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## Self-compassion protects against the negative effects of low self-esteem: A longitudinal study in a large adolescent sample



Sarah L. Marshall<sup>a,\*</sup>, Phillip D. Parker<sup>b</sup>, Joseph Ciarrochi<sup>b</sup>, Baljinder Sahdra<sup>b</sup>, Chris J. Jackson<sup>c</sup>, Patrick C.L. Heaven<sup>d</sup>

<sup>a</sup>School of Social Sciences and Psychology, University of Western Sydney and Institute for Positive Psychology and Education, Australian Catholic University, Australia

<sup>b</sup>Institute for Positive Psychology and Education, Australian Catholic University, Australia

<sup>c</sup>School of Management, University of New South Wales, Australia

<sup>d</sup>Australian Catholic University, Australia

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### ABSTRACT

Low self-esteem is usually linked to negative outcomes such as poor mental health, but is this always the case? Based on a contextual behavioural model, we reasoned that self-compassion would weaken the link between low self-esteem and low mental health. Self-compassion involves accepting self-doubt, negative self-evaluations and adversity as part of the human condition. In a longitudinal study of 2448 Australian adolescents, we assessed how self-esteem interacted with self-compassion in Grade 9 to predict changes in mental health over the next year. As hypothesized, self-compassion moderated the influence of self-esteem on mental health. Amongst those high in self-compassion, low self-esteem had little effect on mental health, suggesting a potentially potent buffering affect. We discuss the possibility that fostering self-compassion among adolescents can reduce their need for self-esteem in situations that elicit self-doubt.

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### 1. Introduction

*"If you want others to be happy, practice compassion. If you want to be happy, practice compassion" (Dalia Lama XIV, The Art of Happiness).*

Low self-esteem during adolescence predicts poorer mental health outcomes (Orth, Robins, & Meier, 2009; Orth, Robins, & Roberts, 2008), future suicide attempts (Lewinsohn, Rohde, & Seeley, 1994; Wichstrøm, 2000), and failure to develop positive social support networks (Marshall, Parker, Ciarrochi, & Heaven, 2014). Historically, practitioners working with young people with low self-esteem seek to increase their self-esteem through interventions (Neff, 2009). However, direct attempts to boost self-esteem may lead to young people becoming more narcissistic or antisocial (Baumeister, Smart, & Boden, 1996) and may lead young people to cling to positive self-concepts and avoid challenging learning opportunities that might threaten that concept (Dweck, Chiu, & Hong, 1995; Mueller & Dweck, 1998). An alternative approach is

to boost self-compassion which may help young people respond effectively to situations that evoke low self-esteem (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, 2003b).

A great deal of research has examined interventions that attempt to directly increase self-esteem in different domains (O'Mara, Marsh, Craven, & Debus, 2006). The core logic of these interventions is that low self-esteem can become a self-fulfilling prophecy, leading young people to act in negative, unhelpful ways. In other words, low self-esteem is viewed as a cause of problems. Recently, theorists in mindfulness and contextualist traditions have begun to challenge this view (Ciarrochi & Bailey, 2008; Hayes, Strosahl, & Wilson, 2011). Low self-esteem is not seen as inherently causal. Rather, the effect of low self-esteem on outcomes is hypothesized to depend on context.

#### 1.1. A contextual model: different ways of approaching difficult thoughts

Consider the thought, "I am worthless." In one context, young people are encouraged to take such self-evaluations seriously by, for example, being taught that they need high self-esteem to succeed and that low self-esteem is bad for them. Imagine this context also encourages young people to be intolerant of their flaws (e.g.,

\* Corresponding author. Present address: Institute for Positive Psychology and Education, Australian Catholic University, Strathfield Campus, Locked Bag 2002, Strathfield, NSW 2135, Australia.

E-mail address: [sarah.marshall@acu.edu.au](mailto:sarah.marshall@acu.edu.au) (S.L. Marshall).

“You always have to be the best you can be.”) This is a situation where we would expect thoughts like “I am worthless” to play a strong role in behaviour and to lead to the development of poor mental health. In contrast, consider a compassionate context: The young person is taught that every human is imperfect and feels inadequate sometimes and that, when going through a hard time, everybody can treat themselves with kindness, patience, and forgiveness. In this context, the thought “I am worthless” might have few long-term effects on mental health.

The predictions made here can be understood more formally in terms of Relational Frame Theory (RFT), a modern behavioural account of human language (Hayes, Barnes-Holmes, & Roche, 2001; Törneke, 2010). Figure 1 presents a graphical image of the theory. RFT suggests that low self-esteem beliefs like “I am worthless” are cognitive events under two types of contextual influence: the relational context and the functional context. The relational context governs which relation is established between stimuli in a given moment (“I” and “worthless” are put into a relation of equivalence) while the functional context influences the impact of these words on future behaviour (e.g., “I am worthless” leads to high distress and social withdrawal).

A number of functional contexts are hypothesized to increase the impact of cognitive events on behaviour, including contexts that reinforce seeing thoughts as reasons for doing things or not doing things, taking thoughts literally, clinging to thoughts, or avoiding them. These social/verbal contexts increase the impact of negative thoughts because, in such contexts, the individual and/or the social community treat these thoughts as meaning literally what they say. These are represented in the top part of Fig. 1. If thoughts are taken to be infallible representations of reality (context of literality), they tend to have high impact on behaviour and distress.

Examples of contexts that reduce the impact of cognitive events on behaviour include mindfully seeing them as an ongoing process, accepting thoughts as thoughts, for instance, by noticing how one’s body reacts to them; or watching thoughts from a psychologically distant perspective (Kross & Ayduk, 2008); adding paralinguistic or other features that reduce their impact such as singing them, saying them in a silly voice, or repeating them aloud (Masuda, Hayes, Sackett, & Twohig, 2004); or using nonattachment practices that allow release from the tendency to reify personal beliefs as infallible reflections of a fixed, knowable reality (Sahdra, Shaver, & Brown, 2010). These social/verbal contexts decrease the impact of negative thoughts because they are the ones in which the individual and/or the social community treats thoughts as objects of

curiosity without assuming they literally mean what they say. These contexts are represented in the bottom part of Fig. 1. If thoughts are not taken to be infallible representations of reality, they have low impact on behaviour and distress.

These ideas have been most extensively tested in studies examining different components of Acceptance and Commitment Therapy (ACT: Hayes et al., 2011). Levin, Hildebrandt, Lillis, and Hayes (2012) reviewed 66 such studies and showed consistent support for this theory. For example, a study by Masuda et al. (2004) found that repeating a negative self-evaluation aloud for 30 s greatly reduced its believability and distressful impact – a finding that has been repeatedly replicated (e.g., Masuda, Feinstein, Wendell, & Sheehan, 2010; Masuda, Twohig, et al., 2010). Similarly a study by Marcks and Woods (2005) found that those who seek to suppress intrusive thoughts are more distressed by them relative to those who accept the intrusive thoughts.

Past theory indicates that self-compassion has clear conceptual overlap with mindfulness and acceptance (e.g., Neff, 2003a). Based on our theoretical discussion above and related empirical studies, it logically follows that low self-esteem will have different associations with mental health in the two contexts of high and low self-compassion.

## 1.2. The compassionate context

Neff defined self-compassion as comprising three key components exhibited during times of personal suffering and failure: (1) treating oneself kindly, (2) recognising one’s struggles as part of the shared human experience, and (3) holding one’s painful thoughts and feelings in mindful awareness (Neff, 2003b, 2009). Self-compassion can be distinguished from self-esteem in that it provides a safe and caring context whereby one can connect with the negative aspects of self (Breines & Chen, 2012) without engaging in suppression or exaggeration of these feelings (Neff, Kirkpatrick, & Rude, 2007).

Theoretically, what is important from a self-compassionate perspective is not the negativity of the thoughts, but rather how one chooses to respond to those thoughts when they arise. For example, it is entirely possible to decide to act kindly towards oneself even in the presence of unfavourable thoughts. Indeed recent research (described below) supports suggestions that people high in self-compassion may be less likely to fuse, or become entangled with negative self-concepts.

Leary et al. (2007) undertook a series of experiments to examine the cognitive and emotional processes by which self-compassionate people deal with negative life events. They found that self-compassion acted as a buffer against negative emotions when people engaged in an interpersonal event involving unfavourable self-evaluation. This finding was particularly notable for participants low in self-esteem. They also found that self-compassion allowed individuals to acknowledge their personal role in negative events, whilst maintaining a broader perspective on negative self-concepts. Importantly, self-compassionate people appeared able to take an accepting and open stance to undesirable aspects of self, without becoming caught up in negative thoughts and defensive behaviour (Leary et al., 2007).

Breines and Chen (2012) conducted four experiments that examined how self-compassion moderates peoples’ response to a variety of negative, ego-threatening situations. They found that experimentally induced self-compassion increased the belief that shortcomings can be changed, the desire to make amends and avoid repeating a moral transgression, effort in studying for a test following failure, and motivation to improve a personal weakness. Thus, in the context of self-compassion, negative events were associated with positive response. A similar effect has also been demonstrated in a clinical trial. Luoma, Kohlenberg, Hayes, and

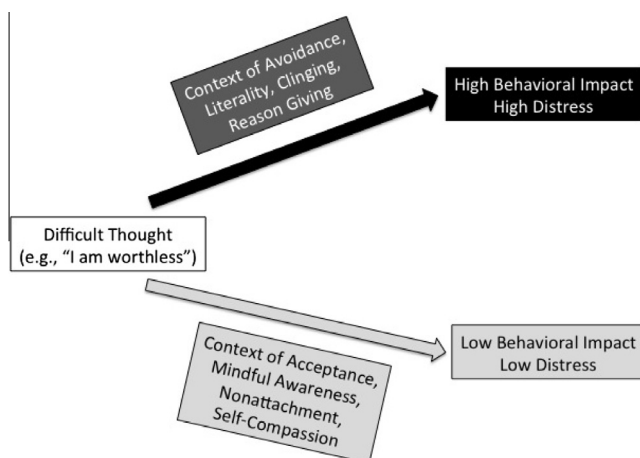


Fig. 1. A contextual model of different ways of relating to difficult thoughts.

Fletcher (2012) compared ACT to treatment as usual (TAU) in reducing substance use. Similar to self-compassion interventions, ACT seeks to promote a kind acceptance of difficult inner experiences such as shame. The study found that the ACT group, compared to the TAU group, initially showed higher levels of shame during active treatment, but better long-term outcomes in reduced substance use. ACT appeared to allow the clients to more fully experience and process shame and this resulted in better outcomes.

It is clear from the above review that self-compassion can potentially protect people from the harmful effects of negative life events and ego-threats. We sought to extend these adult findings to adolescents and, in particular, to examine the extent that self-compassion could lessen or even negate the influence of low self-esteem on the development of poor mental health (Gilbert, 2010; Neff, 2003b). The young person high in self-compassion is expected to react to adversity and negative self-evaluations with self-kindness and a recognition that these negative evaluations are a normal part of being human (Neff, 2003a). A recent meta-analysis found a strong link between self-compassion and mental health indicators (MacBeth & Gumley, 2012). Self-compassion also predicts unique variance in mental health, after controlling for global self-esteem (Neff, 2003a). However, studies including both self-esteem and self-compassion as predictors of mental illness are limited (Neff, 2003a), and longitudinal designs with these variables are non-existent.

The present study is the first to examine self-esteem, self-compassion and their interaction as predictors of changing mental health in young people. In line with theory, we hypothesized that self-compassion moderates the link between self-esteem and mental health, with a weaker link being observed amongst those high in self-compassion.

## 2. Method

### 2.1. Participants

Over two years, 2448 adolescents in Grades 9 and 10 participated in at least one wave of data collection ( $M = 14.65$  years;  $SD = .45$ ; 49.6% female; 50.4% male). The sample consisted of participants from the Australian Character Study who attended 17 Catholic High schools in two states of Australia. Catholic Schools in Australia account for 20.52% of secondary schools (Australian Bureau of Statistics, 2012). The two diocese were concentrated in the city of Wollongong (New South Wales) and Cairns (Queensland), but also included schools within regional and rural areas, thereby ensuring a diverse socioeconomic and cultural mix of participants. Concerning marital status, in Grade 9 75.7% of the parents were married, 18.5% were separated or divorced, and 5.8% were classified as “other”. The vast majority of participants classified themselves as “Caucasian Australian” (63.3%) or European (13.7%), with the next most frequent categories being “other” (11.9%), aboriginal (3.4%) or New Zealander (1.6%). Ethics approval was granted by the University and informed consent was obtained from study participants.

The data for this study had a nested structure with students nested within the 17 schools. Our research hypotheses were not focused on multi-level hypotheses (e.g., interest in both student and school). There was little evidence for clustering of the variables within schools, with the interclass correlations for all study variables below .04. However even when interest is at a single level, failure to account for the nested structure can result in underestimated standard errors and too liberal tests of statistical significance (see Hox, 2010 for a general introduction). To control for this we used a sandwich estimator in Mplus via the

TYPE = COMPLEX command. This sandwich estimator adjusts standard errors for the effects of clustered data and provides more appropriate tests of statistical significance.

### 2.2. Measures

Self-esteem and self-compassion were measured in Grade 9 and mental health was measured in both 9 and 10. In all models self-esteem items were treated as binary and estimated using a probit link function. All other items were treated as continuous and estimated using a Gaussian link function. For such items we explored their distribution and in all cases skewness and kurtosis were small and well within acceptable levels:

- (1) *Self-esteem* ( $\alpha = .86$ ) was measured using the Rosenberg 10-item scale (RSE; Rosenberg, 1979) utilising a binary response style (“yes” or “no”).
- (2) *Self-compassion* ( $\alpha = .75$ ) was measured using the 12-item short form of the Self-Compassion Scale (SCS-SF; Raes, Pommier, Neff, & Van Gucht, 2011) utilising a 5-point Likert style (1 = “almost never” to 5 = “almost always”).
- (3) *Mental health* ( $\alpha_{T1} = .90$ ;  $\alpha_{T2} = .90$ ) was measured using the 12-item General Health Questionnaire (GHQ-12, Goldberg et al., 1997), utilising a 5-point scale (1 = “Almost never” to 5 = “Almost always”).

### 2.3. Statistical analysis

Structural equation modelling was used to form latent variables from scale items, and predict Grade 10 mental health, using Grade 9 mental health and interactions between adolescents’ self-compassion and self-esteem. Controlling for Grade 9 mental health meant that self-compassion and self-esteem predicted residual change in mental health from Grade 9 to 10. For the self-esteem items we used a probit link function to account for the binary response scale of the self-esteem items and a Gaussian link function or all other items. In order to provide estimates of fit (e.g., CFI, RMSEA, TLI) we used multivariate weighted least squares in models without the latent interaction. To estimate the latent interaction, however, we had to switch to robust maximum likelihood estimation. Both estimators give similar results and the point estimates for the model without the latent interaction were almost identical under either estimator.

#### 2.3.1. Latent interactions

The interaction between self-esteem and self-compassion in predicting change in mental ill-health in adolescence over a one year period was estimated using the LMS approach (Klein & Mossbrugger, 2000). The use of LMS precludes the use of fit indices, hence we report fit based on the models without the interaction term. Unlike the unconstrained approach, however, LMS approach as implemented in Mplus allows for relatively straightforward estimation of complex interactions, including the three way interaction between the two latent variables of self-esteem and self-compassion and gender reported in this paper. Furthermore, LMS can be implemented where measurement structures are complex, as in the present context in which the interaction was between latent variables consisting of continuous (in the case of self-compassion) and binary (in the case of self-esteem) indicators. Standardized effects were calculated by the formulas provided by Muthén (2012).

#### 2.3.2. Missing data and complex survey design

Given that this was a longitudinal study, missing data is a potential concern. Indeed, 35.7% of the sample completed only Grade 9 or Grade 10 in this study. In situations such as the present,

**Table 1**  
Factor correlations, means, and standard deviations.

	T1 self-compassion	T1 self-esteem	T1 mental health	T2 mental health
T1 self-compassion	1			
T1 self-esteem	-.44	1		
T1 mental health	.39	.53	1	
T2 mental health	.25	.35	.40	1
Means	3.05	.66	3.04	3.02
SD	.56	.28	.57	.55

it is now well recognized in the social sciences that traditional approaches to missing data (e.g., listwise or pairwise deletion) are inappropriate and can lead to biased parameter estimates. Modern methods like full-information-maximum-likelihood (FIML) provide a principled approach to missing data which uses all the available information for parameter estimation (Enders, 2010). This procedure was employed for all models.

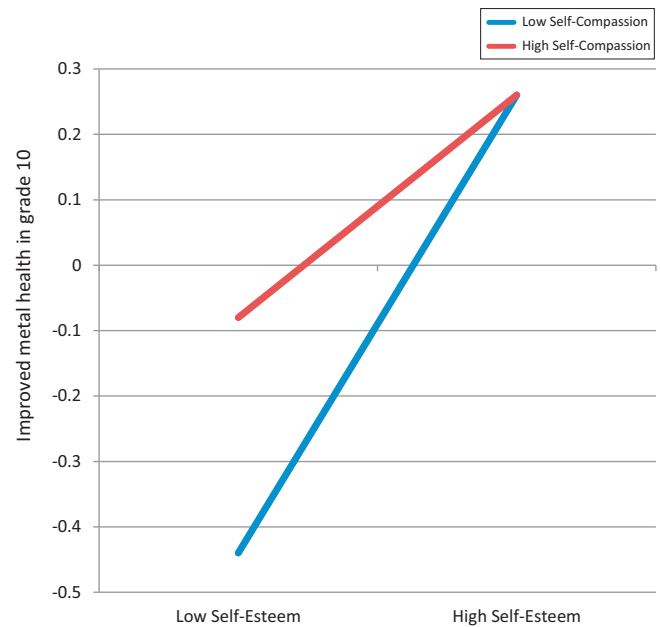
### 3. Results

Given that all of the constructs considered in this analyses were assessed by way of self-reports, we considered the possible effect of shared method variance on the results. It should be noted that self-reports have been identified as the most adequate source of information regarding emotional states, such as those considered in the present study (e.g., Ilies, Fulmer, Spitzmuller, & Johnson, 2009). To ensure common method variance did not play a role, we estimated a full measurement model including an additional orthogonal latent method factor related to all items (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The fit of this model, which included longitudinal measurement invariance for mental health, was acceptable:  $\chi^2(1025) = 1458$ , CFI = .97, TLI = .97, RMSEA = .01.<sup>1</sup> The variance explained by this self-report method factor only accounted for an average of 16.2% of the total variance in the items, which suggests little bias was likely due to method variance (Lance, Dawson, Birkelbach, & Hoffman, 2010; Podsakoff et al., 2003; Williams, Cote, & Buckley, 1989). Although common method bias was likely to be small, all models controlled for the common method factor.

Table 1 provides latent correlations, means and standard deviations. Importantly, the clear evidence in favor of the fit of the measurement model and the relatively modest latent correlations provide strong support for the hypothesized measurement structure that implies self-esteem, self-compassion, and mental health all measure related but distinct constructs.

We next tested the hypothesized model without the interaction between self-esteem and self-compassion. In addition, this model included the regression of T1 mental health, self-compassion, and self-esteem main effects on T2 mental health. The SEM analyses revealed significant main effects for T1 mental health ( $\beta = .30$ , SE = .04,  $p < .001$ ), and self-esteem ( $\beta = .18$ , SE = .04,  $p < .001$ ), and a marginal main effect for self-compassion ( $\beta = .07$ , SE = .04,  $p = .09$ ).

<sup>1</sup> Note that the fit of this model was similar to that of a model in which item loadings onto mental health at T1 and T2 were free to vary:  $\chi^2(1014) = 1452$ , CFI = .97, TLI = .97, RMSEA = .01  $\Delta\chi^2(11) = 6$ ,  $p = .87$ . We relied on the criteria by Cheung and Rensvold (2002) who suggest invariance between nested models if CFI is  $\leq .01$  (we utilized the same criteria for the TLI) and the criteria described by Chen (2007) who suggest invariance between nested models if RMSEA is  $\leq .015$ . This suggests that longitudinal measurement invariance was a viable assumption. We also tested measurement invariance across gender for self-esteem, self-compassion, and mental health; all of which models suggested invariance using the criteria above.



**Fig. 2.** Latent interaction of self-esteem and self-compassion in Grade 9 predicting residual change in mental health in Grade 10.

We then refitted the model including the latent interaction. Consistent with our hypothesis, there were significant and independent main effects of self-esteem ( $\beta = .27$ , SE = .04,  $p < .001$ ) and self-compassion ( $\beta = .09$ , SE = .04,  $p < .05$ ). Importantly, these effects were qualified by a significant interaction ( $\beta = -.09$ , SE = .04,  $p < .01$ ). As illustrated in Fig. 2, those low in self-compassion ( $-1$  SD) showed a stronger relationship between self-esteem and mental health than those high in self-compassion. We reran the model controlling for measures of socioeconomic status (mother's and father's employment), marital status of parents, and gender. Included in this model was a three-way interaction between self-compassion, self-esteem, and gender. These background variables did have a significant effect on mental health ( $\chi^2[17] = 203$ ,  $p < .001$ ), however, follow-up tests suggested this was due to significant differences in mental health across gender ( $b = .243$ ,  $p < .001$ ; Boys were approximately half a point higher on mental health than girls). Despite this significant difference, the two-way interaction between self-compassion and self-esteem remained significant ( $b = .18$ ,  $p < .001$ ). The three-way interaction between self-compassion, self-esteem, and gender was not significant ( $b = .02$ ,  $p = .54$ ).

### 4. Discussion

Self-compassion and self-esteem had independent longitudinal effects on changing mental health, which replicates and extends previous cross-sectional findings (Neff, 2003a). We found support for our hypothesis that the longitudinal effect of self-esteem depended on self-compassion. Both people high and low in self-compassion benefited from having high self-esteem, with high self-esteem predicting improvements in mental health a year later. The effect of self-compassion was only observed amongst those experiencing low self-esteem: Amongst those high in self-compassion, low self-esteem had little influence on their future mental health, but amongst those low in self-compassion, low self-esteem predicted significant drops in mental health.

Our results are consistent with the central idea that self-compassionate adolescents forgive personal failings and recognize the failings as normal. When experiencing thoughts such as “what is

wrong with me," the self-compassionate adolescents are expected to treat themselves kindly through accepting imperfection instead of ruminating about it or treating themselves harshly. Our data supports suggestions that self-compassion protects against negative self-judgements (Kuyken et al., 2010; Leary et al., 2007; Neff & Vonk, 2009), facilitating processes such as growth and acceptance focused coping (Neff, Hsieh, & Dejitterat, 2005).

The present study focused on a one-year time lag, from Grade 9 to 10. Future research is needed to examine these effects in different age groups and different time lags. For example, a diary study could be used to examine the influence of daily self-esteem and self-compassion on future well-being. The effects observed here might be even stronger at shorter time lags but might fade in the long run. Alternatively, the effects might be weaker at first but may gain momentum with time as adolescents mature in their capacity to self-reflect. Also, using a diary study would allow researchers to more clearly tie self-esteem and self-compassion to contextual factors such as joyful or stressful life events. It might also be worthwhile to explore the development of self-esteem, self-compassion, and mental health over an entire developmental period from early childhood to later adulthood. This would allow researchers to identify potential critical periods when self-compassion may be especially important for mental health, for example, during major life transitions.

Future self-compassion intervention research with adolescence seems also justified. Past research demonstrates self-compassion can be cultivated among adults (Adams & Leary, 2007; Birnie, Specia, & Carlson, 2010; Kuyken et al., 2010; Neff & Germer, 2012). However, past studies among adolescents have focused on clinical populations (Reddy et al., 2012). The present study suggests that self-compassion might have benefits for a general adolescent population, highlighting the need for further intervention research.

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