# Self-compassion mediates the link between dependency and depressive symptomatology in college students

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## Abstract

Depression is highly prevalent among college students and is associated with significant morbidity and mortality. Dependency is among the known personality traits that predict an elevated risk for depression. Prior research has focused on the depressogenic role of self-critical thoughts among destructive overdependent (DO) individuals but has not considered other internal processes (such as self-compassion) that might influence mental health. The current report examined whether self-compassion had either moderating or mediating effects on the links between dependency and depression in college students. In a cross-sectional study, 85 college students completed measures of dependency, self-compassion, and depressive symptoms. Analyses suggested that self-compassion mediated both the effect of DO on depressive symptoms and the effect of healthy dependency (HD) on lower depressive symptoms; self-compassion did not moderate links between dependency and depressive symptoms. Our exploratory findings suggest that positive self-schema (in the form of self-compassion) may contribute to the downstream mental health effects of both adaptive HD and maladaptive DO.

## Keywords

Dependency; self-compassion; personality; depression; mediation

Depression is a disabling and commonly encountered mental health disorder among college students that is associated with substantial social and functional impairment, as well as increased mortality and morbidity (Üstün, Ayuso-Mateos, Chatterji, Mathers, & Murray, 2004). A 2012 review found that the prevalence of depression in this population was 30.6%, or nearly one in three students (Ibrahim, Kelly, Adams, & Glazebrook, 2013), twice as high as the 16.9% prevalence in the general US population (Kessler & Bromet, 2013). Thus,

understanding risk and protective factors for depression among this vulnerable population is a public health priority.

Several lines of research have identified personality factors that may increase vulnerability to depression. Intrapersonal qualities including self-critical thoughts, as well as traits such as neuroticism, predict greater vulnerability (see Klein, Kotov, & Bufferd, 2011 for a review) and may offer insight into targets for treatment and prevention strategies. Equally, destructive overdependence (DO), defined as a needy, helpless interpersonal style characterized by overreliance on others even in situations where autonomous functioning is warranted, has also been linked with greater risk (Bornstein, 2005). Studies have found that depression is positively associated with DO (Bornstein, 2005) and that this type of dependency is also associated with more frequent self-critical thoughts (Blatt, 2004; Blatt & Zuroff, 1992).

However, styles of dependency functioning are not unilaterally adaptive or maladaptive but, rather, involve a complex mixture of risk and protective factors (Bornstein, 1994, 1998, 2011). Across contexts, healthy dependency (HD) has been associated with assertive, effective goal-directed interpersonal behavior (Bornstein, Ng, Gallagher, Kloss, & Regier, 2005). For example, data suggest that HD has been associated with a greater likelihood of engaging in help-seeking behavior from professors (Bornstein, 2007) and medical providers (Bornstein, 1998), and that HD is associated with fewer clinical symptoms following spousal bereavement (Denckla, Mancini, Bornstein, & Bonanno, 2011).

This empirical work has informed the theoretical refinement of earlier dependency-as-vulnerability models to a more nuanced, four-component Cognitive–Interactionist (C/I) model (Bornstein, 2011). The C/I model proposes that a helpless self-schema, developed in part during formative interactions with caregivers, is the core cognitive mechanism from which the other three components – motivational, affective, and behavioral – of dependency develop. As noted, however, while the core elements of dependency are not entirely negative, most studies of the cognitive mechanisms of dependency have focused on negative or self-critical cognitive schema. No studies, to our knowledge, have investigated the possibility of positive self-referenced core cognitive mechanisms associated with HD.

Research related to adaptive self-referenced cognitive schemas such as mindfulness (see Keng, Smoski, and Robins (2011) for a review) and compassion toward the self (Neff, Kirkpatrick, & Rude, 2007) provide a useful point from which to explore cognitive processes that may protect against the negative effects of maladaptive dependency. Self-compassion is known to buffer against the negative effects of academic failure among college students (Neff, Hsieh, & Dejitterat, 2005), as well as buffer against depression among autonomous and self-critical individuals (Wong & Mak, 2013). Furthermore, initial clinical intervention trials show that self-compassion interventions reduce depression (Friis, Johnson, Cutfield, & Consedine, 2016a) and bolster well-being (Neff & Germer, 2013), perhaps implying that self-compassion may offset the self-critical cognitive processes that characterize DO.

This possibility noted, exactly how self-compassion might be relevant to the association between dependency and depression remains unclear. The literature linking self-compassion to mental health outcomes suggests ongoing uncertainty as to whether self-compassion interrupts negative downstream consequences of vulnerability factors to symptomatology (a mediator) or whether it attenuates other relationships (a moderator). Several studies found that self-compassion moderated relationships between self-criticism and depressive symptoms (Wong & Mak, 2013), rumination and stress (Samaie & Farahani, 2011), distress and poorer metabolic outcomes in diabetics (Friis, Johnson, Cutfield, & Consedine, 2016b), and negative events and emotions (Leary, Tate, Adams, Allen, & Hancock, 2007). On the other hand, studies have also found that self-compassion mediates the association between body dissatisfaction and depression (Wasylkiw, MacKinnon, & MacLellan, 2012), as well as the link between family/cognitive factors and well-being (Neff & McGehee, 2010). Given the absence of a clear pattern regarding whether self-compassion attenuates or interrupts the links between predictors and outcomes, further research on both the moderating and mediating effects of self-compassion is warranted.

In extending prior studies of dependency, depression, and self-compassion, the current exploratory report examines whether self-compassion either moderates the dependency–depression link or mediates the link between these two constructs. As the C/I model of dependency suggests that downstream behavioral, motivational, and affective outcomes are mediated by core cognitive mechanisms, we sought to test several predictions. We expected that DO would predict greater (and HD lower) depression (Bornstein, 2005), and that self-compassion would buffer those with greater DO from depressive symptoms (Wong & Mak, 2013). We also tested mediation hypotheses based on the C/I model, predicting that self-compassion would mediate (a) the link between greater DO and greater depression and (b) the link between greater HD and lower depression.

## Method

### Participants and procedure

Information about the study was made available to undergraduate students enrolled in an introductory psychology class in a private, northeastern American university. Eighty-five students (72% female and 28% male) completed pencil-and-paper questionnaires in a laboratory setting. The average age of the sample was 19 (SD = 2.65, Range = 18–39).

### Measures

**Self-compassion—**The short form of the Self-compassion Scale (SCS–SF; Raes, Pommier, Neff, & Van Gucht, 2011) is a 12-item short version of the 26-item Self-compassion Scale (SCS; Neff, 2003) that assesses individual differences in self-compassion, defined by *self-kindness* – being kind and understanding toward oneself in instances of pain or failure rather than being harshly self-critical, *common humanity* – perceiving one's experiences as part of the larger human experience rather than seeing them as separating and isolating, and *mindfulness* – holding painful thoughts and feelings in balanced awareness rather than avoidance. Additional items in the scale are reverse-scored and tap the conceptual opposite of self-compassion, namely self-judgment, isolation, and over-

identification. The 12-item short form has strong correlations with the full 26-item long scale (Neff, 2003). Sample SCS–SF items include "I try to see my failings as part of the human condition" and "When I'm going through a very hard time, I try to give myself the caring and tenderness I need" and are rated on a five-point scale ranging from 1 (*almost never*) to 5 (*almost always*).

Prior research has suggested that self-compassion is distinct from self-esteem (Barry, Loflin, & Doucette, 2015) and measures of trait emotion (Neff, 2003). Mixed support for the factor structure of the SCS has emerged in recent years, with some studies suggesting that the SCS is composed of a single higher order factor (Neff, 2016a, 2016b) while others find evidence for a correlated six-factor structure (Williams, Dalgleish, Karl, & Kuyken, 2014). Given this mixed evidence, we proceeded to examine reliabilities for the six-factor solution in our preliminary analyses (Muris & Petrocchi, 2016; Neff, 2016a). However, reliabilities for the six-factor SCS subscales were too low to proceed with further analyses (<.65). In the present sample, reliability for the single factor self-compassion score was .76.

**Dependency**—The Relationship Profile Test (RPT; Bornstein et al., 2003) is a 30-item instrument that assesses three interrelated aspects of dependency – HD, dysfunctional detachment, and DO. Sample items for DO include "I am most comfortable when someone else takes charge", and for HD include "I am comfortable asking for help." Items are rated on a five-point scale ranging from 1 (*Not at All True of Me*) to 5 (*Very True of Me*). The RPT adequately assesses dependency among health-seeking urban women (Porcerelli, Bornstein, Markova, & Huprich, 2009), psychiatric inpatients (Bornstein, Gottdiener, & Winarick, 2010), and college students (Huprich, Hsiao, Porcerelli, Bornstein, & Markova, 2010). In the present sample, Cronbach's α for DO = .86 and HD = .72.

**Depressive symptoms**—The Symptom Checklist (SCL-90; Lipman, 1986) is a widely used measure of psychological symptoms that has several subscales, including depression. The SCL-D$_6$ contains six items evaluating depressive symptoms and has adequate convergent and discriminant validity with other measures of depression and mental illness (Bech, Bille, Moller, Hellstrom, & Ostergaard, 2014). Items are rated on a five-point scale ranging from 0 (*not at all*) to 4 (*extremely*) and include questions tapping symptoms of feeling low, self-blame, feeling blue, lack of interest, feeling tense, and lack of energy. In the present sample, Cronbach's α for SCL-D$_6$ depression was .84.

### Data analysis

To test for self-compassion as a moderator and mediator, we employed Hayes' (2013) SPSS PROCESS v2.15 macro. The mediator analyses (Model 4) estimated total, direct, and indirect effects of the causal variable on the outcome variable through a proposed mediator. We employed bootstrapped resampling methods (involving the creation of 5000 bootstrap samples from the original data-set through random sampling with replacement procedures) to calculate estimates of indirect effects. In all moderation and mediation analyses we included gender as a covariate given the known gender differences in dependency (Bornstein et al., 2004).

## Results

Descriptive statistics, bivariate correlations and scale reliabilities are shown in Table 1. Consistent with gender differences in dependency described previously, females reported higher levels of DO, $t(83) = -2.93$, $p < .01$. There were no differences in HD between females and males. Finally, females reported more depressive symptoms, $t(83) -2.19$, $p = .03$. Bivariate correlations demonstrated that subscales of the RPT were associated with measures of depressive symptoms and self-compassion in the expected directions. Specifically, HD was negatively correlated with depressive symptoms and positively correlated with SCS total self-compassion, whereas DO was associated with greater depressive symptoms.

### Moderation and mediation analyses

Based on prior evidence that self-compassion might moderate the association between predictors and outcomes, we first sought to test the possibility that self-compassion would moderate the association between HD and fewer depressive symptoms, as well as the association between DO and greater depressive symptoms. Analyses did not indicate a moderating effect of self-compassion on either HD or DO and depressive symptoms. After regressing depressive symptoms on gender, self-compassion, HD and the interaction between self-compassion and HD, the overall model was significant $F(4, 80) = 7.13$, $p < .001$) and explained 26% of the variance in depression scores, but the $R^2$ did not increase following the addition of the interaction term ( $R^2 = .00$, $F(1, 80) = .01$, $p = .94$). Specifically, neither self-compassion ($B = -.75$, $p = .45$), HD ($B = -.27$, $p = .75$) nor the interaction between the two ($B = .02$, $p = .94$) was independently associated with depressive symptoms. Similarly, after regressing depressive symptoms on gender, self-compassion, DO, and the interaction between self-compassion and DO, our overall model was significant $F(4, 80) = 10.89$, $p < .001$) and explained 29% of the variance. Again, however, the addition of the interaction term into the model did not increase the amount of explained variance ( $R^2 = .00$, $F(1, 81) = .50$, $p = .48$). Specifically, neither self-compassion ($B = -.19$, $p = .77$), DO ($B = .77$, $p = .26$), nor their interaction ($B = -.15$, $p = .48$) was independently associated with depressive symptoms.

We then proceeded to test our hypotheses for the mediating effects of self-compassion on HD and depressive symptoms (see Figure 1). We followed current recommendations for reporting mediation analysis (Rucker, Preacher, Tormala, & Petty, 2011). The total effect (c) of HD on depressive symptoms was significant, $B = -.41$, SE = .16, $p < .05$. The direct effect (c$'$) of HD on depressive symptoms while controlling for self-compassion was not significant, $B = -.21$, SE = .16, $p = .19$. Finally, the indirect effect of HD on depressive symptoms through self-compassion was negative and statistically different from zero, as evidenced by a 95% bias-corrected confidence interval that did not include zero, 95% CI [−.43, −.06]. Results suggest that 50% of the total effect of increased HD resulting in reduced depressive symptoms is a result of the indirect effect of self-compassion. The overall meditational model for the effects of self-compassion on HD and depressive symptoms accounted for 12% of the variance in depressive symptoms ($R^2 = .12$, $p < .01$).

Figure 2 illustrates the results of our second meditational analyses regarding our hypothesized effect of self-compassion on DO and depressive symptoms. The total effect (c) of DO on depressive symptoms was significant, $B = .42$, SE = .12, $p < .001$. The direct effect (c′) of DO on depressive symptoms while controlling for self-compassion was also significant, $B = .27$, SE = .12, $p = .02$. The indirect effect of DO on depressive symptoms through self-compassion was positive and statistically significant, 95% CI [.05, .29]. Results suggest that 36% of the total effect of increased DO predicting greater depressive symptoms occurs through the effects of lower self-compassion. The overall meditational model for the effects of self-compassion on DO and depressive symptoms accounted for 18% of the variance in depressive symptoms ($R^2 = .18$, $p < .001$).

## Discussion

The current report tested predictions regarding the associations between interpersonal dependency and depressive symptoms. While prior work has concentrated on self-critical and ruminative cognitive processes, this report examined whether dispositional self-compassion moderated or mediated the link between dependency characteristics and depressive symptoms. In contrast to prior work indicating "buffering" might occur, we found no evidence of such a process in this sample of college students. Conversely, however, and consistent with expectations, mediational analyses showed that trait self-compassion (the tendency to respond to one's suffering with kindness and understanding rather than judgment and criticism) *mediated* the links between both (a) DO and greater depressive symptoms, and (b) HD and lower depressive symptoms. Below, we discuss these results completely, consider their implications for understanding the intrapsychic processes linking dependency to mental health outcomes, and consider directions for future research.

The fact that self-compassion predicted better outcomes is consistent with prior work. In addition to clinical trials showing that a brief self-compassion intervention bolstered well-being (Neff & Germer, 2013), longitudinal studies among adolescents suggest that self-compassion buffers against the ill effects of low self-esteem when assessed one year later (Marshall et al., 2015). Studies have shown that self-compassion predicts lower depressive symptoms across cultural contexts (Yamaguchi, Kim, & Akutsu, 2014), and experimental research suggests that self-compassion leads to greater personal improvement following induced regret experiences, in part, through heightened acceptance (Zhang & Chen, 2016).

Our analyses were consistent with this body of findings and the related notion that positive self-schema (in the form of self-compassion) may be implicated in the downstream mental health effects of both adaptive HD and maladaptive DO dependency. Our results offer some conceptual replication of previous work, as we found evidence for mediation between both adaptive and maladaptive dependency (Neff & McGehee, 2010; Wasylkiw et al., 2012), perhaps suggesting that self-compassion may be low in some forms of dependency DO but more substantially present in healthy forms HD. As a result, self-compassion may partially underpin some of the adaptive outcomes linked with HD.

Our results are also consistent with previous research and the C/I model of dependency (Bornstein, 2011) suggesting that maladaptive dependency predicts increased vulnerability

for depressive symptoms (Blatt, 2004; Bornstein, 1992). Our results build on prior findings suggesting that silencing the self (Besser, Flett, & Davis, 2003), as well as negative relationship events and ambivalence over expression of emotions (Mongrain & Zuroff, 1994) mediate the relationship between overdependence and depressive symptoms. Furthermore, our findings with respect to cognitive schema characterized by the obverse of a self-critical schema (i.e. kindness toward the self or self-compassion) raise the intriguing possibility that it may not only be the presence of self-critical or helpless self-schema that underpin the poorer mental health outcomes associated with DO (Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982; Bornstein, 2005), but that the *relative absence* of positive self-schema may also contribute.

Our findings regarding HD are consistent with a broadening base of literature related to the health promoting effects of a self-compassionate attitude toward the self. In addition to findings discussed previously regarding beneficial clinical outcomes associated with self-compassion (Friis, et al., 2016a; Neff & Germer, 2013), other studies have shown that reductions in self-criticism are the best predictors of favorable response to Cognitive Therapy (Rector, Bagby, Segal, Joffe, & Levitt, 2000). Future research could evaluate whether self-compassion also predicts responsiveness to therapeutic interventions.

These contributions noted, the current report is not without limitations. First, ongoing psychometric uncertainty regarding the structural validity of the SCS is important. It has recently been suggested that the SCS subscales indexing self-criticism reflect inflated inverse associations with psychopathology, rather than the direct effect of self-compassion (Muris & Petrocchi, 2016). If this were true, our findings among DO individuals might then reflect an association between reduced self-criticism and depressive symptoms rather than a protective effect of self-compassion itself. For example, it may be that DO is associated with increased depressive symptoms because of self-critical processes (i.e. the absence of self-compassion). If this were true, the negatively worded items in the self-compassion scale could overinflate the association between self-compassion and psychopathology (i.e. depression scores) in our primary mediational analyses. While substantial theoretical arguments support the inclusion of self-critical items in the assessment of self-compassion (Neff, 2016b), our findings do point toward the need for further research to better evaluate the relative effect of self-compassion vs. self-criticism and its relation to psychopathology.

Second, the sample size was small and potentially underpowered. Even though PROCESS uses bootstrapping resampling procedures, thus avoiding power problems associated with non-normally distributed variables (Preacher & Hayes, 2004, 2008; Preacher, Rucker, & Hayes, 2007), findings are still sensitive to sample size. We conducted a preliminary *post hoc* power calculation using G*Power (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007). Results suggested that our sample size of 85 achieved 89% power to detect a medium effect size at $a = .05$. Such considerations noted, future analyses should have increased power to confirm the observed effect reported in this study. Three, the study sample consisted primarily of college students and it is not clear whether the results can be generalized to a general population of adults. However, given the known elevated risk for depression among college students, research on processes that may be unique to this developmental stage appear warranted in their own right. Four, the sample

consisted of more females than males, resulting in a gender imbalance. Statistically controlling for gender attenuated resulting biases to some degree, but a balanced sample would have been preferable. Five, data regarding ethnicity were not available and the present findings should be generalized with caution. Six, single measures were used to assess depression and findings would have been bolstered had a more commonly used depression scale been employed. Finally, given the cross-sectional nature of this study, the issue of reverse causality cannot be ruled out; that is, the direction of causation between our outcome variable of depression and our proposed mediator of self-compassion cannot be determined. It may be that depression reduces self-compassion, which in turn causes increased overdependence. While there is less theoretical reason and no empirical evidence to suggest a causal link between self-compassion and DO, the possibility cannot be eliminated until experimental or longitudinal study designs are employed.

These limitations noted, the present findings imply several directions for future research. One area of particular note lies in considering whether additional self-schema may drive adaptive interpersonal behavior among healthy dependent individuals. A recent study found that healthy dependent women were more likely to adhere to medical regimes (Porcerelli et al., 2009), implying associations between HD and health-seeking behavior. If research on the cognitive processes of HD individuals can bring clarity to the specific self-referenced schema that are associated with this or other adaptive behaviors, avenues for intervention development to promote health seeking behavior will be highlighted. Finally, given psychologists' increasing attention to the importance of self-care in effective clinical work (Wise, Hersh, & Gibson, 2012), our findings may have implications for therapists as well as patients. The hazards associated with occupational burnout combined with the intensive demands of challenging clinical work suggest that – like patients – clinicians could benefit from the skill building interventions such as practicing self-compassion. Future outcome research might be effectively directed toward mental health care providers to determine the effectiveness of this intervention for protecting against burnout and increasing life and occupational satisfaction.

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## References

Barry CT, Loflin DC, Doucette H. Adolescent self-compassion: Associations with narcissism, self-esteem, aggression, and internalizing symptoms in at-risk males. Personality and Individual Differences. 2015; 77:118–123. DOI: 10.1016/j.paid.2014.12.036

Bech P, Bille J, Moller SB, Hellstrom LC, Ostergaard SD. Psychometric validation of the Hopkins symptom checklist (SCL-90) subscales for depression, anxiety, and interpersonal sensitivity. Journal of Affective Disorders. 2014; 160:98–103. DOI: 10.1016/j.jad.2013.12.005 [PubMed: 24445132]

Besser A, Flett GL, Davis RA. Self-criticism, dependency, silencing the self, and loneliness: A test of a mediational model. Personality and Individual Differences. 2003; 35:1735–1752. DOI: 10.1016/S0191-8869(02)00403-8

Blatt SJ. Experiences of depression: Theoretical, research and clinical perspectives. Washington, DC: American Psychological Association Press; 2004.

Blatt SJ, Zuroff DC. Interpersonal relatedness and self-definition: Two prototypes for depression. Clinical Psychology Review. 1992; 12:527–562.

Blatt SJ, Quinlan DM, Chevron ES, McDonald C, Zuroff DC. Dependency and self-criticism: Psychological dimensions of depression. Journal of Consulting and Clinical Psychology. 1982; 50:113–124. DOI: 10.1037/0022-006X.50.1.113 [PubMed: 7056904]

Bornstein RF. The dependent personality: Developmental, social, and clinical perspectives. Psychological Bulletin. 1992; 112:3–23. [PubMed: 1529038]

Bornstein RF. Adaptive and maladaptive aspects of dependency: An integrative review. American Journal of Orthopsychiatry. 1994; 64:622–635. DOI: 10.1037/h0079563 [PubMed: 7847578]

Bornstein RF. Depathologizing dependency. Journal of Nervous and Mental Disease. 1998; 186:67–73. [PubMed: 9484305]

Bornstein RF. The dependent patient: Diagnosis, assessment, and treatment. Professional Psychology: Research and Practice. 2005; 36:82–89.

Bornstein RF. Self-schema priming and desire for test performance feedback: Further evaluation of a cognitive/interactionist model of interpersonal dependency. Self and Identity. 2007; 5:110–126.

Bornstein RF. An interactionist perspective on interpersonal dependency. Current Directions in Psychological Science. 2011; 20:124–128. DOI: 10.1177/0963721411403121

Bornstein RF, Languirand MA, Geiselman KJ, Creighton JA, West MA, Gallagher HA, Eisenhart EA. Construct validity of the relationship profile test: A self-report measure of dependency-detachment. Journal of Personality Assessment. 2003; 80:64–74.

Bornstein RF, Geiselman KJ, Gallagher HA, Ng HM, Hughes EE, Languirand MA. Construct validity of the relationship profile test: Impact of gender, gender role, and gender role stereotype. Journal of Personality Assessment. 2004; 82:104–113. [PubMed: 14979839]

Bornstein RF, Mei Ng H, Gallagher HA, Kloss DM, Regier NG. Contrasting effects of self-schema priming on lexical decisions and interpersonal stroop task performance: Evidence for a cognitive/interactionist model of interpersonal dependency. Journal of Personality. 2005; 73:731–762. DOI: 10.1111/j.1467-6494.2005.00327.x [PubMed: 15854012]

Bornstein RF, Gottdiener WH, Winarick DJ. Construct validity of the relationship profile test: Links with defense style in substance abuse patients and comparison with nonclinical norms. Journal of Psychopathology and Behavioral Assessment. 2010; 32:293–300. DOI: 10.1007/s10862-009-9153-1

Denckla CA, Mancini AD, Bornstein RF, Bonanno GA. Adaptive and maladaptive dependency in bereavement: Distinguishing prolonged and resolved grief trajectories. Personality and Individual Differences. 2011; 51:1012–1017. DOI: 10.1016/j.paid.2011.08.014 [PubMed: 21984858]

Faul F, Erdfelder E, Lang AG, Buchner A. G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Behavior Research Methods. 2007; 39:175–191. [PubMed: 17695343]

Faul F, Erdfelder E, Buchner A, Lang AG. Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. Behavior Research Methods. 2009; 41:1149–1160. [PubMed: 19897823]

Friis A, Johnson MH, Cutfield R, Consedine NS. Kindness matters: An RCT of a self-compassion intervention improves depression, distress, and $HbA1_c$ among diabetes patients. Diabetes Care. 2016a; Online First: June 26, 2016. doi: 10.2337/dc16-0416

Friis A, Johnson MH, Cutfield R, Consedine NS. Does kindness matter? Self-compassion buffers the impact of diabetes distress on HbA1c. Diabetic Medicine. 2016b; 32:1634–1640. E-pub: April 21, 2015. DOI: 10.1111/dme.12774

Hayes AF. Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York, NY: Guildford Press; 2013.

Huprich SK, Hsiao WC, Porcerelli JH, Bornstein RF, Markova T. Expanding the construct validity of the relationship profile test: Associations with physical health and anaclitic and introjective traits. Assessment. 2010; 17:81–88. DOI: 10.1177/1073191109340383 [PubMed: 19700737]

Ibrahim AK, Kelly SJ, Adams CE, Glazebrook C. A systematic review of studies of depression prevalence in university students. Journal of Psychiatric Reseasrch. 2013; 47:391–400. DOI: 10.1016/j.jpsychires.2012.11.015

Keng SL, Smoski MJ, Robins CJ. Effects of mindfulness on psychological health: A review of empirical studies. Clinical Psychology Review. 2011; 31:1041–1056. DOI: 10.1016/j.cpr. 2011.04.006 [PubMed: 21802619]

Kessler RC, Bromet EJ. The epidemiology of depression across cultures. Annual Review Public Health. 2013; 34:119–138. DOI: 10.1146/annurev-publhealth-031912-114409

Klein DN, Kotov R, Bufferd SJ. Personality and depression: Explanatory models and review of the evidence. Annual Review Clinical Psychology. 2011; 7:269–295. DOI: 10.1146/annurevclinpsy-032210-104540

Leary MR, Tate EB, Adams CE, Allen AB, Hancock J. Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. Journal of Personality and Social Psychology. 2007; 92:887–904. DOI: 10.1037/0022-3514.92.5.887 [PubMed: 17484611]

Lipman RS. Depression scales derived from the Hopkins symptom checklist. In: Sartorius N, Ban T, editorsAssessment of Depression. Berlin: Springer; 1986. 232–248.

Marshall SL, Parker PD, Ciarrochi J, Sahdra B, Jackson CJ, Heaven PCL. Self-compassion protects against the negative effects of low self-esteem: A longitudinal study in a large adolescent sample. Personality and Individual Differences. 2015; 74:116–121. DOI: 10.1016/j.paid.2014.09.013

Mongrain M, Zuroff DC. Ambivalence over emotional expression and negative life events: Mediators of depressive symptoms in dependenct and self-critical individuals. Personality and Individual Differences. 1994; 16:447–458.

Muris P, Petrocchi N. Protection or vulnerability? A meta-analysis of the relations between the positive and negative components of self-compassion and psychopathology. Clinical Psychology & Psychotherapy. 2016; Online First: February 19, 2016. doi: 10.1002/cpp.2005

Neff KD. The development and validation of a scale to measure self-compassion. Self and Identity. 2003; 2:223–250. DOI: 10.1080/15298860390209035

Neff KD. Does Self-Compassion entail reduced self-judgment, isolation, and over-identification? A response to Muris, Otgaar, and Petrocchi (2016). Mindfulness. 2016a; Online First: April 12, 2016. doi: 10.1007/s12671-016-0531-y

Neff KD. The self-compassion scale is a valid and theoretically coherent measure of self-compassion. Mindfulness. 2016b; 7:264–274. DOI: 10.1007/s12671-015-0479-3

Neff KD, Germer CK. A pilot study and randomized controlled trial of the mindful self-compassion program. Journal of Clinical Psychology. 2013; 69:28–44. DOI: 10.1002/jclp.21923 [PubMed: 23070875]

Neff KD, McGehee P. Self-compassion and psychological resilience among adolescents and young adults. Self and Identity. 2010; 9:225–240. DOI: 10.1080/15298860902979307

Neff KD, Hsieh Y, Dejitterat K. Self-compassion, achievement goals, and coping with academic failure. Self and Identity. 2005; 4:263–287. DOI: 10.1080/13576500444000317

Neff KD, Kirkpatrick KL, Rude SS. Self-compassion and adaptive psychological functioning. Journal of Research in Personality. 2007; 41:139–154. DOI: 10.1016/j.jrp.2006.03.004

Porcerelli JH, Bornstein RF, Markova T, Huprich SK. Physical health correlates of pathological and healthy dependency in urban women. Journal of Nervous and Mental Disease. 2009; 197:761–765. DOI: 10.1097/NMD.0b013e3181b97bbe [PubMed: 19829205]

Preacher KJ, Hayes AF. SPSS and SAS procedures for estimating indirect effects in simple mediation models. Behavior Research Methods, Instruments & Computers. 2004; 36:717–731. DOI: 10.3758/BF03206553

Preacher KJ, Hayes AF. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behavior Research Methods. 2008; 40:879–891. DOI: 10.3758/brm.40.3.879 [PubMed: 18697684]

Preacher KJ, Rucker DD, Hayes AF. Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. Multivariate Behavioral Research. 2007; 42:185–227. DOI: 10.1080/00273170701341316 [PubMed: 26821081]

Raes F, Pommier E, Neff KD, Van Gucht D. Construction and factorial validation of a short form of the Self-Compassion Scale. Clinical Psychology and Psychotherapy. 2011; 18:250–255. DOI: 10.1002/cpp.702 [PubMed: 21584907]

Rector NA, Bagby RM, Segal ZV, Joffe RT, Levitt A. Self-criticism and dependency in depressed patients treated with cognitive therapy or pharmacotherapy. Cognitive Therapy and Research. 2000; 24:571–584. DOI: 10.1023/A:1005566112869

Rucker DD, Preacher KJ, Tormala ZL, Petty RE. Mediation analysis in social psychology: Current practices and new recommendations. Social and Personality Psychology Compass. 2011; 5:359–371. DOI: 10.1080/10253890701559970

Samaie G, Farahani HA. Self-compassion as a moderator of the relationship between rumination, self-reflection and stress. Procedia – Social and Behavioral Sciences. 2011; 30:978–982. DOI: 10.1016/j.sbspro.2011.10.190

Üstün TB, Ayuso-Mateos JL, Chatterji S, Mathers C, Murray CJL. Global burden of depressive disorders in the year 2000. The British Journal of Psychiatry. 2004; 184:386–392. DOI: 10.1192/bjp.184.5.386 [PubMed: 15123501]

Wasylkiw L, MacKinnon AL, MacLellan AM. Exploring the link between self-compassion and body image in university women. Body Image. 2012; 9:236–245. DOI: 10.1016/j.bodyim.2012.01.007 [PubMed: 22406200]

Williams MJ, Dalgleish T, Karl A, Kuyken W. Examining the factor structures of the five facet mindfulness questionnaire and the self-compassion scale. Psychological Assessment. 2014; 26:407–418. DOI: 10.1037/a0035566 [PubMed: 24490681]

Wise EH, Hersh MA, Gibson CM. Ethics, self-care and well-being for psychologists: Reenvisioning the stress-distress continuum. Professional Psychology: Research and Practice. 2012; 43:487–494. DOI: 10.1037/a0029446

Wong CC, Mak WW. Differentiating the role of three self-compassion components in buffering cognitive-personality vulnerability to depression among Chinese in Hong Kong. Journal of Counseling Psychology. 2013; 60:162–169. DOI: 10.1037/a0030451 [PubMed: 23088681]

Yamaguchi A, Kim MS, Akutsu S. The effects of self-construals, self-criticism, and self-compassion on depressive symptoms. Personality and Individual Differences. 2014; 68:65–70. DOI: 10.1016/j.paid.2014.03.013

Zhang JW, Chen S. Self-compassion promotes personal improvement from regret experiences via acceptance. Personality and Social Psychology Bulletin. 2016; 42:244–258. DOI: 10.1177/0146167215623271 [PubMed: 26791595]
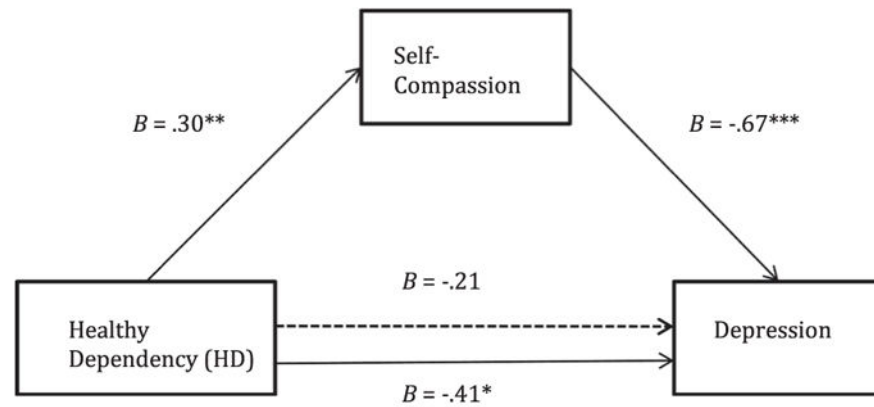
**Figure 1.**
Self-compassion mediates the relationship between healthy dependency and depressive symptoms. The dashed line represents the direct effect (c′) controlling for self-compassion. Notes: $*p < .05$; $**p < .01$; and $***p < .001$.
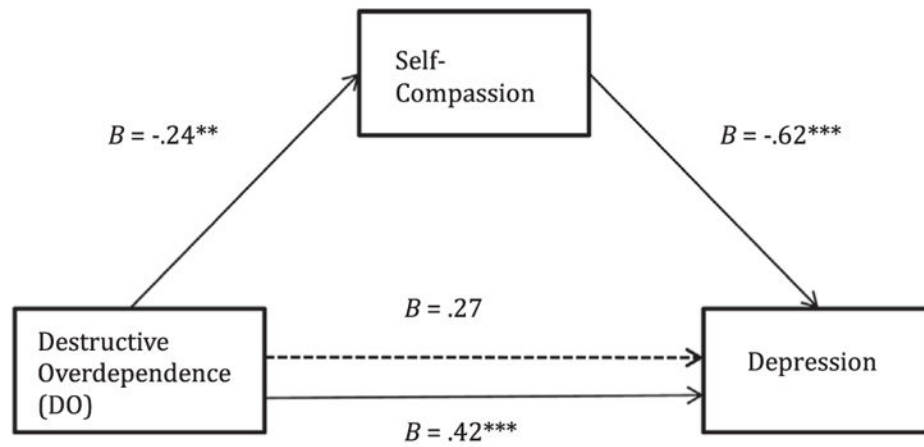
**Figure 2.**
Self-compassion mediates the relationship between destructive overdependence (DO) and depressive symptoms. The dashed line represents the direct effect (c′) controlling for self-compassion.

Notes: *$p < .05$; **$p < .01$; and ***$p < .001$.

**Table 1**

RPT-assessed dependency, self-compassion and depression intercorrelations, reliabilities, and means.

| Variable | 1 | 2 | 3 | 4 | Mean (SD) |
|---|---|---|---|---|---|
| 1. SCL–D6 | .83 | – | – | – | 1.59 (0.85) |
| 2. HD | −.27 * | .72 | – | – | 3.36 (0.57) |
| 3. DO | .40 ** | −.14 | .86 | – | 2.95 (0.70) |
| 4. SCS | −.47 ** | .33 ** | −.27 ** | .76 | 2.91 (0.53) |
| Mean (SD) | 1.13 (0.95) | 3.4 (0.59) | 2.4 (0.86) | 3.11 (0.51) | – |

Notes: Means and standard deviations (SD) for study variables are presented above the diagonal for females and below the diagonal for males. SCL–D6 = Symptom Checklist, Depression-6; HD = Healthy Dependency; DO = Destructive Overdependence; SCS = Self-compassion Scale. Internal reliabilities are noted on the diagonal.

*
$p < .05$;

**
$p < .01$.