Measures

**Reappraisal and Suppression** The 10-item Emotion Regulation Questionnaire (ERQ; Gross and John 2003) assessed participants' use of adaptive cognitive reappraisal (5-items) and maladaptive expressive suppression (5-items). They indicated agreement with a series of statements about their responses to positive and negative emotions on a scale ranging from 1) *strongly disagree* to 7) *strongly agree*. Variable scores were calculated by averaging items, with possible ranges of 1 to 7. The variables were internally consistent: reappraisal ( $\alpha = .91$ ) and suppression ( $\alpha = .76$ ).

**Positive Refocusing, Self-Blame, and Rumination** Participants completed three subscales of the Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski and Kraaij 2006). They indicated how often they thought or felt in ways that exemplified adaptive positive refocusing (4-items), maladaptive self-blame (4-items), or maladaptive rumination (4-items) after experiencing a threatening or stressful life event. Response options ranged from 1) *almost never* to 5) *almost always*. Variable scores were calculated by averaging items, with possible ranges of 1 to 5. The three variables were internally consistent: positive refocusing ( $\alpha = .90$ ), self-blame ( $\alpha = .88$ ), rumination ( $\alpha = .83$ ).

**Emotion Regulation Difficulties** The 36-item Difficulties in Emotion Regulation Scale (DERS; Gratz and Roemer 2004) measures maladaptive nonacceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. Variable scores were calculated by averaging items, with possible ranges of 1 to 5. Response options ranged from 1 (*almost never*) to 5 (*almost always*). The variable demonstrated high internal consistency ( $\alpha = .95$ ).

## Statistical Approach

To identify self-compassion mindsets in the main sample ( $N = 353$ ), the six SCS subscale scores were subjected to LPA using MPlus 8.0 (Muthén & Muthén, 2017), which classified participants into groups of individuals who exhibited similar scores across the subscales. The self-compassion variables (self-kindness, self-judgement, common humanity, isolation, mindfulness and overidentification) were standardised to a mean of 0 with standard deviation of 1 to facilitate the MPlus computation procedure. A similar LPA of SCS subscale scores reported by the student sample ( $N = 312$ ) was then conducted to validate the main sample's profile solution. Several indicators were used to assess model fit, including the Bayesian information criterion (BIC, Schwarz, 1978), the Lo-Mendell-Rubin likelihood ratio test (LMR, Lo,

Mendell, & Rubin, 2001), and the bootstrapped likelihood ratio test (BLRT, McLachlan & Peel, 2000). The smallest BIC value generated amongst competing models often indicates the best fitting model. The LMR and BLRT assess difference in goodness-of-fit between model  $k$  and model  $k-1$ , where  $k$  refers to the number of tested profiles, and a significant  $p$  value indicates that model  $k-1$  should be rejected in favour of model  $k$ .

Multiple Analyses of Variance (MANOVA), Analyses of Variance (ANOVA) and Chi Square analyses were then conducted to identify demographic characteristics of the profiles that emerged from the LPA of the main sample ( $N = 353$ ), and to assess their differences on the 12 outcome variables (well-being and emotion regulation).

Finally, a series of partial correlations between each of the six components (self-kindness, self-judgement, common humanity, isolation, mindfulness and overidentification) and the 12 outcome variables were conducted to identify which component(s) explained the most variance in each variable for each emergent profile. Some researchers have examined relationships between the six self-compassion subscales and outcomes using zero-order bivariate correlations (e.g., Neff et al. 2018). However, if the six components form integral parts of a system, then their effects should be simultaneously assessed when evaluating their predictive contributions. Partial correlations measure the strength of a relationship between two variables after adjusting for relationships with other variables, thereby explaining how variables work *together* to explain patterns in data. Partial and zero-order correlations may reveal different relationships. For example, the same dataset has yielded significant zero-order correlations (Neff et al. 2018) and non-significant partial correlations (Muris et al. 2019) between the positive SCS subscales and measures of psychopathology.

Bonferroni adjustments were applied to all between-groups comparisons to minimise the risk of Type I errors. However, Bonferroni adjustments were not made to the partial correlation tests because these adjustments often result in an unacceptably high incidence of Type II errors when applied to high numbers of tests (Glickman et al., 2014). Instead, "practically significant" effect sizes were identified and interpreted (Ferguson 2009). This approach recognises that effect sizes offer an interpretable quantitative description of a relationship that is not influenced by sample size. A minimum effect size of  $r = .24$  was applied as the cut-off to identify practically significant relationships, which represents the lower boundary of Cohen's (1988) convention for a medium effect (Rhoades and Eisenberger 2002). This threshold exceeds Ferguson's (2009) recommended cut-off of  $r = .20$  and is more conservative than traditional significance testing ( $p < .05$ ) in the current dataset.

## Results

### Data Screening

Twenty-three cases with invalid responses or excessive missing data were deleted, leaving the final sample of 353. The final dataset contained no missing values. The homogeneity of variance assumption was violated for several ANOVAs, for which Welch’s *F* is reported where indicated. Several invalid cases were also excluded from the student dataset. For the LPAs, bootstrapping procedures in MPlus countered the effects of multiple skewed variables. All other assumptions of LPA, ANOVA, and MANOVA were met.

### Latent Profile Analyses

**Main Sample** Fit indices for 2- through 7-profile solutions are shown in Table 1. Significant LMR values indicated that the 3-profile solution offered better fit than the 2-profile model, which in turn provided better fit than the 1-profile model. However, the other indices did not clarify the relative fit of the profile solutions, so I used subjective criteria to confirm model selection by plotting BIC values for 1- to 7-profile solutions (Nylund et al. 2007). The curve decreased from 1 to 3 profiles but flattened out between profiles 3 and 4, indicating that solutions with greater than 3 profiles did not provide substantial improvement in fit. Thus, the 3-profile solution was retained.

Characteristics of the three profiles are depicted in Fig. 1a. Each profile reflects a distinct self-compassion mindset. The Figure shows how much each mindset deviates from the sample mean on each standardized self-compassion variable. Profile means for the unstandardized self-compassion subscale profiling variables, and for total self-compassion, are presented in Table 2, and demographic characteristics are presented in Table 3.

Profile 1 comprised 18.4% of participants and was labeled *Uncompassionate Self-Responding*. On average, they reported very low levels of self-kindness, common humanity, and

mindfulness that were well below the sample mean, and very high levels of self-judgement, isolation, and overidentification that were well above the sample mean. On average, they reported very low total self-compassion scores. This profile comprised more students, fewer men, and more women than statistically expected. Uncompassionate self-responders were less educated than members of Profiles 2 and 3; and were younger, included more students, more unemployed, more women, fewer men, and fewer retired individuals than Profile 3.

Profile 2 was labelled *Moderately Self-Compassionate* and included 50.4% of participants. These individuals exhibited moderate mean scores on all self-compassion components that were above the sample mean. Their self-kindness, common humanity, and mindfulness mean scores were higher than the uncompassionate self-responding profile’s respective means but were lower than Profile 3’s. Conversely, their self-judgement, isolation, and overidentification means were lower than the uncompassionate self-responding profile’s but were higher than Profile 3’s. On average, moderately self-compassionate members reported a moderate level of total self-compassion. This profile included more full-time employed and fewer retired individuals than expected, and in relation to the other two profiles. Its members were more highly educated and included more men and fewer women than the uncompassionate self-responding profile and were younger than Profile 3.

The third profile, labelled *Highly Self-Compassionate*, comprised 31.2% of the sample. Their mean scores on self-kindness, common humanity, and mindfulness were moderately high and well above the sample average. Self-kindness and mindfulness scores were higher than both other profiles, but common humanity scores differed only from the uncompassionate self-responding profile. Self-judgement, isolation, and overidentification means were very low, and below the other two profiles and the sample average. Their mean total self-compassion score was the highest of the three profiles. This profile included fewer students, fewer unemployed, and more retired individuals than expected. Members were also older and included more retired individuals than the other

**Table 1** Model fit indices

Profile solution	Main Sample, <i>N</i> = 353				Student Sample, <i>N</i> = 312			
	Entropy	BIC	LMR	BLRT	Entropy	BIC	LMR	BLRT
2	.83	5601.44	.00	.00	.85	4758.70	.001	.00
<b>3</b>	<b>.85</b>	<b>5381.73</b>	<b>.008</b>	<b>.00</b>	<b>.86</b>	<b>4550.10</b>	<b>.01</b>	<b>.00</b>
4	.84	5228.86	.15	.00	.87	4480.36	.53	.00
5	.88	5153.06	.06	.00	.85	4410.80	.19	.00
6	.89	5079.33	.37	.00	.84	4404.59	.07	.00
7	.88	5057.52	.09	.00	.82	4412.61	.61	.00

*BIC* Bayesian information criterion, *LMR* Lo-Mendell-Rubin likelihood ratio test, *BLRT* bootstrapped likelihood ratio test. Best fitting solutions are in bold

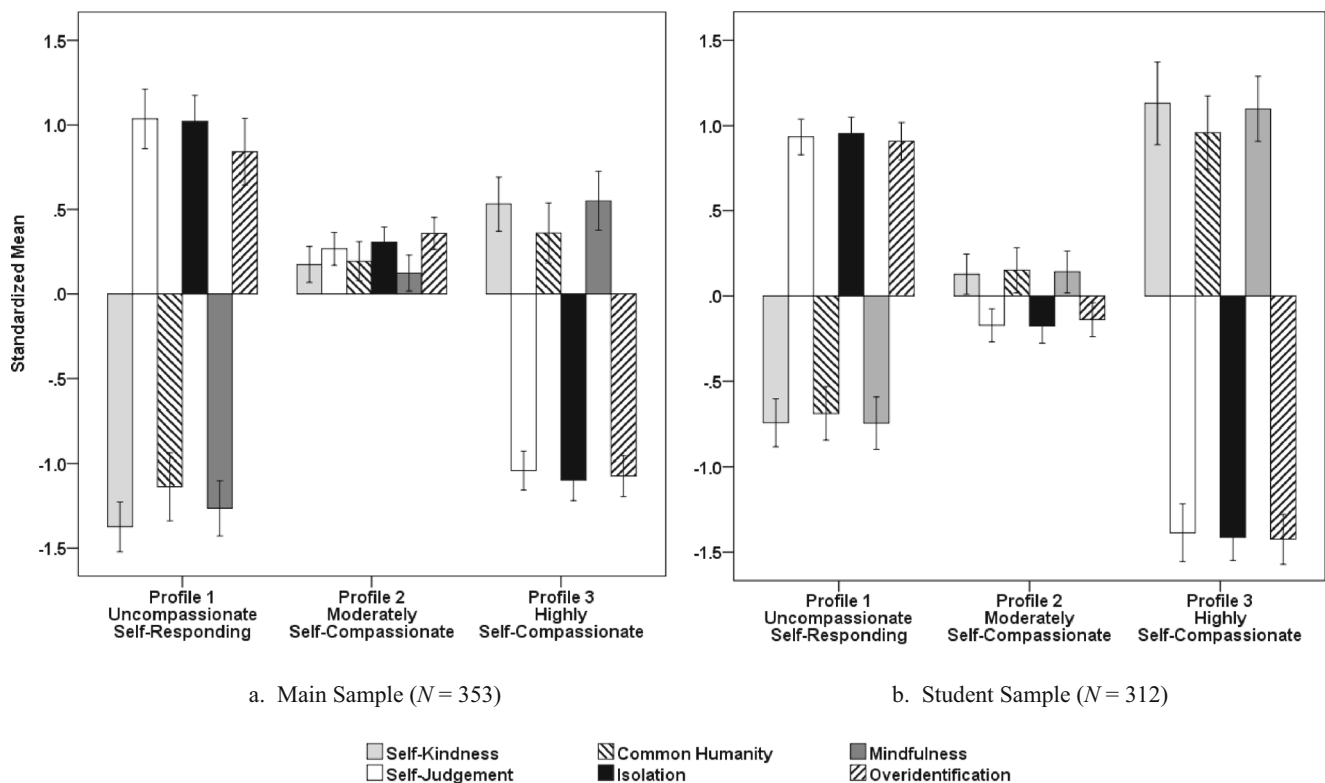


Fig. 1 Self-compassion mindsets by profile for the main sample and student sample. Standardized means are depicted. Error bars = 95% CI

two profiles, and were more educated and included fewer students and unemployed individuals than the uncompassionate self-responding profile.

**Validation of Profile Solution**

As shown in Table 3, a MANOVA revealed that the three self-compassion mindsets explained 59.3% of the variance in the set of six self-compassion subscale scores, which is a

substantial proportion indicating good model fit. Significant differences between the mindsets were observed on all variables.

A subsequent LPA of the student sample’s SCS subscale scores also validated the three-profile solution observed in the main sample. As shown in Table 1, very similar results emerged, with the LMR providing the main indicator of superior fit for the three-profile solution. Characteristics of the three profiles are depicted in Fig. 1b. Profile 1 comprised 109 *Uncompassionate*

**Table 2** Self-compassion variables: means, SDs, and mean differences across profiles

Variables	Uncompassionate self-responding (n = 65)		Moderately self-compassionate (n = 178)		Highly self-compassionate (n = 110)		Mean differences	
	M	SD	M	SD	M	SD	F	$\eta_p^2$
SK	1.88 <sup>a</sup>	0.53	3.27 <sup>b</sup>	0.64	3.59 <sup>c</sup>	0.76	189.93 <sup>#</sup>	.45
SJ	4.13 <sup>a</sup>	0.63	3.44 <sup>b</sup>	0.59	2.27 <sup>c</sup>	0.54	235.30	.57
CH	2.38 <sup>a</sup>	0.68	3.49 <sup>b</sup>	0.54	3.63 <sup>b</sup>	0.78	74.40	.30
IS	4.22 <sup>a</sup>	0.59	3.55 <sup>b</sup>	0.57	2.22 <sup>c</sup>	0.61	281.07	.62
MI	2.34 <sup>a</sup>	0.54	3.48 <sup>b</sup>	0.59	3.83 <sup>c</sup>	0.76	136.96 <sup>#</sup>	.40
OI	3.95 <sup>a</sup>	0.81	3.46 <sup>b</sup>	0.65	2.00 <sup>c</sup>	0.65	218.52 <sup>#</sup>	.56
SCS <sup>^</sup>	2.03 <sup>a</sup>	0.33	2.96 <sup>b</sup>	0.25	3.75 <sup>c</sup>	0.41	147.26 <sup>#</sup>	.77

Main sample, N = 353. SK, self-kindness; SJ, self-judgement; CH, common humanity; IS, isolation; MI, mindfulness; OI, overidentification. Wilks’  $\lambda = .17, F(12, 690) = 83.23, p < .001, \eta^2 = .59$ . All univariate *F*s are significant at  $p < .001$ . <sup>^</sup> SCS, self-compassion total score, assessed by separate ANOVA. <sup>#</sup> Welch’s statistic is reported. Means with different superscripts (in rows) differ significantly at  $p < .05$  (Bonferroni adjusted)

**Table 3** Demographic variables: means, SDs and mean differences or distributions across mindsets

Variables	Uncompassionate self-responding ( <i>n</i> = 65)		Moderately self-compassionate ( <i>n</i> = 178)		Highly self-compassionate ( <i>n</i> = 110)		Group differences	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	$\eta_p^2$
Age (years)	35.39 <sup>a</sup>	13.74	38.23 <sup>a</sup>	14.39	50.72 <sup>b</sup>	16.35	30.42***	.15
Education	2.63 <sup>a</sup>	1.07	3.18 <sup>b</sup>	1.09	3.18 <sup>b</sup>	1.09	5.67**	.03
	%	<i>Z</i> <sub>Resid</sub>	%	<i>Z</i> <sub>Resid</sub>	%	<i>Z</i> <sub>Resid</sub>	$\chi^2$ (df)	
Gender:							$\chi^2$ (2) = 14.04**	
Male	<b>30.8<sup>a</sup></b>	<b>-2.2</b>	50.6 <sup>b</sup>	0.1	60.0 <sup>b</sup>	1.5		
Female	<b>69.2<sup>a</sup></b>	<b>2.2</b>	49.4 <sup>b</sup>	-0.1	40.0 <sup>b</sup>	-1.5		
Australia:							$\chi^2$ (2) = 3.33	
Yes	87.7	0.7	79.8	-0.1	76.4	-0.4		
No	12.3	-1.4	20.2	0.1	23.6	0.9		
Occupation:							$\chi^2$ (10) = 60.96***	
Student	<b>14.8<sup>a</sup></b>	<b>2.1</b>	8.3 <sup>ab</sup>	0.4	<b>1.9<sup>b</sup></b>	<b>-2.1</b>		
Emp PT	24.6	0.9	16.7	-0.8	20.8	0.3		
Emp FT	26.2 <sup>a</sup>	-1.8	<b>50.6<sup>b</sup></b>	<b>2.0</b>	33.0 <sup>a</sup>	-1.2		
Unemp	16.4 <sup>a</sup>	1.8	10.7 <sup>ab</sup>	0.6	<b>2.8<sup>b</sup></b>	<b>-2.2</b>		
Retired	4.9 <sup>a</sup>	-1.9	<b>7.1<sup>a</sup></b>	<b>-2.5</b>	<b>31.1<sup>b</sup></b>	<b>4.6</b>		
Home	13.1	1.1	6.5	-1.0	10.4	0.5		

Main sample, *N* = 353. Gender, male = 1, female = 3; Education, 1 (Year 10) to 5 (postgraduate). Australia, born in Australia. Means with different superscripts (in rows) differ significantly at *p* < .05. *Z*<sub>Resid</sub> = Adjusted standardised residual, where *Z*<sub>Resid</sub> = 2 indicates observed counts that differ from expected counts at *p* < .05 (in bold). \*\**p* < .01, \*\*\**p* < .001

*Self-Responding* students (34.9%), profile 2 included 148 *Moderately Self-Compassionate* students (47.4%), and profile 3 comprised 55 *Highly Self-Compassionate* student participants (17.6%). Compared to the main sample, the self-compassion mindsets that emerged in the student sample included: 1) more participants who were classified as *Uncompassionate Self-Responders* and fewer as *Highly Self-Compassionate*; 2) mean scores on self-judgement, isolation, and overidentification for the *Moderately Self-Compassionate* profile that were just below the sample mean rather than just above; and 3) higher mean total SCS scores: *Uncompassionate Self-Responding* (*M* = 2.13, *SD* = 0.37), *Moderately Self-Compassionate* (*M* = 3.06, *SD* = 0.31), *Highly Self-Compassionate* (*M* = 4.08, *SD* = 0.37).

### Mindsets and Outcomes

As shown in Table 4, MANOVA revealed that mindset membership explained 28.3% of the variance in the set of well-being variables (life satisfaction, meaning in life, resilience, depression, anxiety, stress), and that all outcomes differed across groups. Participants with a highly self-compassionate mindset reported greater psychological well-being than the other two profiles on all indicators, and moderately self-compassionate mindset members reported greater well-being than uncompassionate self-responding members on all indicators except for Anxiety. A second MANOVA revealed that mindset membership explained

31.6% of the variance in the set of emotion regulation variables (cognitive reappraisal, positive refocusing, rumination, suppression, self-blame, and difficulties in emotion regulation), with all outcomes differing across groups. Participants with an uncompassionate self-responding mindset reported less use of adaptive strategies (reappraisal and positive refocusing) and greater use of maladaptive strategies (rumination, self-blame, suppression, and difficulties) than participants with a moderately self-compassionate or highly self-compassionate mindset.

Partial correlations were then calculated to identify which self-compassion components explain the most unique variance in each outcome variable within each self-compassion mindset. Each component (self-kindness, self-judgement, common humanity, isolation, mindfulness, and overidentification) was correlated with the outcome variables, after controlling for the effects of the other five components. As shown in Table 5, different components explained “practically significant” amounts of unique variance across the profiles, by correlating at .24 or greater. Notable results are reported below.<sup>1</sup>

**Well-Being** For the uncompassionate self-responding mindset, self-kindness explained the most unique variance in the well-

<sup>1</sup> Additional correlational analyses were also conducted. The online supplement reports zero-order bivariate correlations between the self-compassion components and the outcome variables across profiles, and zero-order and partial correlations for the whole sample.



**Table 4** Outcome variables: means, SDs, and mean differences across profiles

Variables	Uncompassionate self-responding ( <i>n</i> = 65)		Moderately self-compassionate ( <i>n</i> = 178)		Highly self-compassionate ( <i>n</i> = 110)		Mean differences	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	$\eta_p^2$
<b>Well-Being</b>								
Life Satisfaction	14.09 <sup>a</sup>	6.77	20.87 <sup>b</sup>	6.88	24.32 <sup>c</sup>	6.26	48.10	.22
Meaning Life <sup>#</sup>	3.13 <sup>a</sup>	1.50	4.56 <sup>b</sup>	1.10	5.29 <sup>c</sup>	1.17	49.92	.27
Resilience <sup>#</sup>	1.31 <sup>a</sup>	0.49	1.69 <sup>b</sup>	0.39	1.97 <sup>c</sup>	0.41	43.09	.23
Depression <sup>#</sup>	2.70 <sup>a</sup>	0.83	2.27 <sup>b</sup>	0.81	1.45 <sup>c</sup>	0.60	78.38	.27
Anxiety <sup>#</sup>	2.30 <sup>a</sup>	0.74	2.28 <sup>a</sup>	0.76	1.51 <sup>b</sup>	0.60	52.96	.21
Stress <sup>#</sup>	2.70 <sup>a</sup>	0.77	2.45 <sup>b</sup>	0.72	1.64 <sup>c</sup>	0.60	71.47	.27
<b>Emotion Regulation</b>								
Reappraisal <sup>#</sup>	3.87 <sup>a</sup>	1.46	4.70 <sup>b</sup>	1.02	4.82 <sup>b</sup>	1.15	11.00	.09
Pos Refocus	2.25 <sup>a</sup>	0.90	3.13 <sup>b</sup>	0.84	3.16 <sup>b</sup>	0.88	27.93	.14
Suppression	4.47 <sup>a</sup>	1.27	4.35 <sup>a</sup>	1.15	3.99 <sup>b</sup>	1.13	4.50*	.03
Rumination	3.77 <sup>a</sup>	0.87	3.34 <sup>b</sup>	0.81	2.59 <sup>c</sup>	0.74	50.51	.22
Self-Blame <sup>#</sup>	3.63 <sup>a</sup>	0.99	3.27 <sup>b</sup>	0.79	2.47 <sup>c</sup>	0.74	51.54	.22
Diff Emot Reg <sup>#</sup>	3.29 <sup>a</sup>	0.66	2.83 <sup>b</sup>	0.50	2.02 <sup>c</sup>	0.53	118.15	.42

Main sample, *N* = 353. Well-Being: Wilks'  $\lambda = .51$ ,  $F(12, 690) = 22.68$ ,  $p < .001$ ,  $\eta^2 = .28$ ; Emotion Regulation: Wilks'  $\lambda = .47$ ,  $F(12, 690) = 26.51$ ,  $p < .001$ ,  $\eta^2 = .32$ . # Welch's statistic is reported. All univariate *F*s are significant at  $p < .001$  except for \*  $p = .01$ . Means with different superscripts (in rows) differ significantly at  $p < .05$  (Bonferroni adjusted)

being variables, by negatively predicting all three psychopathological outcomes and positively predicting life satisfaction and meaning in life. Self-kindness was also the strongest predictor in the moderately self-compassionate mindset, by

correlating with four of the assessed variables. Overidentification was the strongest predictor of psychopathology in the highly self-compassionate mindset by predicting high anxiety and stress.

**Table 5** Partial correlations between self-compassion components and outcome variables across profiles

Variables	Uncompassionate Self-Responding ( <i>n</i> = 65)						Moderately Self-Compassionate ( <i>n</i> = 178)						Highly Self-Compassionate ( <i>n</i> = 110)					
	SK	SJ	CH	IS	MI	OI	SK	SJ	CH	IS	MI	OI	SK	SJ	CH	IS	MI	OI
<b>Psychological Well-Being</b>																		
Life Satisfaction	<b>.36</b>	-.02	.21	.08	-.13	.01	<b>.39</b>	-.17	<b>.24</b>	-.10	-.14	<b>.24</b>	-.04	-.05	-.02	-.13	.19	.10
Meaning Life	<b>.26</b>	-.05	.20	-.05	.10	.11	.12	-.17	.23	-.18	.02	.13	.04	.05	.11	-.13	<b>.24</b>	.06
Resilience	.13	.10	.11	-.16	<b>.24</b>	-.03	.00	-.03	<b>.28</b>	-.14	.03	.02	.03	-.11	.13	-.06	.13	-.09
Depression	<b>-.25</b>	.01	-.16	<b>.30</b>	-.20	-.16	<b>.25</b>	.21	-.15	.09	-.10	.04	.14	.08	.01	.07	-.21	.21
Anxiety	<b>-.28</b>	-.11	-.09	.21	.03	.22	<b>.25</b>	.19	-.03	.03	-.13	.19	.08	.12	.07	.00	-.15	<b>.24</b>
Stress	<b>-.26</b>	-.03	-.06	.11	-.10	<b>.29</b>	<b>.25</b>	.19	-.02	.05	-.18	<b>.26</b>	.04	-.06	.13	.11	-.09	<b>.38</b>
<b>Emotion Regulation</b>																		
Reappraisal	<b>.30</b>	.19	.25	.09	-.02	<b>-.37</b>	.02	.10	<b>.27</b>	.10	.19	-.04	.18	.01	.09	.02	.16	.11
Positive Refocus	<b>.32</b>	.08	.20	-.01	-.09	-.07	<b>.39</b>	.01	.08	.11	-.06	-.04	.21	.02	.08	.08	-.02	.02
Suppression	.14	<b>.31</b>	-.17	.15	<b>-.25</b>	<b>-.38</b>	.15	<b>.24</b>	.18	.03	-.03	-.13	<b>-.26</b>	-.03	.00	.11	.13	.04
Rumination	.01	.13	.05	-.02	-.13	<b>.38</b>	.07	<b>.25</b>	.06	-.13	.14	<b>.27</b>	.22	.14	-.11	.12	.02	<b>.24</b>
Self-Blame	<b>-.30</b>	.16	-.04	-.09	-.08	<b>.32</b>	.02	<b>.28</b>	-.01	-.03	.03	<b>.26</b>	.10	.07	-.06	<b>.27</b>	.02	.19
Diff Emot Reg	-.17	.14	<b>-.32</b>	.22	-.21	<b>.26</b>	.12	.19	-.03	-.07	-.16	<b>.35</b>	.00	.19	-.14	.17	-.22	<b>.24</b>

Main sample, *N* = 353. Partial Correlations indicate relationships after controlling for the other SCS subscales. SK self-kindness, SJ self-judgement, CH common humanity, IS isolation, MI mindfulness, OI overidentification. Effects of "practical significance" ( $\geq .24$ ) are indicated in bold

**Emotion Regulation** Overidentification explained the most unique variance in emotion regulation in the uncompassionate self-responding mindset, by correlating negatively with reappraisal and suppression, and positively with rumination, self-blame, and difficulties in emotion regulation. For the moderately self-compassionate mindset, self-judgement explained the most unique variance by positively predicting three assessed maladaptive strategies. Overidentification represented the strongest predictor of emotion regulation in the highly self-compassionate mindset, by correlating positively with rumination and emotional regulation difficulties.

## Discussion

Latent profile analysis identified three distinct self-compassion mindsets in a community sample that reflected their scores on the six SCS subscales. The mindsets were labeled *Uncompassionate Self-Responding*, *Moderately Self-Compassionate*, and *Highly Self-Compassionate*. As hypothesized, the uncompassionate self-responding mindset was characterized by low levels of the positive components of self-compassion (self-kindness, common humanity, and mindfulness) and high levels of the negative components (self-judgement, isolation, and overidentification); while the highly self-compassionate mindset was characterized by high levels of the positive components and low levels of the negative components. Contrary to expectation, additional qualitatively distinct mindsets were not found. Instead, a moderately self-compassionate profile emerged comprising individuals with a mindset featuring moderate levels of all six components. The three mindsets differed on all self-compassion components except for common humanity, on which the moderately self-compassionate and highly self-compassionate mindsets did not differ. A similar profile solution was found in a separate student sample, which further validated the existence of three self-compassion mindsets.

The identification of three mindsets with opposing mean levels of the positive and negative components of self-compassion is consistent with Neff's proposition that a self-compassionate frame of mind is an interactive and synergistic system (Neff et al. 2017; Neff 2016b) and with recent bifactor modelling of the SCS (Neff et al. 2019). The statistical independence of the components means that they *could* coexist to form qualitatively distinct profiles (where different combinations of components produce the same total SCS score). But instead they combined to create three overall experiences of self-compassion that aligned with total SCS scores ranging from low-to-high in two separate samples. Levels of the six self-compassion components within each emergent mindset tended to covary in unison; where the negative components decreased as the positive components increased, and vice versa. The observed interplay between components is also

consistent with evidence indicating that the polar-opposite components (e.g., self-kindness and self-judgement) are usually moderately to strongly inversely related (e.g., Castilho et al. 2015; Veneziani et al. 2017), and that self-compassion training simultaneously increases the positive components and decreases the negative components (Albertson et al. 2015; Ferrari et al. 2019; Neff and Germer 2013).

## Self-Compassion Mindsets and Outcomes

Partial correlations were calculated to evaluate the ability of each self-compassion component to predict well-being and emotion regulation outcomes, after controlling for the other five components. As hypothesised, different patterns of associations were evident across the profiles.

Arguably of greatest practical relevance are the associations observed amongst individuals with an *uncompassionate self-responding mindset*, who experience poor psychological well-being and emotion regulation ability and are most in need of assistance. For this group, self-kindness explained the most unique variance in psychological well-being, by predicting low levels of depression, anxiety, and stress, and high life satisfaction and meaning in life. Self-kindness was also a strong predictor of adaptive emotion regulation, by correlating positively with reappraisal and positive refocusing and negatively with self-blame. But overidentification explained the most unique variance in emotion regulation, by predicting less use of reappraisal, and higher levels of rumination, self-blame, and emotion regulation difficulties.

Results of the partial correlation analyses address a current research debate regarding the inclusion of self-judgement, isolation, and overidentification in the definition and measurement of self-compassion (Muris et al. 2016b; Neff 2016a). Muris and colleagues (Muris et al. 2016b; Muris and Petrocchi 2017) argued that a conceptual overlap between the negative SCS subscales and psychopathology may inflate correlations between total SCS scores and psychopathology and presented results of a meta-analysis of 18 studies to support their perspective (Muris and Petrocchi 2017). Neff et al. (2018) countered this finding by observing similarly strong zero-order relationships between many indicators of psychological functioning and both the positive and negative components in seven samples. However, Muris et al. (2019) re-analysed Neff et al.'s dataset and found that relationships between the positive components and psychopathology were non-significant after controlling for the negative components. The current study informs this debate by using LPA to mimic higher order interactions between the six components and calculating partial correlations to evaluate their relative predictive power within each emergent self-compassion mindset. Results revealed that zero-order relationships between total self-compassion and psychopathological outcomes were driven by different components for each self-compassion mindset.

Overidentification conveyed the greatest risk of anxiety and stress among individuals with a highly self-compassionate mindset, but low levels of self-kindness represented the greatest predictor of psychopathological outcomes among individuals with an uncompassionate self-responding mindset. Thus, although the components appear to operate as a system in all three mindsets, the components play different roles within each mindset.

### Demographic Characteristics of the Self-Compassion Mindsets

Previous variable-centred analyses have found significant linear relationships between self-compassion and older age, male gender, and high education that are assumed to be homogeneous within the sampled population (e.g., Homan 2016; López et al. 2018; Yarnell et al. 2015), but these associations have not been persuasively established (e.g., Kreemers et al. 2018; Muris et al. 2016a). In contrast, this study's person-centred analysis was predicated on the assumption that the population is heterogeneous, and identified holistic constellations of characteristics associated with possessing low, moderate, or high levels of self-compassion. Variable- and person-centred approaches represent complementary rather than competing approaches.

This study found differences between the three mindset profiles on age, gender, education, and occupation. The highly self-compassionate profile included more men and fewer women than the uncompassionate self-responding group, and its members were older and more highly educated. The highly self-compassionate profile also included a large percentage of retired individuals and relatively few students, while the uncompassionate self-responding group comprised large proportions of women and students. These results confirm several variable-centred findings (e.g., Homan 2016; López et al. 2018; Murn and Steele 2019; Yarnell et al. 2015). The most defining characteristic of the moderately self-compassionate profile was its over-representation of full-time employed individuals.

An over-representation of older participants with a highly self-compassionate mindset indicates that self-compassion increases with age. Despite physical and social challenges that accompany aging, older individuals usually score as high on measures of subjective well-being as young people (Diener and Suh 1998). Research with older samples has indicated that self-compassion predicts subjective well-being, ego integrity, and meaning in life (Phillips and Ferguson 2013); positive relationships, self-acceptance and environmental mastery (Homan 2016); positive attitudes toward aging (Allen and Leary 2014); and acceptance of physical limitations (Allen et al. 2012). Self-compassion may therefore represent a resource that individuals develop in response to life experience.

Female dominance of the uncompassionate self-responding profile and male dominance of the highly self-compassionate profile may reflect differences in how men and women perceive their social environment. For example, unlike men, women raised in western societies are taught to prioritize the needs of others over their own (Ruble and Martin 1998) and that their physical attractiveness determines their social value (Grabe et al. 2008), both of which are likely to reduce their ability to treat themselves with compassion.

High levels of education in the highly self-compassionate group may reflect observed associations between total SCS scores and having a mastery orientation, little fear of failure, higher perceived competence (Neff et al. 2005), less academic procrastination (Iskender 2011), and less negative affect when a goal is thwarted (Hope et al. 2014). However, it is also possible that higher levels of education in the highly self-compassionate profile may be an artefact of the older age of its members. Age may also underlie the over-representation of retired individuals with this mindset.

### Practical Implications

The current results may inform the development and refinement of self-compassion interventions. Demographic characteristics of the uncompassionate self-responding profile direct us to members of the population who are most likely to benefit from self-compassion training, such as the Mindful Self-Compassion Program (Neff and Germer 2013). Thus, it will be important for clinicians and community leaders to make self-compassion programs readily available to women, young people, unemployed, and perhaps people with little education.

Although completing self-compassion training has been found to simultaneously increase self-kindness, common humanity and mindfulness, and decrease self-judgement, isolation, and overidentification (Albertson et al. 2015; Ferrari et al. 2019; Neff and Germer 2013;), it is possible that more tightly focussed interventions may accelerate or increase these effects. Tailoring interventions involves developing programs based on key characteristics of the target population, to increase their personal relevance. Although results vary across domains, tailored strategies have produced greater behavioural outcomes than non-tailored strategies (Lustria et al. 2013). The current results suggest that it may be worth trialling programs for individuals with low total self-compassion that are tailored to specifically increase self-kindness if they aim to decrease depressive symptoms, anxiety, or stress, or tailored to reduce overidentification if they aim to improve emotion regulation abilities. Similarly, interventions could be tailored for demographic groups identified as most likely to possess uncompassionate self-responding mindsets.

## Measurement Implications

This study employed LPA to group individuals according to their scores on the SCS subscales as a statistical approach to answering questions surrounding the theory and measurement of self-compassion. It is unlikely that researchers and practitioners will find it practical or useful to conduct LPAs to routinely identify their participants' or clients' mindsets. The current results support the use of the total SCS score, by supplementing previous findings that total SCS scores explain 95% of the variance in item responding and represent the general factor of a bifactor model of compassionate self-responding (Neff et al. 2019). The current results suggest that researchers and practitioners may assume that total scores on the SCS are likely to represent a balanced system of the six components. For example, individuals who report moderate total scores are likely to possess moderate levels of self-kindness, common humanity, mindfulness, self-judgement, isolation, and over-identification; and are unlikely to possess conflicting levels of positive and negative components that could also conceivably combine to create a moderate total score.

## Limitations and Future Directions

Limitations of this study should be considered when interpreting its results. First, a latent profile solution is influenced by the sample used. Thus, the generalisability of the current results may not necessarily extend to other populations. This concern was partly addressed by identifying a very similar three profile solution in a separate student sample, but it should be noted that 49.4% of the student dataset was collected five years ago. Recruiting participants for the main sample from a Qualtrics panel also may have influenced the quality of the dataset, with previous studies finding that these respondents can exert positive and negative effects on data quality. For example, Qualtrics samples tend to resemble national probability samples but often demonstrate low levels of attentiveness (Boas et al. 2018; Kees et al. 2017). Although attention check items were not included in the survey, manual screening identified several invalid responders whose data were deleted.

Second, the data are cross-sectional in nature, which limits the drawing of causal inferences. Longitudinal data that follow individual trajectories may determine if changes occur over time, and whether profile membership predicts future positive outcomes. Third, the high number of analyses conducted in this study presents an increased risk of Type I errors. This risk was minimised by applying Bonferroni adjustments when evaluating between-group differences and using conservative cut-offs to identify the practical significance of the series of partial correlations, but it should still be considered when interpreting the results.

Importantly, the current analyses cannot evaluate Neff's (Neff et al. 2017; Neff 2016b) proposed "dynamic" nature of the system. Dynamical Systems Theory involves processes that unfold from an initial state over time in a deterministic manner, based solely on the functional relationships among the variables in the system (Gelfand and Engelhart 2012). Thus, future research is needed to evaluate the proposed dynamic nature of self-compassion by testing a feedback model in which the six components serve both as dependent and independent variables over time. Future research is also needed to replicate the identified profiles in other populations, and to evaluate whether the same predictive relationships occur between the components and outcomes. Following replication, pilot testing could examine whether tailored self-compassion programs that target the identified predictive components and demographic characteristics of the uncompassionate self-responding profile are more effective than standard self-compassion training.

**Compliance with Ethical Standards** All procedures performed in this study were in accordance with the ethical standards of the University of New England's human research ethics committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. The main SPSS dataset generated and analysed during the current study may be downloaded from <https://cloudstor.aarnet.edu.au/plus/s/DR1Ylxa1rY5GD9c>.

**Conflict of Interest** The author declares that they have no conflict of interest.

## References

- Albertson, E. R., Neff, K. D., & Dill-Shackleford, K. E. (2015). Self-compassion and body dissatisfaction in women: A randomized controlled trial of a brief meditation intervention. *Mindfulness*, 6(3), 444–454. <https://doi.org/10.1007/s12671-014-0277-3>.
- Allen, A. B., & Leary, M. R. (2014). Self-compassionate responses to aging. *The Gerontologist*, 54(2), 190–200. <https://doi.org/10.1093/geront/gns204>.
- Allen, A. B., Goldwasser, E. R., & Leary, M. R. (2012). Self-compassion and well-being among older adults. *Self and Identity*, 11(4), 428–453. <https://doi.org/10.1080/15298868.2011.595082>.
- Bartone, P. T. (2007). Test-retest reliability of the dispositional resilience Scale-15, a brief hardiness scale. *Psychological Reports*, 101(3), 943–944. <https://doi.org/10.2466/pr0.101.3.943-944>.
- Boas, T. C., Christenson, D. P., & Glick, D. M. (2018). Recruiting large online samples in the United States and India: Facebook, Mechanical Turk, and Qualtrics. *Political Science Research and Methods*, 1–19. <https://doi.org/10.1017/psrm.2018.28>.
- Castilho, P., Pinto-Gouveia, J., & Duarte, J. (2015). Evaluating the multifactor structure of the long and short versions of the self-compassion scale in a clinical sample. *Journal of Clinical Psychology*, 71(9), 856–870. <https://doi.org/10.1002/jclp.22187>.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.



- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75. [https://doi.org/10.1207/s15327752jpa4901\\_13](https://doi.org/10.1207/s15327752jpa4901_13).
- Diener, E., & Suh, M. E. (1998). Subjective well-being and age: An international analysis. In *Annual review of gerontology and geriatrics, Vol. 17: Focus on emotion and adult development*. (pp. 304–324, Annual review of gerontology and geriatrics.). New York: Springer Publishing Co.
- Ferguson, C. J. (2009). An effect size primer: A guide for clinicians and researchers. *Professional Psychology: Research and Practice*, 40(5), 532–538. <https://doi.org/10.1037/a0015808>.
- Ferrari, M., Hunt, C., Harrysunker, A., Abbott, M. J., Beath, A. P., & Einstein, D. A. (2019). Self-compassion interventions and psychosocial outcomes: A meta-analysis of RCTs. *Mindfulness*, 10(8), 1455–1473. <https://doi.org/10.1007/s12671-019-01134-6>.
- Finlay-Jones, A. L., Rees, C. S., & Kane, R. T. (2015). Self-compassion, emotion regulation and stress among Australian psychologists: Testing an emotion regulation model of self-compassion using structural equation modeling. *PLoS One*, 10(7), e0133481. <https://doi.org/10.1371/journal.pone.0133481>.
- Garnefski, N., & Kraaij, V. (2006). Cognitive emotion regulation questionnaire – development of a short 18-item version (CERQ-short). *Personality and Individual Differences*, 41(6), 1045–1053. <https://doi.org/10.1016/j.paid.2006.04.010>.
- Gelfand, L., & Engelhart, S. (2012). Dynamical systems theory in psychology: Assistance for the lay reader is required. [opinion]. *Frontiers in Psychology*, 3(382). <https://doi.org/10.3389/fpsyg.2012.00382>.
- Gilbert, P. (2009). Compassion and cruelty: A biopsychosocial approach. In P. Gilbert (Ed.), *The compassionate mind: A new approach to life's challenges* (pp. 9–74). Oakland: New Harbinger.
- Glickman, M. E., Rao, S. R., & Schultz, M. R. (2014). False discovery rate control is a recommended alternative to Bonferroni-type adjustments in health studies. *Journal of Clinical Epidemiology*, 67(8), 850–857. <https://doi.org/10.1016/j.jclinepi.2014.03.012>.
- Grabe, S., Ward, L. M., & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin*, 134(3), 460–476. <https://doi.org/10.1037/0033-2909.134.3.460>.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, 26(1), 41–54. <https://doi.org/10.1023/B:JOBA.0000007455.08539.94>.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348–362.
- Homan, K. J. (2016). Self-compassion and psychological well-being in older adults. *Journal of Adult Development*, 23(2), 111–119. <https://doi.org/10.1007/s10804-016-9227-8>.
- Hope, N., Koestner, R., & Milyavskaya, M. (2014). The role of self-compassion in goal pursuit and well-being among university freshmen. *Self and Identity*, 13(5), 579–593. <https://doi.org/10.1080/15298868.2014.889032>.
- Iskender, M. (2011). The influence of self-compassion on academic procrastination and dysfunctional attitudes. *Educational Research and Reviews*, 6(2), 230–234.
- Kees, J., Berry, C., Burton, S., & Sheehan, K. (2017). An analysis of data quality: Professional panels, student subject pools, and Amazon's mechanical Turk. *Journal of Advertising*, 46(1), 141–155. <https://doi.org/10.1080/00913367.2016.1269304>.
- Körner, A., Coroiu, A., Copeland, L., Gomez-Garibello, C., Albani, C., Zenger, M., & Brähler, E. (2015). The role of self-compassion in buffering symptoms of depression in the general population. *PLoS One*, 10(10), e0136598. <https://doi.org/10.1371/journal.pone.0136598>.
- Kotsou, I., & Leys, C. (2016). Self-compassion scale (SCS): Psychometric properties of the French translation and its relations with psychological well-being, affect and depression. *PLoS One*, 11(4), e0152880. <https://doi.org/10.1371/journal.pone.0152880>.
- Kreemers, L. M., van Hooft, E. A. J., & van Vianen, A. E. M. (2018). Dealing with negative job search experiences: The beneficial role of self-compassion for job seekers' affective responses. *Journal of Vocational Behavior*, 106, 165–179. <https://doi.org/10.1016/j.jvb.2018.02.001>.
- Lanza, S. T., Rhoades, B. L., Nix, R. L., & Greenberg, M. T. (2010). Modeling the interplay of multilevel risk factors for future academic and behavior problems: A person-centered approach. *Development and Psychopathology*, 22(2), 313–335. <https://doi.org/10.1017/s0954579410000088>.
- Leary, M. R., Tate, E. B., Adams, C. E., Allen, A. B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology*, 92(5), 887–904. <https://doi.org/10.1037/0022-3514.92.5.887>.
- Lo, Y., Mendell, N. R., & Rubin, D. B. (2001). Testing the number of components in a normal mixture. *Biometrika*, 88, 767–778. <https://doi.org/10.1093/biomet/88.3.767>.
- López, A., Sanderman, R., Ranchor, A. V., & Schroevers, M. J. (2018). Compassion for others and self-compassion: Levels, correlates, and relationship with psychological well-being. *Mindfulness*, 9(1), 325–331. <https://doi.org/10.1007/s12671-017-0777-z>.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33(3), 335–343. [https://doi.org/10.1016/0005-7967\(94\)00075-u](https://doi.org/10.1016/0005-7967(94)00075-u).
- Lustria, M. L., Noar, S. M., Cortese, J., Van Stee, S. K., Glueckauf, R. L., & Lee, J. (2013). A meta-analysis of web-delivered tailored health behavior change interventions. *Journal of Health Communication*, 18(9), 1039–1069. <https://doi.org/10.1080/10810730.2013.768727>.
- MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychology Review*, 32(6), 545–552. <https://doi.org/10.1016/j.cpr.2012.06.003>.
- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52, 81–90.
- McLachlan, G., & Peel, D. (2000). *Finite mixture models*. New York: John Wiley & Sons.
- Merz, E. L., & Roesch, S. C. (2011). A latent profile analysis of the five factor model of personality: Modeling trait interactions. *Personality and Individual Differences*, 51(8), 915–919. <https://doi.org/10.1016/j.paid.2011.07.022>.
- Muris, P., & Petrocchi, N. (2017). Protection or vulnerability? A meta-analysis of the relations between the positive and negative components of self-compassion and psychopathology. *Clinical Psychology and Psychotherapy*, 24(2), 373–383. <https://doi.org/10.1002/cpp.2005>.
- Muris, P., Meesters, C., Pierik, A., & de Kock, B. (2016a). Good for the self: Self-compassion and other self-related constructs in relation to symptoms of anxiety and depression in non-clinical youths. *Journal of Child and Family Studies*, 25(2), 607–617. <https://doi.org/10.1007/s10826-015-0235-2>.
- Muris, P., Otgaar, H., & Petrocchi, N. (2016b). Protection as the mirror image of psychopathology: Further critical notes on the self-



- compassion scale. *Mindfulness*, 7(3), 787–790. <https://doi.org/10.1007/s12671-016-0509-9>.
- Muris, P., Otgaar, H., & Pfattheicher, S. (2019). Stripping the forest from the rotten trees: Compassionate self-responding is the way of coping, but reduced uncompassionate self-responding mainly reflects psychopathology. *Mindfulness*, 10(1), 196–199. <https://doi.org/10.1007/s12671-018-1030-0>.
- Murn, L. T., & Steele, M. R. (2019). What matters most? Age and gender differences in self-compassion and body attitudes among college students. *Counselling Psychology Quarterly*, 1–20. <https://doi.org/10.1080/09515070.2019.1605334>.
- Muthén, L. K., & Muthén, B. O. (2017). *Mplus: Statistical Analysis with Latent Variables: User's Guide (Version 8)*. Los Angeles, CA: Authors.
- Neff, K. D. (2003a). The development and validation of a scale to measure self-compassion. *Self and Identity*, 2(3), 223–250. <https://doi.org/10.1080/15298860309027>.
- Neff, K. D. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, 2, 85–101. <https://doi.org/10.1080/15298860390129863>.
- Neff, K. D. (2016a). Does self-compassion entail reduced self-judgment, isolation, and over-identification? A response to Muris, Otgaar, and Petrocchi (2016). *Mindfulness*, 7(3), 791–797. <https://doi.org/10.1007/s12671-016-0531-y>.
- Neff, K. D. (2016b). The self-compassion scale is a valid and theoretically coherent measure of self-compassion. *Mindfulness*, 7(1), 264–274. <https://doi.org/10.1007/s12671-015-0479-3>.
- Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the mindful self-compassion program. *Journal of Clinical Psychology*, 69(1), 28–44. <https://doi.org/10.1002/jclp.21923>.
- Neff, K. D., Hsieh, Y., & Dejitterat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and Identity*, 4, 263–287. <https://doi.org/10.1080/13576500444000317>.
- Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality*, 41, 139–154. <https://doi.org/10.1016/j.jrp.2006.03.004>.
- Neff, K. D., Whittaker, T. A., & Karl, A. (2017). Examining the factor structure of the self-compassion scale in four distinct populations: Is the use of a total scale score justified? *Journal of Personality Assessment*, 99(6), 596–607. <https://doi.org/10.1080/00223891.2016.1269334>.
- Neff, K. D., Long, P., Knox, M. C., Davidson, O., Kuchar, A., Costigan, A., Williamson, Z., Rohleder, N., Tóth-Király, I., & Breines, J. G. (2018). The forest and the trees: Examining the association of self-compassion and its positive and negative components with psychological functioning. *Self and Identity*, 17, 627–645. <https://doi.org/10.1080/15298868.2018.1436587>.
- Neff, K. D., Tóth-Király, I., Yarnell, L., Arimitsu, K., Castilho, P., Ghorbani, N., et al. (2019). Examining the factor structure of the self-compassion scale using exploratory SEM bifactor analysis in 20 diverse samples: Support for use of a total score and six subscale scores. *Psychological Assessment*, 31, 27–45. <https://doi.org/10.1037/pas0000629>.
- Nylund, K., Asparouhov, T., & Muthén, B. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling*, 14(4), 535–569. <https://doi.org/10.1080/10705510701575396>.
- Phillips, W. J. (2018). Future-outlook mediates the association between self-compassion and well-being. *Personality and Individual Differences*, 135, 143–148. <https://doi.org/10.1016/j.paid.2018.07.006>.
- Phillips, W. J. (2014). Self-compassion and emotion regulation. *Unpublished dataset*.
- Phillips, W. J., & Ferguson, S. J. (2013). Self-compassion: A resource for positive aging. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 68(4), 529–539. <https://doi.org/10.1093/geronb/gbs091>.
- Raes, F. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences*, 48, 757–761.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87(4), 698–714. <https://doi.org/10.1037/0021-9010.87.4.698>.
- Ruble, D. N., & Martin, C. L. (1998). Gender development. In *Handbook of child psychology: Social, emotional, and personality development*, Vol. 3, 5th ed. (pp. 933–1016). Hoboken: Wiley.
- Schwarz, G. (1978). Estimating the Dimension of a Model. *The Annals of Statistics*, 6 (2), 461–464. <https://doi.org/10.1214/aos/1176344136>.
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology & Health*, 53(1), 80–93. <https://doi.org/10.1037/0022-0167.53.1.80>.
- Veneziani, C. A., Fuochi, G., & Voci, A. (2017). Self-compassion as a healthy attitude toward the self: Factorial and construct validity in an Italian sample. *Personality and Individual Differences*, 119, 60–68. <https://doi.org/10.1016/j.paid.2017.06.028>.
- Yarnell, L. M., Stafford, R. E., Neff, K. D., Reilly, E. D., Knox, M. C., & Mullarkey, M. (2015). Meta-analysis of gender differences in self-compassion. *Self and Identity*, 14(5), 499–520. <https://doi.org/10.1080/15298868.2015.1029966>.
- Zessin, U., Dickhäuser, O., & Garbade, S. (2015). The relationship between self-compassion and well-being: A meta-analysis. *Applied Psychology: Health and Well-Being*, 7(3), 340–364. <https://doi.org/10.1111/aphw.12051>.

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