Future-outlook mediates the association between self-compassion and well-being
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ABSTRACT
Self-compassion has been strongly associated with high levels of life satisfaction and low levels of depressive symptoms, but relatively little research has explored mechanisms that may underlie these associations. This study investigated whether three indicators of future-outlook – balanced time perspective, optimism, and savouring-anticipating – mediate these relationships. A sample of 157 undergraduates (Mage = 33.21, SD = 11.32) completed an online survey. As hypothesised, multiple mediation analyses found that balanced time perspective and savouring-anticipating mediated self-compassion’s relationships with life satisfaction and depressive symptoms; where high trait self-compassion was associated with a well-balanced time perspective and high savouring-anticipating tendencies which, in turn, were associated with high life satisfaction and low depressive symptoms. Against expectation, optimism did not mediate either relationship when assessed as one of three parallel mediators. These results add to the budding literature on mechanisms underlying self-compassion’s positive effects on well-being.

1. Introduction
Self-compassion is a positive self-attitude that helps us to negotiate episodes of personal suffering or failure (Gilbert, 2009; Neff, 2003a, 2003b). According to Neff (2003a, 2003b), self-compassion involves responding to difficult situations with self-kindness rather than harsh self-judgement; viewing suffering as a common human experience that promotes feelings of connection with others rather than isolation; and being mindful of our negative responses without over-identifying with them. Robust relationships have been observed between self-compassion and many indicators of positive subjective well-being, including low levels of depressive symptoms and high life satisfaction (Barnard & Curry, 2011; MacBeth & Gumley, 2012; Zessin, Dickhäuser, & Garbade, 2015), yet relatively little research has attempted to identify mechanisms that may underlie these relationships.

Specific emotion regulation strategies and skills (Diedrich, Burger, Kirchner, & Berking, 2017; Johnson & O’Brien, 2013; Krieger, Altenstein, Baettig, Doerig, & Holtforth, 2013; Raes, 2010) and cognitive styles and processes (Arimitsu & Hofmann, 2015; Diedrich et al., 2017; Krieger et al., 2013; Wadsworth et al., 2018; Zhou, Chen, Liu, Lu, & Su, 2013) have been identified as mediators of the predictive relationship between self-compassion and depressive symptoms; and positive automatic thoughts (Arimitsu & Hofmann, 2015) and hope (Yang, Zhang, & Kou, 2016) have been found to mediate the association between self-compassion and life satisfaction. The current study extends this line of investigation, by determining whether self-compassion’s associations with depressive symptoms and life satisfaction are mediated by three indicators of future-outlook – balanced time perspective, optimism, and savouring-anticipating.

1.1. Self-compassion and future-outlook
Self-compassion promotes adaptive responses to difficult past or present life experiences. For example, it can increase motivation to make amends and to avoid repeating past mistakes (e.g., Johnson & O’Brien, 2013; Shapira & Mongrain, 2010), and has been associated with goal reengagement, intrinsic motivation, personal initiative, mastery goals, and adaptive coping (e.g., Neely, Schallert, Mohammed, Roberts, & Chen, 2009; Neff, Hsieh, & Dejitterat, 2005). These responses to past adversity also represent personal abilities that may help us to manage difficult future situations, and are therefore likely to influence how we view the future.

Optimism, savouring-anticipating, and balanced time perspective are three indicators of future-outlook that may represent outcomes of self-compassion. Optimism involves holding positive expectations about future experiences (Malouff & Schutte, 2017), and savouring-anticipating involves deriving pleasure from anticipating future positive events (Bryant, 2003). Balanced time perspective refers to the
notion that how we approach the future is in varying degrees, and possessing an ideal temporal profile allows one to operate in a time perspective that meets situational demands. This so-called balanced time perspective comprises high levels of past-positive (sentimental past), moderately high levels of future (goals and rewards) and present-hedonistic (pleasure seeking), and low levels of past-negative (aversive past) and present-fatalistic (belief in external control) time perspectives (Zimbardo & Boyd, 2008).

I recently used experimental methodology to investigate the effects of self-compassion on optimism, balanced time perspective, and savouring-anticipating (Phillips, 2018). Student participants were asked to write self-compassionately about a recent negative event. The self-compassion writing exercise induced state self-compassion and influenced levels of savouring-anticipating and balanced time perspective. Among students with high trait self-compassion, experimental participants reported higher levels of savouring-anticipating than control participants. In contrast, experimental participants reported a more balanced time perspective than control participants among students with low trait self-compassion. Overall, high levels of self-compassion correlated strongly with a well-balanced time perspective, savouring-anticipating, and optimism in the student sample.

Although the abovementioned experiment did not increase optimism, Smeets, Neff, Alberts, and Peters (2014) found that female students who participated in a three-week self-compassion intervention reported greater increases in optimism than participants in a time-management control condition. Thus, while ample evidence supports a strong association between self-compassion and optimism, the evidence is mixed regarding a possible causal role. However, strong bivariate associations have been consistently observed between trait self-compassion and high levels of optimism (Neff, Rude, & Kirkpatrick, 2007; Neff & Vonk, 2009; Phillips, 2018). A moderately strong positive bivariate relationship has also been found between self-compassion and total savouring ability, which involves savouring past, present, and future events (Ford, Klibert, Tarantino, & Lamis, 2017).

1.2. Future-outlook, depressive symptoms, and life satisfaction

Evidence suggests that a balanced time perspective, high optimism, and high savouring-anticipating may be products of self-compassion. It is also possible that improvements in these future-outlook indicators may represent mechanisms through which self-compassion conveys its positive effects on depressive symptoms and life satisfaction. This possibility is supported by large positive relationships between life satisfaction and balanced time perspective (Stolarski, Vowinckel, Jankowski, & Zajenkowski, 2016), optimism (Chang & Sanna, 2001), and savouring (Smith & Hollinger-Smith, 2015); and strong inverse relationships between depressive symptoms and balanced time perspective (Mooney, Earl, Mooney, & Bateman, 2017), optimism (Chang & Sanna, 2001), and savouring (Ford et al., 2017; Smith & Hollinger-Smith, 2015).

Additionally, intervention outcomes have indicated that optimism and savouring may causally influence levels of depressive symptoms and life satisfaction. For example, students who completed a brief optimism intervention reported higher levels of life satisfaction than control participants one week later (Peters, Meevissen, & Hansen, 2013), and depression vulnerable individuals who underwent an online optimism intervention were less depressed three months later (Shapira & Mongrain, 2010). Similarly, compared to control participants, students who completed a savouring the moment intervention reported lower levels of depressive symptoms (Hurley & Kwon, 2012), and undergraduates who completed a 6-week positive emotion regulation program (which included savouring) reported increased life satisfaction and decreased depressive symptoms (Weytens, Lumener, Verhofstadt, & Mikolajczak, 2014).

1.3. The current study

Researchers have begun to investigate possible mechanisms by which self-compassion conveys its positive effects on well-being (e.g., Arimitsu & Hofmann, 2015; Diedrich et al., 2017). Utilising two multiple mediation models, this study aimed to determine whether balanced time perspective, optimism, and savouring-anticipating mediate self-compassion’s predictive effects on depressive symptoms and life satisfaction. I hypothesised that high levels of self-compassion would be associated with a more balanced time perspective, high optimism, and high savouring-anticipating which, in turn, would be associated with high levels of life satisfaction and low levels of depressive symptoms.

2. Method

2.1. Participants

Mainly mature-aged undergraduate psychology students took part in return for course credits. The sample comprised 157 participants (84.1% female) aged between 18 and 67 years (M = 33.21, SD = 11.32, Median = 32.00).

2.2. Measures

2.2.1. Self-compassion

The 26-item Self-Compassion Scale (SCS; Neff, 2003a) was used to measure self-compassion. Participants indicated agreement with statements describing responses to difficult experiences on a scale from 1) almost never to 5) almost always. SCS total scores were calculated by averaging all items after reverse-scoring negative items. The SCS exhibited high internal consistency in the current dataset (α = 0.95).

2.2.2. Life satisfaction

The Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was used to assess participants’ agreement with five evaluative statements on a scale from 1) strongly disagree to 7) strongly agree. Variable scores were calculated by summing items. The SWLS demonstrated high reliability (α = 0.88).

2.2.3. Depressive symptoms

Current depressive symptoms were assessed by the seven item depression subscale of the Depression and Anxiety Stress Scales (DASS-D; Lovibond & Lovibond, 1995). Participants rated how often they generally experience each of seven depressive symptoms. Variable scores were calculated by summing items. The DASS-D demonstrated high internal consistency in the current dataset (α = 0.92).

2.2.4. Balanced time perspective

Deviation from the Balanced Time Perspective (DBTP; Stolarski, Bitter, & Zimbardo, 2011) indicated balanced time perspective, where lower scores indicate greater balance. DBTP was calculated from past-positive, past-negative, present-hedonistic, present-fatalistic, and future positive items of the short form Zimbardo Time Perspective Inventory (ZPTI-Short; Košťál, Klicperová-Baker, Lukavská, & Lukavský, 2015). Participants rated “How true is this of me?” in response to items on a scale from 1) very untrue to 5) very true. Stolarski et al.’s DBTP formula and cut-offs were used to calculate DBTP.

2.2.5. Optimism

The Life Orientation Test-Revised (LOT-R; Scheier, Carver, & Bridges, 1994) comprises 10 statements that assess expectations of favourable future outcomes. Participants indicated their agreement with each statement on a scale from 0) strongly disagree to 4) strongly agree. Total scores were calculated by averaging all items after reverse-scoring negatively-worded items. The LOT-R was reliable in this dataset (α = 0.83).
2.2.6. Savouring-anticipating

The 8-item Anticipating subscale of the Savouring Beliefs Inventory (SAV-ANT; Bryant, 2003) presents statements about pleasure from anticipating future life experiences. Participants indicated how well each statement describes them on a scale ranging from 1) strongly disagree to 7) strongly agree. Total scores were calculated by averaging item scores after reverse-scoring negatively worded items. Internal consistency was high in the current dataset (α = 0.84).

2.3. Procedure

A link to a Qualtrics™ (2017) online survey was provided on first year psychology learning platforms. Participants first indicated their informed consent, answered demographics questions, and completed the SCS, SAV-ANT, LOT-R, DBTP, SWLS, and DASS-D measures were then presented in randomised order by the Qualtrics program.

2.4. Statistical methods

Two multiple-mediation regression analyses were conducted in PROCESS (Hayes, 2016) to investigate the effect of self-compassion on two well-being outcomes (DASS-D and SWLS) via three indicators of future-outlook (DBTP, LOT-R, and SAV-ANT). Age was entered as a covariate in both models. All significance tests were conducted using standard errors based on 5000 bootstrapped samples to generate bias corrected confidence intervals for the estimated population distribution. The analyses were rerun using standardised variables to generate standardised beta coefficients, which are reported on Figs. 1 and 2.

3. Results

One multivariate outlier was deleted because its presence influenced the results of the analyses. One missing value on SWLS and one missing value on SAV-ANT were imputed using expectation maximisation. Three low-scoring univariate outliers on LOT-R were recoded to one point beyond the next lowest value in the distribution (Field, 2013). Transformations were applied to SAV-ANT (square root) and DASS-D (logarithmic) to reduce negative and positive skew, respectively, which enabled the normality of residuals assumption to be met. All other assumptions of multiple regression were met. Further, Harman’s (1960) single factor test indicated that common method variance was not a pervasive issue in the dataset, with multiple factors emerging from a principal components analysis of all items of all measures, and the first factor explaining under half (32.4%) of the variance among the study measures.

As shown in Table 1, strong bivariate correlations were evident in the dataset. A very large bivariate correlation between SCS and LOT-R led me to investigate their independence. Shiu, Pervan, Bove, and Beatty (2011) noted that a large correlation between independent and mediator variables is desirable providing the correlation does not approach unity. Following Shiu and colleagues’ recommendations, I determined whether the correlation approached unity by conducting a confirmatory factor analysis in AMOS which assessed SCS and LOT-R as correlated latent variables, with the six SCS subscales loading on the SCS factor and two parcels containing LOT-R items loading on the LOT-R factor. The difference in chi-square value between the unconstrained model and a model with the correlation between the two latent variables constrained to unity was significant, $\chi^2(1) = 47.1, p < .05$, indicating that the two variables represented distinct constructs.

Table 1 also shows that participants reported moderate levels of self-compassion that resembled previously observed levels of self-compassion in undergraduate samples (Neff, 2003a). Cut-offs reported by Diener, Oishi, and Lucas (2009) indicated that 32.1% of participants were highly satisfied with their lives, 34.6% reported feeling neutral or somewhat satisfied, 19.9% were slightly dissatisfied, and 13.4% reported dissatisfaction. Norms provided by Lovibond and Lovibond (1995) indicated that 56.7% of participants had normal levels of depressive symptoms, 12.1% had levels consistent with mild depression, 16.6% moderate depression, 8.9% severe depression, and 5.7% extremely severe depression.

3.1. Multiple mediation models

3.1.1. Depressive symptoms

SCS explained significant amounts of variance in DBTP (31.1%), LOT-R (64.6%), and SAV-ANT (17.9%), and the overall model explained 61.2% of the variance in DASS-D, $F(5,151) = 47.67, p < .001$. As shown in Fig. 1, the total effect of SCS on DASS-D revealed that high levels of self-compassion predicted low levels of depressive symptoms. High levels of SCS were associated with low DBTP, high LOT-R, and high SAV-ANT and, in turn, low levels of SAV-ANT and high levels of DBTP were associated with high DASS-D. LOT-R was not associated with DASS-D.

The total indirect effect of SCS on DASS-D through the three future-outlook variables was negative and significant. However, indirect effects via each future-outlook variable revealed that the pathways through DBTP and SAV-ANT were significant but the indirect effect through LOT-R was not (See Table 2). The indirect effect of DBTP explained 55.9% of the total effect of SCS on DASS-D, and SAV-ANT explained 18.4%. The direct effect of SCS on DASS-D weakened but remained significant after DBTP, LOT-R, and SAV-ANT were added to the model.

3.1.2. Life satisfaction

The overall model explained 50.4% of the variance in SWLS, $F(5,151) = 30.68, p < .001$. As shown in Fig. 2, the total effect of SCS on SWLS indicated that high levels of self-compassion predicted high levels of life satisfaction. Low levels of DBTP and high levels of SAV-ANT were associated with high SWLS, but LOT-R was not a significant predictor. The total indirect effect of SCS on SWLS through the three future-outlook variables was positive and significant. Like the DASS-D analysis, the indirect effects through DBTP and SAV-ANT were significant but the indirect effect through LOT-R was not. The indirect effect of DBTP explained 31.2% of the total effect of SCS on SWLS, and SAV-ANT explained 8.8%. The direct effect of SCS on SWLS weakened but remained significant after DBTP, LOT-R, and SAV-ANT were added to the model.

4. Discussion

Although the positive effects of self-compassion on depressive symptoms and life satisfaction are well established, identification of possible mechanisms that underlie these relationships has only just begun (Arimitsu & Hofmann, 2015; Diedrich et al., 2017; Johnson & O’Brien, 2013; Krieger et al., 2013; Raes, 2010; Wadsworth et al., 2018; Zhou et al., 2013). This study employed multiple mediation models to investigate whether three indicators of future-outlook mediate self-compassion’s predictive relationships with depressive symptoms and life satisfaction. As hypothesised, after controlling for age, balanced time perspective and savouring-anticipating mediated both relationships. Self-compassion was associated with a well-balanced time perspective (indicated by low DBTP scores) and high savouring-anticipating which, in turn, were associated with high life satisfaction and low depressive symptoms. Contrary to hypothesis, optimism did not mediate either relationship. Self-compassion’s direct effect on depressive symptoms and life satisfaction decreased but remained significant after the three future-outlook variables were added to the model.

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1 Optimism partially mediated relationships between self-compassion and both well-being variables when tested as the sole mediator (when the other future-outlook variables were removed from the models).
A mediating role for balanced time perspective is consistent with previous research linking a finely balanced time perspective with high self-compassion, low depressive symptoms, and high life satisfaction (Mooney et al., 2017; Phillips, 2018; Stolarski et al., 2016). Self-compassion’s association with balanced time perspective may reflect an ability to accept episodes of suffering without suppression, exaggeration, or overidentification (Neff, 2003b) and a consequent reduced focus on past negative time perspective. Indeed, I recently found that, among participants with low trait self-compassion, those who completed a self-compassion induction reported less focus on past negative than control participants (Phillips, 2018). Also, the self-kindness component of self-compassion may increase future time perspective by encouraging individuals to take actions to protect themselves from future aversive situations (Neff, 2003b). In particular, the mindfulness

Table 1
Correlations, means, and standard deviations.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>33.21</td>
<td>11.32</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Gender</td>
<td>1.84</td>
<td>.37</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>3. SCS</td>
<td>2.83</td>
<td>.73</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>4. DBTP</td>
<td>2.49</td>
<td>.96</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>5. LOT-R</td>
<td>2.27</td>
<td>.64</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>6. SAV-ANT</td>
<td>5.18</td>
<td>.99</td>
<td></td>
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<tr>
<td>7. DASS-D</td>
<td>5.00</td>
<td>4.72</td>
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<tr>
<td>8. SWLS</td>
<td>21.83</td>
<td>6.61</td>
<td></td>
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</tbody>
</table>

Notes: N = 157. Gender, Male = 1, Female = 2. SCS, self-compassion; DBTP, deviation from balanced time perspective (low scores = greater balance); LOT-R, optimism; SAV-ANT, savouring-anticipating; DASS-D, depression; SWLS, life satisfaction.

Table 2
Standardised indirect effects of self-compassion on life satisfaction and depression.

<table>
<thead>
<tr>
<th></th>
<th>Life satisfaction</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boot LLCI</td>
<td>Boot ULCI</td>
</tr>
<tr>
<td>Total indirect</td>
<td>.32</td>
<td>.17</td>
</tr>
<tr>
<td>DBTP</td>
<td>.18</td>
<td>.08</td>
</tr>
<tr>
<td>LOT-R</td>
<td>.09</td>
<td>-.07</td>
</tr>
<tr>
<td>SAV-ANT</td>
<td>.05</td>
<td>-.02</td>
</tr>
</tbody>
</table>

Notes: N = 157. Both models controlled for the effects of age. Significant effects are indicated in bold.
component of self-compassion may promote balanced time perspective by increasing psychological flexibility (Fledderus, Bohlmeijer, Smit, & Westerhof, 2010) and cognitive-control (Elkins-Brown, Teper, & Inzlicht, 2017), and integrating past and present experiences into meaningful patterns that guide future endeavours (Dreyfus, 2011). According to Zimbardo and Boyd (2008), a balanced temporal profile makes the adaptive time perspectives more accessible than the maladaptive perspectives. This increased accessibility allows an individual to primarily focus on happy memories, enjoying the moment, and envisaging positive future experiences, which is likely to promote high life satisfaction and low depression.

Self-compassion’s ability to foster self-efficacy and adaptive coping strategies (Neff et al., 2005; Smeets et al., 2014) may encourage individuals to form positive beliefs about their ability to create a desirable future. This notion is supported by significant correlations between self-compassion and optimism in the current dataset and previous studies (Neff et al., 2007; Neff & Vonk, 2009; Phillips, 2018). However, the ability to experience pleasure from anticipating future positive events (savouring-anticipating) mediated self-compassion’s relationships with life satisfaction and depressive symptoms, whereas simply expecting positive outcomes (optimism) did not.

The identification of savouring-anticipating as a mediator is consistent with previous research linking savouring with self-compassion, life satisfaction, and depressive symptoms (Ford et al., 2017; Hurley & Kwon, 2012; Phillips, 2018; Smith & Hollinger-Smith, 2015; Weyten et al., 2014). In line with the Broaden and Build Theory (Fredrickson, 2001), passion may also in
terposing us to enjoy and engage with new experiences. Self-com
passion makes the adaptive time perspectives more accessible than the mal-
adaptive perspectives. This increased accessibility allows an individual
to primarily focus on happy memories, enjoying the moment, and envis-
aging positive future experiences, which is likely to promote high life
satisfaction and low depression.

The failure of optimism to mediate the two assessed relationships
depicts several previous findings, including increased optimism following a self-compassion intervention (Smeets et al., 2014) and increased life satisfaction (Peters et al., 2013) and decreased depressive symptoms (Shapira & Mongrain, 2010) following optimism interventions. Although optimism displayed strong bivariate relationships with the two well-being outcomes in the current dataset, it conveyed non-
significant weak effects when tested as one of three parallel mediators. Notably, optimism did mediate both relationships when tested as a sole mediator in post-hoc analyses. These results suggest that the effect of optimism on the well-being outcomes was attenuated by the effects of self-compassion, balanced time perspective, and/or savouring-anticipating – possibly due to high intercorrelations. Further research is needed to investigate interrelationships between these variables.

4.1. Limitations

Several limitations should be considered when interpreting this study’s results. First, the use of a predominantly female undergraduate sample limits generalizability of its findings to other populations. Second, the cross-sectional nature of the mediation analyses precludes the drawing of causal inferences. Future experimental and longitudinal research should be conducted to determine whether causation may be inferred from the examined mediation models. Finally, this study ex-
named only three indicators of future-outlook. Other future-outlook constructs may also mediate self-compassion’s associations with depressive symptoms and life satisfaction.

4.2. Conclusion

This study’s results extend current knowledge of mechanisms underly
ing self-compassion’s relationships with depressive symptoms and life satisfaction, by identifying balanced time perspective and savouring-anticipating as mediators. Experimental and longitudinal support for the observed indirect effects is needed. However, the current findings suggest that fostering self-compassion through interventions may facilitate increased life satisfaction and decreased depressive symptoms either directly or indirectly, by improving an individual’s future-outlook. The indirect pathways suggest that self-compassion interventions may be particularly promising for depressed individuals who typically find it difficult to envisage and anticipate a future.

References


