Body Image 17 (2016) 117–131

Contents lists available at ScienceDirect

Body Image

journal homepage: www.elsevier.com/locate/bodyimage

Review article

Self-compassion, body image, and disordered eating: A review of the literature

Tosca D. Braun*, Crystal L. Park, Amy Gorin

Department of Psychology, University of Connecticut, 406 Babbidge Road, Unit 1020, Storrs, CT 06269-1030, United States

ARTICLE INFO

Article history:
Received 17 June 2015
Received in revised form 1 March 2016
Accepted 3 March 2016
Available online 31 March 2016

Keywords:
Self-compassion
Body image
Disordered eating
Eating disorder
Protective factor
Eating pathology

ABSTRACT

Self-compassion, treating oneself as a loved friend might, demonstrates beneficial associations with body image and eating behaviors. In this systematic review, 28 studies supporting the role of self-compassion as a protective factor against poor body image and eating pathology are reviewed. Findings across various study designs consistently linked self-compassion to lower levels of eating pathology, and self-compassion was implicated as a protective factor against poor body image and eating pathology, with a few exceptions. These findings offer preliminary support that self-compassion may protect against eating pathology by: (a) decreasing eating disorder-related outcomes directly; (b) preventing initial occurrence of a risk factor of a maladaptive outcome; (c) interacting with risk factors to interrupt their deleterious effects; and (d) disrupting the mediational chain through which risk factors operate. We conclude with suggestions for future research that may inform intervention development, including the utilization of research designs that better afford causal inference.

Contents

* Corresponding author.
E-mail addresses: tosca.braun@uconn.edu (T.D. Braun), crystal.park@uconn.edu (C.L. Park), amy.gorin@uconn.edu (A. Gorin).

http://dx.doi.org/10.1016/j.bodyim.2016.03.003
1740-1445/

Introduction

Recent work has called for the investigation of protective factors that modify, ameliorate, or otherwise alter factors known to be linked to poor body image and eating pathology (Tylka & Kroon Van Diest, 2015). Better understanding these links in correlational research represents an important step toward identifying potential protective factors that may be shown in causal research to buffer or mediate the described associations. Maladaptive environmental and interpersonal factors shown to be associated with poor body image and disordered eating include experiences of sexual objectification and culturally, interpersonally, and family-mediated appearance pressures and messages (Tylka & Kroon Van Diest, 2015). In theory, protective factors could disrupt or interact with an array of body image-related variables implicated in the etiology of eating pathology, for example, thin-ideal internalization, self-objectification, poor interoceptive awareness, body or appearance comparisons, body dissatisfaction, and drive for thinness (e.g., Ainley & Tsakiris, 2013; Bailey & Ricciardelli, 2010; Stice, 2002; Tylka & Hill, 2004).

Self-Compassion as a Potential Protective Factor

Self-compassion is a multi-dimensional construct based on the recognition that suffering, failure, and inadequacy are part of the human condition, and that all people—oneself included—are worthy of compassion (Neff, 2003a). Self-compassion is optimally situated to address the etiological equifinality of poor body image and disordered eating, given its strong empirical formulation as an adaptive affect regulation and coping strategy (e.g., Neff, Hsieh, & Dejitterat, 2005; Sirois, Kitner, & Hirsch, 2015). Neff (2003a) conceptualized self-compassion as comprising three interrelated dimensions: (a) *self-kindness*, being kind and understanding of oneself, rather than engaging in *self-judgment* and criticism, (b) *mindfulness*, holding aversive thoughts and feelings in balanced awareness rather than *over-identifying* with them, and (c) *common humanity*, viewing one's experiences as a natural extension of those experienced by all individuals rather than as *isolating* and separate.

Following Tylka and Kroon Van Diest (2015), we propose that self-compassion may operate as a protective factor against poor body image and eating pathology through four primary pathways. First, self-compassion may directly mitigate the maladaptive outcomes of poor body image or eating pathology. Second, self-compassion may prevent the initial occurrence of a risk factor (e.g., thin-ideal internalization) of a maladaptive outcome (e.g., eating pathology). Third, self-compassion may interact with a risk factor to interrupt its deleterious effects. Statistically, this is referred to as moderation, whereby a variable such as self-compassion alters the strength or direction of the relationship between a predictor (e.g., social comparisons) and a criterion (e.g., body dissatisfaction; Karazsia, van Dulmen, Wong, & Crowther, 2013).

Fourth and relatedly, self-compassion may disrupt the mediational chain through which risk factors operate. Mediator variables are conceptualized to partially or fully explain the relationship between a given predictor and a criterion over time (Karazsia et al., 2013). As previously suggested (Tylka & Kroon Van Diest, 2015), self-compassion may moderate (i.e., buffer or protect against) the effects of mediating risk factors (e.g., thin-ideal internalization) that may otherwise lead to disordered eating, a process statistically referred to as mediated moderation (Karazsia et al., 2013). Notably, there is considerable overlap between these categories. Self-compassion likely acts at multiple levels and through multiple pathways simultaneously (Tylka, Russell, & Neal, 2015).

Present Review

Articles to date have reviewed empirical correlates of self-compassion, theoretical/empirical support behind interventions theorized to increase self-compassion (Barnard & Curry, 2011), and associations between self-compassion and psychopathology (MacBeth & Gumley, 2012). No reviews to date have examined evidence implicating self-compassion as a protective factor in the context of body image and eating pathology, a gap addressed by the current systematic review.

Method

Search Design

A literature search was conducted to identify studies that reported on the relationship between self-compassion, body image-related factors, eating disorder (ED) diagnosis, and disordered eating behaviors. Where mediational analyses were reported between self-compassion and outcomes related to body image, psychosocial variables included in the analysis (i.e., variables not limited to body image) are reported.

Eligibility Criteria

Eligible studies were required to investigate the empirical relationship of self-reported self-compassion to at least one variable related to body image or eating pathology, and be original, peer-reviewed, and written in English. Excluded studies included theoretical articles, qualitative reports, and single-participant case studies. Given the preliminary nature of the topic area, no studies were excluded on the basis of methodological limitations or the gender, age, and type of sample.

Search Strategy

Studies were identified through database searches of EBSCOhost-indexed CINAHL, Academic Search Premier and PsycINFO, as well as reviewing the references of relevant papers. For the systematic review, these search terms were used (in AND combinations) with the keyword "self-compassion": body dissatisfaction, body image, body, body image dysphoria, body image disturbance, body esteem, body preoccupation, self-objectification, objectified body consciousness, body surveillance, body shame, appearance, social physique anxiety, body appreciation, body image avoidance, body image flexibility, interoception, interoceptive awareness, body awareness, weight concerns, eating disorder, eating pathology, disordered eating, anorexia, bulimia, binge eating disorder, bulimic, binge, binge eating, food restriction, restrained eating, rigid restraint, rigid dietary restraint, restrict, diet, dieting, eating, thinness, drive for thinness, exercise, compulsive exercise. For parsimony, unless referring to specific outcomes, we refer to these in aggregate as "body- and ED-related outcomes." Again, for parsimony, we use the term "outcomes" to refer to cross-sectional,

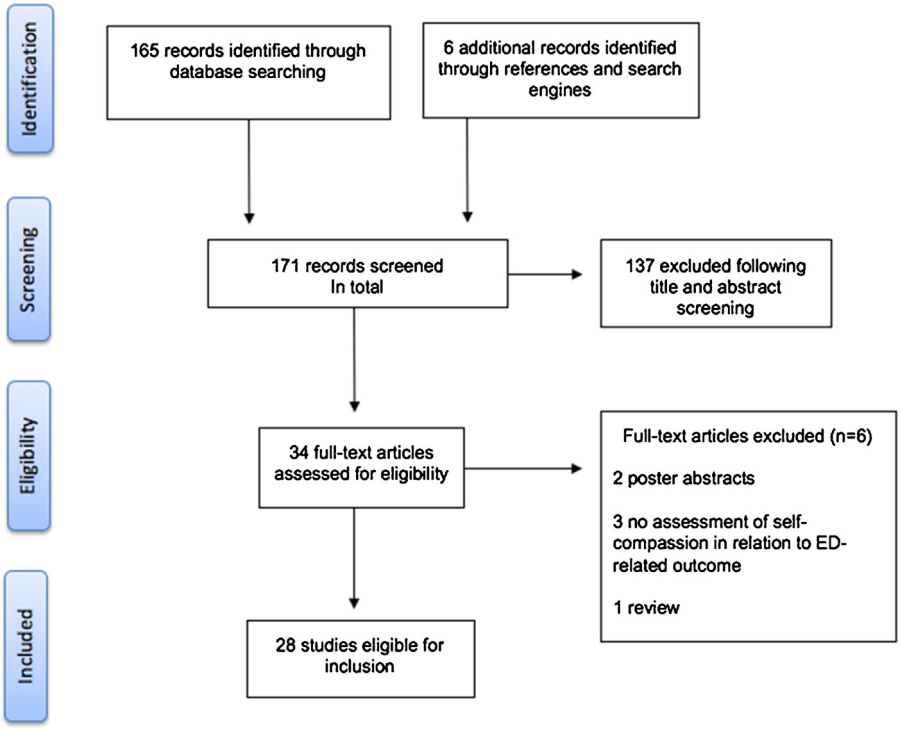

Fig. 1. PRISM diagram explaining the search strategy.

prospective, and experimental studies, with the caveat that there are no true outcomes in cross-sectional and prospective research.

The search period was from July 1, 2003, following the initial operationalization of the self-compassion construct (Neff, 2003b), to November 5, 2015. Titles and abstracts were twice screened by the first author. Those determined potentially eligible were indexed for full screening. Articles were included or discarded after the author twice reviewed each full text against the eligibility criteria. Fig. 1 describes the search process and outcome.

Results

Overall, 28 studies warranted inclusion, with an array of designs ranging from cross-sectional to prospective longitudinal and intervention/experimental (Table 1). Unless otherwise specified, reported studies employed samples of predominantly White race/ethnicity. To facilitate, the review findings are structured according to the four pathways through which self-compassion may act as a protective factor, followed by review of treatment studies. In the first section, direct associations between self-compassion and eating pathology are reviewed. The second section examines literature supporting the hypothesis that self-compassion may prevent the initial occurrence of body image-related risk factors for eating pathology. The third section reviews evidence implicating self-compassion as a buffer against body- and ED-related outcomes, while the fourth section considers research suggesting that self-compassion may disrupt the mediational chain fostering body- and ED-related outcomes. The final section reports treatment studies of self-compassion for ED-related outcomes.

Section 1: Self-Compassion and Eating Disorder Symptomatology

To better elucidate whether self-compassion has a direct inverse association with eating pathology, as posited by the first pathway, this section reviews related literature in clinical and non-clinical samples.

Studies with clinical ED samples. Five articles assessed self-compassion and eating pathology in clinical ED samples. In a cross-sectional study of 34 ED outpatients from Portugal, the self-kindness dimension of self-compassion predicted 37.6% of variance in eating pathology (Ferreira, Matos, Duarte, & Pinto-Gouveia, 2014). Fear of self-compassion (e.g., "I feel that I don't deserve to be kind and forgiving to myself"), drawn from the Compassion-Focused Therapy (CFT) paradigm, was observed as the strongest predictor of disordered eating in 97 Canadian ED patients[1] when entered with body mass index (BMI), self-compassion, and self-esteem in multivariate analyses (Kelly, Vimalakanthan, & Carter, 2014). Findings from these studies reflect that ED outpatients with greater self-kindness and less fear of self-compassion report lower eating pathology.

The temporal relation between self-compassion and ED pathology was also examined in two prospective longitudinal studies reported in a series of three articles from a research group in Canada (Kelly & Carter, 2014; Kelly, Carter, & Borairi, 2014; Kelly et al., 2013). In both longitudinal studies, predominantly female ED patients were assessed from baseline entry into standard eating disorder treatment and at 3, 6, 9, and 12 weeks of treatment. In the first article ($n = 74$), lower self-compassion and higher fear of self-compassion at baseline significantly correlated with eating pathology (Kelly et al., 2013). The second article ($n = 97$), which included participants from the first article, observed that patients who demonstrated greater gains in self-compassion early in treatment evidenced the most significant decreases in eating disorder symptoms over 12 weeks, a pattern also observed to a lesser degree in patients who evidenced relatively smaller early decreases in self-compassion (Kelly, Carter, et al., 2014). In the third article

[1] The same sample was utilized in Kelly, Carter, Zuroff, and Borairi (2013).

Table 1
Key findings of research examining associations between self-compassion and body- and ED-related outcomes.

Study	Design	Measure	Sample	Key Findings
Adams and Leary (2007)	Experimental manipulation	Self-compassionate eating attitudes Revised Rigid Restraint Scale	Undergraduate females in U.S. ($N = 84$)	Highly restrictive participants in self-compassion/doughnut preload condition consumed less candy than no-preload participants. Highly restrictive participants in preload/no-self-compassion did not compensate for having already eaten a doughnut by reducing subsequent candy intake, relative to those in self-compassion condition.
Albertson et al. (2014)	RCT compared 3-week self-compassion group receiving weekly podcasts to wait-list control group	Self-Compassion Scale Body Shape Questionnaire Body Shame subscale of Objectified Body Consciousness Scale Body Appreciation Scale	Multigenerational females in the U.S. endorsing body image concerns ($N = 228$)	Intervention group improved significantly in self-compassion, body appreciation, body dissatisfaction, body shame, and contingent self-worth based on appearance post-program, relative to controls. All findings held at 3-month follow-up.
Breines et al. (2014)	Study 1: Daily diary	Study 1: State appearance-related self-compassion Rosenberg Self-Esteem Scale Modified disordered eating scale	Undergraduate females in U.S. Study 1, $N = 95$	Study 1: Higher self-compassion days linked to lower disordered eating levels.
	Study 2: Cross-sectional	Study 2: State appearance-related self-compassion State self-esteem Body Shame subscale of Objectified Body Consciousness Scale Anticipated disordered eating Lab-based restrained eating	Study 2, $N = 158$	Study 2: Self-compassion predicted lower body shame, disordered eating behavior, lower weight-gain concerns as a motive for restrained eating, and lower self-punishment as motive for not eating. Body shame mediated relationship between self-compassion and anticipated disordered eating, and between self-compassion and weight gain concern motives for eating.
Daye et al. (2014)	Cross-sectional	Self-Compassion Scale, Short-Form Caregiver Eating Messages Scale, Objectified Body Consciousness Scale	Undergraduate females in U.S. ($N = 322$) *Same sample as* Schoenefeld and Webb (2013)	Self-compassion negatively predicted body surveillance and body shame, but not appearance control beliefs. Self-compassion moderated the link between restrictive and critical caregiver eating messages and both body surveillance and body shame. Self-compassion did not moderate links between pressure to eat caregiver eating messages and body surveillance/body shame, or between either type of caregiver eating message and appearance control beliefs.
Duarte et al. (2015)	Cross-sectional	Self-Compassion Scale Figure Rating Scale Social Comparison Through Physical Appearance Scale	Undergraduate females in Portugal ($N = 662$)	Lower self-compassion fully mediated association between body dissatisfaction and psychological quality of life.
Ferreira et al. (2014)	Cross-sectional	Self-Compassion Scale ED Examination Questionnaire Shame Experiences Interview Impact of Event Scale-Revised Centrality of Event Scale	Eating disorder outpatients in Portugal ($N = 34$)	Self-compassion positive subscale (self-compassion), but not the negative composite (self-judgment), predicted eating pathology. Self-compassion positive composite moderated the positive influence of low/medium, but not high, shame memories on eating pathology.
Ferreira et al. (2011)	Cross-sectional	Self-Compassion Scale Body Image Acceptance and Action Questionnaire BMI	General population in Portugal ($N = 679$)	Body image flexibility was positively correlated with self-compassion dimensions of self-kindness, common humanity, and mindfulness.
Ferreira et al. (2013)	Case–Control	Self-Compassion Scale Other As Shamer Scale ED Inventory ED Examination Questionnaire	Female ED outpatients ($N = 102$) Women from general population in Portugal ($N = 123$) *Same sample as* Pinto-Gouveia et al. (2014)	ED patients evidenced lower scores of self-compassion than non-patients. In both groups, external shame predicted drive for thinness and lower self-compassion. In ED patients, lower self-compassion fully mediated positive link between external shame and drive for thinness, while partial mediation was observed among non-patients.

Table 1 (*Continued*)

Study	Design	Measure	Sample	Key Findings
Gale et al. (2014)	Retrospective analysis of community-based CFT treatment program	ED Examination Questionnaire Sterling ED Scale Clinical Outcomes in Routine Evaluation outcome measure	ED patients in England ($N = 139$)	Significant improvements in psychological distress, self-esteem, self-directed hostility, perceived external control, bulimic and anorexic dietary cognitions and dietary behaviors, binge eating, and excessive exercise (vomiting, laxative, and diuretic use marginally significantly reduced). BN (bulimia nervosa) and to a lesser degree EDNOS (eating disorder not otherwise specified) patients demonstrated greatest improvement, AN (anorexia nervosa) the least.
Homan and Tylka (2015)	Cross-sectional	Self-Compassion Scale, Short Form Body Comparison Orientation subscale from Body, Eating, and Exercise Comparison Orientation Measure Body Appreciation Scale Contingencies of Self-Worth Scale	Combined sample of female undergraduates ($n = 42$) and women from MTurk ($n = 221$) in U.S. ($N = 263$)	Self-compassion moderated negative associations between body comparison and body appreciation, and appearance-contingent self-worth and body appreciation, such that these associations disappeared for women high in self-compassion.
Kelly and Carter (2015)	RCT compared Compassion-Focused Therapy to behavioral intervention	Self-Compassion Scale ED Examination Questionnaire Center for Epidemiological Studies Depression Scale Fears of Self-Compassion Scale	Persons with binge eating disorder in Canada ($N = 41$)	Interventions reduced weekly binge days more than control condition. Self-compassion intervention more effective in reducing global ED pathology, weight and eating concerns more than behavioral and control conditions. Self-compassion intervention produced greater improvements in self-compassion than control condition. Lower baseline fears of self-compassion in the self-compassion group predicted greatest improvements in ED pathology and depressive symptoms.
Kelly and Carter (2014)	Prospective cohort	Self-Compassion Scale-Short Form ED Examination Questionnaire	ED patients in Canada ($N = 89$)	Self-compassion did not significantly increase over time in AN-BP (AN purging) and AN-R (AN restricting) groups. Self-compassion significantly increased over time in BN and EDNOS groups.
Kelly, Carter, et al. (2014)	Prospective cohort	Self-Compassion Scale-Short Form ED Examination Questionnaire	ED outpatients in Canada ($N = 97$) *Same sample as Kelly et al. (2013) and Kelly, Vimalakanthan, and Carter (2014)*	Greater gains or smaller decreases in self-compassion early in treatment linked to greater decreases in eating disorder symptoms over 12 weeks.
Kelly et al. (2013)	Prospective cohort	Self-Compassion Scale, Short Form Fears of Self-Compassion Scale ED Examination Questionnaire	ED outpatients in Canada ($N = 74$) *Same sample as Kelly, Carter, et al. (2014) and Kelly, Vimalakanthan, and Carter (2014)*	Those low in self-compassion and high in fear of self-compassion at baseline demonstrated no change in eating disorder symptoms across 12 weeks, in contrast to patients with other levels of baseline compassion and fear of self-compassion. Patients higher in baseline self-compassion experienced reductions in ED symptoms independent of fear of self-compassion, while patients lower in baseline self-compassion only evidenced improvements in ED symptoms if their fear of self-compassion was also low.
Kelly, Vimalakanthan and Carter (2014)	Case–Control	Self-Compassion Scale, Short Form Fears of Self-Compassion Scale Rosenberg Self-Esteem Scale ED Examination Questionnaire BMI	Female undergraduates ($N = 155$) in Canada ED patients ($N = 97$) in Canada *Same ED sample as Kelly, Carter, et al. (2014) and Kelly et al. (2013)* *Same undergraduate sample as Kelly, Vimalakanthan and Miller (2014)*	ED patients indicated higher fear of self-compassion, lower self-compassion than did student sample. In patients, fear of self-compassion was strongest predictor of eating pathology. In students, low self-compassion was strongest predictor of global eating pathology and subscales. Low self-compassion and fear of self-compassion predicted greater Eating concerns in students.

Table 1 (*Continued*)

Study	Design	Measure	Sample	Key Findings
Kelly, Vimalakanthan and Miller (2014)	Cross-sectional	Self-Compassion Scale Rosenberg Self-Esteem Scale ED Examination Questionnaire Body Image Acceptance and Action Questionnaire BMI	Female undergraduates ($N = 153$) in Canada *Same sample as Kelly, Vimalakanthan and Carter (2014)*	Self-compassion negatively predicted global eating pathology and subscales, and positively predicted body image flexibility. Self-compassion moderated associations between BMI and global eating pathology and weight concerns, and between body image flexibility and BMI.
Liss and Erchull (2015)	Cross-sectional	Self-Compassion Scale, Short Form Objectified Body Consciousness Scale Eating Attitudes Test 26 Patient Health Questionnaire BMI	Female undergraduates high ($n = 106$) and low ($n = 104$) in self-compassion in U.S.	Low self-compassion women reported greater body surveillance, body shame, negative eating attitudes, and depression. Among women low in self-compassion, mediational paths between body surveillance and body shame, and from body surveillance to negative eating attitudes, were significantly stronger than for women high in self-compassion.
Magnus et al. (2010)	Cross-sectional	Self-Compassion Scale Rosenberg Self-Esteem Scale Social Physique Anxiety Scale Obligatory Exercise Questionnaire	Female exercisers ($N = 252$) in Canada	Self-compassion predicted lower levels of social physique anxiety and obligatory exercise.
Mosewich et al. (2011)	Cross-sectional	Self-Compassion Scale Rosenberg Self-Esteem Scale Social Physique Anxiety Scale Obligatory Exercise Questionnaire Objectified Body Consciousness Scale for Youth	Adolescent female athletes ($N = 151$) in Canada	Self-compassion predicted objectified body consciousness, body surveillance, and body shame, but not obligatory exercise.
Pinto-Gouveia et al. (2014)	Cross-sectional	Self-Compassion Scale Other As Shamer Scale Striving to Avoid Inferiority Scale Social Comparison Through Physical Appearance Scale The Forms of Self-Criticizing and Self-Reassuring Scale ED Inventory ED Examination Questionnaire	Pooled sample of female ED outpatients ($n = 102$) and women from general population ($n = 123$) in Portugal ($N = 225$) *Same sample as Ferreira et al. (2013)*	Social rank mentality (i.e., social comparison through physical appearance, external shame, and pressure to compete to avoid inferiority) was linked to drive for thinness via higher levels of self-criticism and lower levels of self-compassion.
Pisitsungkagarn et al. (2013)	Cross-sectional	Self-Compassion Scale Rosenberg Self-Esteem Scale Body Appreciation Scale	Female undergraduates ($N = 302$) in Thailand	Self-compassion significantly moderated the positive relationship between body image satisfaction and self-esteem. Those with high self-compassion were less likely to evidence a correlation between body image satisfaction and self-esteem.
Przezdziecki et al. (2013)	Cross-sectional	Self-Compassion Scale Body Image Scale (breast-cancer specific) Depression Anxiety and Stress Scale-21	Breast cancer survivors who finished active treatment ($N = 279$) in Australia	Lower levels of self-compassion partially mediated the positive association between body image disturbance and distress.
Schoenefeld and Webb (2013)	Cross-sectional	Self-Compassion Scale Distress Tolerance Scale Body Image Acceptance and Action Scale Intuitive Eating Scale	Female undergraduates ($N = 322$) in U.S. *Same sample as Daye et al. (2014)*	Self-compassion had a significant indirect effect on intuitive eating scores via the mediator of body image flexibility, but not distress tolerance.
Stapleton and Nikalje (2013)	Cross-sectional	Self-Compassion Scale Rosenberg Self-Esteem Scale Body Image Avoidance Questionnaire Intuitive Eating Scale BMI	Female undergraduates in Australia ($N = 137$)	Self-compassion predicted body image avoidance behaviors. Results disappeared when intuitive eating was included in the model.
Taylor et al. (2015)	Cross-sectional	Self-Compassion Scale, Short Form Mindful Eating Questionnaire Eating Attitudes Test 26 BMI	Undergraduates ($N = 150$) in U.S.	Self-compassion predicted mindful eating and negatively predicted ED symptomatology and BMI. No moderation observed of the link between self-compassion and BMI or ED symptomatology by mindful eating.

Table 1 (*Continued*)

Study	Design	Measure	Sample	Key Findings
Tylka et al. (2015)	Cross-sectional	Self-Compassion Scale, Short Form Perceived Sociocultural Pressures Scale Thin Ideal subscale of the Sociocultural Attitudes Toward Appearance Questionnaire Eating Attitudes Test 26	Community women ($N = 435$) in U.S.	Self-compassion moderated relationship between media thinness-related pressure (but not friend, family, or partner, i.e., interpersonal pressures) and thin-ideal internalization. Self-compassion moderated the relationship between media thinness-related pressure (but not peer or partner pressures) and disordered eating. At low family thinness pressure, self-compassion and disordered eating were inversely linked, with this relationship becoming non-significant at high levels of family thinness pressure.
Wasylkiw et al. (2012)	Cross-sectional	Study 1: Self-Compassion Scale Rosenberg Self-Esteem Scale Body Shape Questionnaire Body Appreciation Scale Weight Concerns subscale of Body Esteem Scale	Female undergraduates from Canada Study 1, $N = 142$	Study 1: Self-compassion predicted body preoccupation, body appreciation, and weight concerns.
		Study 2: Self-Compassion Scale Center for Epidemiological Studies Depression Scale Revised Rigid Restraint Scale	Study 2, $N = 187$	Study 2: Self-compassion did not predict body preoccupation, restrained eating. In model predicting body preoccupation from all self-compassion subscales, only self-judgment was significant. Self-compassion predicted eating guilt, and partially mediated the relationship between body preoccupation and depressive symptoms.
Webb and Forman (2013)	Cross-sectional	Self-Compassion Scale, positive subscale composite. Emotional Tolerance Scale Unconditional Self-Acceptance Scale Binge Eating Scale	Undergraduates ($N = 215$) in U.S.	Positive dimensions of self-compassion indirectly impacted binge eating severity through mediators of both emotional tolerance and unconditional self-acceptance.

($n = 89$), which included a different sample, patients with anorexia nervosa restricting (AN-R) type and binging/purging (AN-BP) type evidenced comparable trajectories across ED treatment, with no changes in self-compassion observed. Patients with bulimia nervosa (BN) and eating disorder not otherwise specified (EDNOS) demonstrated increased self-compassion across treatment, with the average rate of improvement in these groups greater than for the average of the AN-R and AN-BP groups (Kelly & Carter, 2014). Overall, these three analyses suggest a consistent pattern linking self-compassion with lower levels of ED symptomatology and greater gains in eating disorder treatment.

Comparison of non-clinical to clinical ED samples. Two studies compared the associations between self-compassion and disordered eating in non-clinical and clinical ED samples. An investigation in Portugal using the same sample as Pinto-Gouveia, Ferreira, and Duarte (2014) observed negative correlations between self-compassion and bulimic symptomatology in both patients with eating disorders ($n = 102$) and a non-patient sample of women ($n = 123$; Ferreira, Pinto-Gouveia, & Duarte, 2013). The observed correlations were stronger in the clinical ED sample, and self-compassion scores were significantly lower in the clinical ED group compared to the non-clinical group. Extending these findings, a Canadian study compared 97 ED outpatients[1] to 155 college students,[2] and found that ED patients evidenced higher fears of self-compassion and lower self-compassion than did the student sample (Kelly, Vimalakanthan, & Carter, 2014). Both studies suggest ED patients report lower self-compassion and higher fears of self-compassion than do non-clinical samples.

Studies with non-clinical samples. Eight articles utilizing cross-sectional research designs examined the associations between self-compassion and body- and ED-related outcomes with non-clinical samples. The relationship between self-compassion and exercise-related outcomes was examined in two studies from Canada. Among a sample of 252 female exercisers, self-compassion correlated negatively with obligatory exercise, a measure of compulsory exercise related to exercise habits and attitudes toward exercise and body image, even after controlling for self-esteem (Magnus, Kowalski, & McHugh, 2010). Among a sample of 151 adolescent athletes, however, no significant bivariate or multivariate association between self-compassion and obligatory exercise was found after adjusting for self-esteem (Mosewich, Kowalski, Sabiston, Sedgwick, & Tracy, 2011).

Other studies examined self-compassion in relation to a broader array of body- and ED-related outcomes. In a community sample

[2] The same sample utilized in Kelly, Vimalakanthan, and Miller (2014).

of 435 women from the U.S., self-compassion was associated with lower disordered eating and thin-ideal internalization (Tylka et al., 2015). Among U.S. undergraduates, self-compassion was negatively associated with ED symptomatology ($N = 150$; Taylor, Daiss, & Krietsch, 2015), and self-compassion and its positive-valenced components (self-kindness, common humanity, and mindfulness) was negatively associated with binge eating severity in a sample predominantly comprised of students of color from the U.S. ($N = 215$; Webb & Forman, 2013). Similar findings were observed in a study of 153 Canadian female undergraduates,[3] whereby self-compassion was inversely related to global ED pathology and eating concerns, weight concerns, shape concerns, and dietary restraint (Kelly, Vimalakanthan, & Miller, 2014).

In one article reporting on two studies conducted with Canadian female undergraduates, the first study ($N = 142$) revealed significant correlations between self-compassion and its positively and negatively valenced dimensions and body preoccupation, concerns about weight, and body appreciation. In multivariate analyses, self-compassion was inversely related to body preoccupation and concerns about weight, and positively related to body appreciation, even after adjusting for self-esteem (Wasylkiw, MacKinnon, & MacLellan, 2012).

The second study ($N = 187$) in this article observed that self-compassion was inversely associated with eating guilt, but not restrained eating, while the high self-kindness, low self-judgment, and low isolation components of self-compassion, operationalized by the Self-Compassion Scale (Neff, 2003b), were correlated with these outcomes (Wasylkiw et al., 2012). The high mindfulness and low over-identification components of self-compassion were significantly associated with eating guilt, but not restrained eating, and the self-compassion dimension of common humanity was not associated with either outcome. In multivariate analyses, self-compassion significantly inversely predicted eating guilt, but not restricted eating, after adjusting for self-esteem.

Two studies reported in one article with U.S. samples of predominantly Asian-American undergraduate women used a prospective design and an experimental design (Breines, Toole, Tu, & Chen, 2014). The first employed a daily diary design to examine linkages between self-compassion and disordered eating ($N = 95$) over a 4-day period. Adjusting for self-esteem, lower levels of disordered eating were observed on days when participants reported higher levels of state appearance-related self-compassion, operationalized with a modification of the Self-Compassion Scale tailored to bodily appearance/experience. In the second study ($N = 158$), students were administered a lab-based assessment of restrained eating and self-report questionnaires (Breines et al., 2014). Self-compassion for perceived physical flaws was linked to lower anticipated disordered eating, adjusting for self-esteem. Also, among women higher on a lab-based measure of dietary restraint, higher self-compassion was linked to lower weight gain concern and self-punishment motives for restrained eating.

Taken together, these findings suggest that self-compassion relates inversely to body- and ED-related outcomes in both non-clinical and clinical ED populations, with significantly lower levels of self-compassion and higher fear of self-compassion documented among ED patients. However, causality (i.e., assertions that low self-compassion causes body- and ED-related outcomes) cannot be inferred from these studies. As such, this literature offers only preliminary support for the hypothesis that self-compassion may act as a protective factor via its associations with lower levels of body- and ED-related outcomes.

Section 2: Self-compassion, Maladaptive Body Image Variables, and Protective Factors

We now consider preliminary evidence in support of the second pathway through which self-compassion may operate as a protective factor: preventing the initial occurrence of a risk factor of a maladaptive outcome. In this section, we review associations between self-compassion and risk factors for the development of eating pathology, including sociocultural factors and poor body image and eating behaviors.

Maladaptive body image variables.

Bivariate and multivariate findings. Eleven studies examined bivariate and multivariate associations between self-compassion and maladaptive body image variables. These findings are organized using the general framework of the tripartite influence model, which implicates media, peer, and familial interactions as pivotal in fostering the internalization of sociocultural appearance norms and appearance comparisons, with corresponding resultant increases in body dissatisfaction and eating pathology (Keery, van den Berg, & Thompson, 2004). Also reported are variables related to objectification theory, which implicates similar, sociocultural factors in the development and maintenance of eating pathology among women (Fredrickson & Roberts, 1997).

Media and interpersonal pressures and thin-ideal internalization. Two studies from the U.S. assessed constructs related to the tripartite influence model's three factors: media, family, and friend appearance-related pressures. In the first study of 435 community women, self-compassion was negatively linked to media and interpersonal (family, friends, and partners) pressures to be thin, as well as thin-ideal internalization (Tylka et al., 2015). In the second study of 322 undergraduate females,[4] participants with a greater recollection of receiving restrictive/critical caregiver eating messages (e.g., "parent commented that you were eating too much"), reported lower self-compassion. Self-compassion was unrelated to pressure to eat caregiver eating messages (e.g., "parent ... made you eat despite the fact that you were full"; Daye, Webb, & Jafari, 2014).

Social appearance comparisons or judgments. Three studies examined linkages between self-compassion and variables related to social appearance comparisons. In Ferreira et al.'s (2013) samples of 102 female ED patients and 123 women from the general population in Portugal, external shame, the endorsement of beliefs that others look down upon and negatively judge the self, negatively predicted self-compassion in both groups. In a study of 662 Portuguese female undergraduates, self-compassion was negatively associated with body dissatisfaction and social comparisons through physical appearance, the tendency to assess one's social attractiveness and ranking by comparing one's physical appearance to others (Duarte, Ferreira, Trindade, & Pinto-Gouveia, 2015). Relatedly, negative associations between self-compassion, body comparisons, and appearance self-worth were observed in a sample of 263 U.S. female undergraduates and community women (Homan & Tylka, 2015).

Objectification theory. Three studies examined constructs related to objectification theory. In a sample of 252 Canadian women exercisers, self-compassion was negatively correlated with and, after controlling for self-esteem in multivariate analyses,

[3] Drawn from the same sample utilized in Kelly, Vimalakanthan, and Carter (2014).

[4] The same sample utilized in Schoenefeld and Webb (2013).

inversely predictive of social physique anxiety, the degree of anxiety experienced when perceiving evaluation or observation of one's physique (Magnus et al., 2010). In a sample of 151 Canadian adolescent female athletes, Mosewich et al. (2011) replicated the negative association between self-compassion and social physique anxiety, as well as self-compassion's negative association with body surveillance, or habitually monitoring one's appearance as a form of self-objectification, and body shame, or the experience of painful, self-conscious affect due to the perception that one's body fails to meet sociocultural appearance norms (Noll & Fredrickson, 1998). In multivariate analyses, self-compassion significantly inversely predicted body surveillance and body shame, but not social physique anxiety. These findings were partially replicated in a sample of 322 U.S. undergraduate females, whereby self-compassion was negatively linked with body shame and body surveillance, and unrelated to appearance control beliefs (Daye et al., 2014).

Body dissatisfaction and related variables. Three studies examined associations between self-compassion and body dissatisfaction, as well as variables linked to body dissatisfaction. Negative associations between self-compassion and both body dissatisfaction and drive for thinness were observed in an article (Pinto-Gouveia et al., 2014) that pooled the ED patient and general Portuguese population samples ($N = 225$) from Ferreira et al. (2013). Self-compassion also was negatively linked to body image disturbance in an Australian sample of 279 breast cancer survivors (Przezdziecki et al., 2013). In an article containing two studies conducted with Canadian female undergraduates, body preoccupation was inversely related to self-compassion and its dimensions in the first study ($N = 142$; Wasylkiw et al., 2012). In the second study within this article ($N = 187$), however, global self-compassion failed to account for additional variance in body preoccupation when self-esteem was controlled, and only the low self-judgment dimension of self-compassion accounted for added variance in body preoccupation.

Self-compassion has also been assessed in relation to body image avoidance, which refers to the behavioral avoidance and grooming habits associated with negative body image (e.g., "I will not go out socially if I will be "checked out"; Rosen, Srebnik, Saltzberg, & Wendt, 1991). In a sample of 137 female undergraduates from Australia, global self-compassion, as well as aspects of self-compassion, were negatively related with body image avoidance (Stapleton & Nikalje, 2013). Self-compassion explained unique variance in body image avoidance after accounting for self-esteem, although this association disappeared when intuitive eating, a style of eating based on physiological hunger and satiety cues rather than situational/emotional cues (Tylka, 2006), was added to the model (Stapleton & Nikalje, 2013).

Across the diverse samples and studies reviewed here, self-compassion has been linked with lower media and interpersonal thinness pressures, thin-ideal internalization, social appearance comparisons, body surveillance, body shame, body dissatisfaction, and drive for thinness. These findings suggest that self-compassion is inversely associated with the risk factors articulated in the tripartite influence model and objectification theory, and therefore lend preliminary support to the hypothesis that self-compassion may serve a protective role against such risk.

Mediation models. We now consider cross-sectional research findings suggesting that lower levels of self-compassion may facilitate or mediate the relationship between the initial occurrence of a risk factor and a maladaptive ED-related outcome; that is, the risk factor is linked to an ED-related outcome at least in part due to low levels of self-compassion. Three articles from Portugal examined whether self-compassion mediates (i.e., explains) associations between social comparison, poor body image, and disordered eating. In samples of female ED patients ($n = 102$) and women from the general population ($n = 123$) of Portugal, self-compassion partially mediated the positive link between external shame and drive for thinness in the non-clinical group, and fully mediated this association in the group of ED patients (Ferreira et al., 2013). Lower self-compassion did not mediate the relation between body dissatisfaction and drive for thinness in the non-clinical group; however, it partially mediated this relationship in the group of ED patients. The second article, pooling these two samples ($N = 225$), revealed that self-compassion partially mediated the association between social ranking mentality, a construct related to social comparisons, inferiority, and competition, and drive for thinness (Pinto-Gouveia et al., 2014). In the third study with undergraduate females ($N = 662$), self-compassion partially mediated associations between appearance-related comparisons and psychological quality of life, and fully mediated the link between body dissatisfaction and this psychological quality of life (Duarte et al., 2015).

Two studies also examined whether self-compassion explained associations between poor body image and psychological health. Self-compassion partially mediated the relation between body image disturbance and distress in the sample of Australian breast cancer survivors ($N = 279$; Przezdziecki et al., 2013), and between body image preoccupation and depression in one of the samples of Canadian female undergraduates ($N = 187$; Wasylkiw et al., 2012).

All studies examining self-compassion as a mediator found that *low* levels of self-compassion partially or fully connected various risk factors to eating pathology. While limiting conjecture due to their cross-sectional design, these findings court speculation that higher self-compassion may circumvent risk factors (e.g., drive for thinness) known to foster eating pathology.

Protective factors related to positive body image and eating behavior.

Bivariate and multivariate findings.

Body image flexibility. Three studies examined self-compassion in relation to the Acceptance and Commitment (ACT) construct of body image flexibility, referring to the ability to tolerate and experience challenging body-related experiences or cognitions (e.g., body dissatisfaction) without requisite impairments in daily life (Sandoz, Wilson, Merwin, & Kellum, 2013). In a sample of the Portuguese general population ($N = 679$), self-compassion was positively related to body image flexibility (Ferreira, Pinto-Gouveia, & Duarte, 2011). Self-compassion was also positively correlated with body image flexibility in a study of 322 U.S. female undergraduates (Daye et al., 2014) and a sample of 153 Canadian female undergraduates, even after adjusting for self-esteem (Kelly, Vimalakanthan, & Miller, 2014).

Body appreciation. Associations between self-compassion and body appreciation were examined in three cross-sectional studies. Self-compassion was positively associated with body appreciation in a sample of 263 female undergraduates and community members from the U.S. (Homan & Tylka, 2015), and among female undergraduates from Canada ($N = 142$; Wasylkiw et al., 2012) and Thailand ($N = 302$; Pisitsungkagarn, Taephant, & Attasaranya, 2013).

Intuitive and mindful eating. Three cross-sectional studies examined self-compassion in relation to positive eating behaviors. Self-compassion was positively associated with intuitive eating in samples of female undergraduates from the U.S. ($N = 322$; Schoenefeld & Webb, 2013)[5] and Australia ($N = 137$; Stapleton & Nikalje, 2013), and was positively associated with and predictive of mindful eating in U.S. undergraduates ($N = 150$; Taylor et al., 2015).

[5] The same sample utilized in Daye et al. (2014).

The reviewed associations raise important questions regarding the relative predictive or treatment utility of self-compassion compared to other protective factors. Research examining protective factors through which self-compassion may act on ED-related dimensions seeks to better understand the relationships between such variables.

Mediation models. The effects of self-compassion on body- and ED-related outcomes may be mediated by other protective factors, a research question examined in two cross-sectional studies with undergraduate females from the U.S. In the first study ($N = 215$), after adjusting for BMI, path analyses revealed self-compassion to be indirectly associated with lower binge eating severity through unconditional self-acceptance and emotional tolerance, or the willingness to experience, rather than avoid, difficult emotions related to overeating (Webb & Forman, 2013). In the second study ($N = 322$), adjusting for self-esteem and BMI, self-compassion was positively related to intuitive eating through body image flexibility, but not distress tolerance (i.e., the capacity to experience negative emotional states in response to various contexts; Schoenefeld & Webb, 2013).

These findings generate intriguing conjecture for future study. While self-compassion may decrease eating pathology directly as posited in Section 1, these findings infer that its relationship with ED-related outcomes may be partially or fully mediated by other constructs.

Section 3: Self-Compassion as a Buffer to Body- and Eating-related Outcomes

Self-compassion may be considered a protective factor by buffering or potentiating the link between various risk factors and body- and ED-related outcomes. Here we review studies that have examined this hypothesis.

Potential buffer of ED-related outcomes.

Clinical samples. In a study including 34 ED outpatients from Portugal, self-compassion was found to interact with shame memories, the extent to which personal memories of shame or trauma are central to identity, to explain eating pathology (Ferreira et al., 2014). More specifically, those high in self-compassion who also reported low and medium shame memories reported less eating pathology than did those high in self-compassion and high in shame memories, suggesting that self-compassion may be a more accessible intervention target among individuals for whom memories of shame do not assume central identity salience (i.e., those whom have lower over-identification with shameful or traumatic memories).

One prospective study examined self-compassion as a moderator. In a sample of ED patients from Canada ($N = 74$), multilevel modeling revealed that, across 12 weeks of treatment, patients characterized by a baseline pattern of low self-compassion and high fear of self-compassion demonstrated no change in ED symptoms, in contrast with ED symptom improvements witnessed among patients with other levels of baseline self-compassion and fear of self-compassion. Notably, patients higher in baseline self-compassion experienced reduction in ED symptoms independent of fear of self-compassion, while patients lower in baseline self-compassion only evidenced improvements in ED symptoms if their fear of self-compassion was also low (Kelly et al., 2013). These findings suggest that low self-compassion may directly impair responsiveness to ED treatment, and thus could be a key target of intervention.

Non-clinical samples. Several previously described studies examined self-compassion as a buffer of ED-related outcomes in non-clinical samples. In a sample of 435 U.S. community women, self-compassion significantly buffered the relationship between media pressure to be thin and disordered eating; however, self-compassion did not buffer the relationship between friend or partner pressures to be thin and disordered eating (Tylka et al., 2015). Furthermore, self-compassion was negatively associated with disordered eating when family pressures to be thin were low, but this association disappeared at high levels of family pressure. The authors therefore note the importance of including societal interventions to target sources of thinness-related pressures from family members.

In a sample of Canadian female undergraduates, self-compassion moderated the positive association between BMI and global eating disorder pathology, weight concerns, and eating concerns. More specifically, there was evidence that these dimensions of eating pathology and BMI were associated for women with low and moderate levels of self-compassion but not for women high in self-compassion (Kelly, Vimalakanthan, & Miller, 2014). However, self-compassion did not moderate associations between dietary restraint or shape concerns and BMI. Finally, in a sample of U.S. female undergraduates, self-compassion did not moderate the relationship of mindful eating with BMI or ED symptomatology (Taylor et al., 2015).

Buffer of body image-related constructs in non-clinical samples. In a sample of 435 community women from the U.S., women high in self-compassion did not experience a relationship between media pressures to be thin and thin-ideal internalization, yet women low in self-compassion experienced a strong relationship between media pressures to be thin and thin-ideal internalization (Tylka et al., 2014). However, in this sample, self-compassion did not buffer the links between interpersonal (family, friend, and partner) pressures to be thin and thin-ideal internalization. In a sample of 322 undergraduate women from the U.S., those low in self-compassion evidenced stronger links between restrictive/critical caregiver eating messages (but not pressure to eat caregiver eating messages) and both body surveillance and body shame, although self-compassion did not moderate the relationship of either type of caregiver eating message to appearance control beliefs (Daye et al., 2014). Undergraduate women from the U.S. who were low in self-compassion ($n = 104$) were also found more likely than those high in self-compassion ($n = 106$) to report greater body surveillance, body shame, and negative eating attitudes (Liss & Erchull, 2015).

Undergraduate and community women from the U.S. higher in self-compassion evidenced no significant inverse link between body comparison and body appreciation or between appearance-contingent self-worth and body appreciation, yet these variables were inversely linked among women lower in self-compassion ($N = 263$; Homan & Tylka, 2015). Similarly, in a sample of 303 Thai female undergraduates, body image appreciation was more likely to be linked to self-esteem among those with high self-compassion (Pisitsungkagarn et al., 2013). Last, self-compassion buffered the negative association between body image flexibility and BMI in an analysis of 155 Canadian female undergraduates, with this association disappearing for women high, but not low or average, in self-compassion (Kelly, Vimalakanthan, & Miller, 2014).

Overall, self-compassion appears a potential buffer against the association of media thinness pressures, restrictive/critical caregiver eating messages, BMI, and various dimensions of body image with numerous body- and ED-related outcomes. Despite several exceptions, there is sufficient preliminary evidence that self-compassion may protect by interacting with various risk factors of several maladaptive body- and ED-related outcomes to reduce the likelihood of said outcomes.

Section 4: Self-Compassion as Disrupting Mediational Chains Through Which Risk Factors Operate

Only one cross-sectional study has examined self-compassion in this manner. In a sample of female undergraduates high and low in self-compassion (Liss & Erchull, 2015), path analyses revealed that in both groups, body surveillance related to body shame, which in turn related to negative eating attitudes and depression. A direct path was also observed between body surveillance and negative eating attitudes. Women lower in self-compassion evidenced significantly stronger links for the paths between body surveillance and body shame, and from body surveillance to negative eating attitudes. This investigation provides preliminary support of Tylka and Kroon Van Diest's (2015) hypothesis that self-compassion may moderate or buffer the mediational chains through which risk factors foster eating pathology.

Intervention studies. Four intervention studies have broadly examined the influence of self-compassion training on body- and ED-related outcomes. Given their experimental nature, these studies provide the most rigorous insight into the pathways through which self-compassion may function as a protective factor.

Interventions with clinical samples. Two studies examined the direct effects of self-compassion interventions on dimensions of eating pathology and psychological health among ED patients. In a pilot investigation of a community-based treatment program among 139 patients with EDs in England, a 4-week psychoeducation module was followed by a 16-week module of Compassion Focused Therapy for EDs (Gale, Gilbert, Read, & Goss, 2014). Across the five data collection points, significant improvements were observed in psychological distress, self-esteem, self-directed hostility, perceived external control, weight and shape concerns, eating restraint, and cognitive and behavioral AN and BN symptoms. With respect to eating behaviors, binge eating and excessive exercise significantly improved, with marginal improvements for vomiting, laxative, and diuretic use. Those with BN and, to a lesser extent, EDNOS, derived substantially greater benefit from the intervention than those with AN, although the authors note that the improvement rates among those with AN were nonetheless encouraging given the widely-documented treatment refractory nature of AN.

In the second study (Kelly & Carter, 2015), a randomized controlled trial, 41 patients with binge eating disorder (BED) were randomized to one of three conditions: Self-compassion based on a self-help book for overeating derived from Compassion-Focused Therapy (CFT; Goss, 2011), standard behavioral intervention based on Fairburn's *Overcoming Binge Eating* cognitive behavioral therapy (CBT)-based self-help book (Fairburn, 1995), or a wait-list control. The 6-week interventions comprised two lab sessions three weeks apart, whereby participants were assigned self-help resources through an audio-guided PowerPoint slideshow and instructed to practice for the subsequent three weeks.

While both intervention groups reduced weekly binge days relative to the control condition, the self-compassion intervention was most effective in reducing global ED pathology, weight, and eating concerns, and produced greater improvements in self-compassion than the wait-list control condition. By Week 3, the average self-compassion participant no longer qualified for an eating disorder diagnosis relative to other participants. Lower baseline fears of self-compassion in this group predicted greatest improvements in ED pathology and depressive symptoms, corroborating prior findings cited here implicating this construct as an important moderator of outcome in ED interventions. Both studies provide compelling evidence that self-compassion may decrease maladaptive ED outcomes directly, with limitations of such programs suggested for those high in fear of self-compassion.

Lab-based manipulation in non-clinical sample. In Adams and Leary's (2007) seminal experiment of 84 undergraduate females, women high in restrictive eating who received a self-compassion induction after consuming a doughnut preload consumed less candy during a subsequent "taste test" than did such women who did not receive the induction; no such findings observed for women low in dietary restriction. Self-compassion was higher among those who received the self-compassion induction than those who did not, leading authors to conjecture that the doughnut preload induced lower self-compassion among highly restrictive eaters, in turn fostering increased candy consumption in a milder variant of the classic dietary disinhibition effect, a risk factor for binge eating (Herman & Mack, 1975). The self-compassion induction appeared to eliminate this effect, suggesting it may have encouraged highly restrictive eaters to forgive themselves their dietary 'transgression.'

These findings illustrate the multiple protective pathways through which self-compassion may operate. First, these findings support that a self-compassion induction directly decreases maladaptive outcomes (i.e., dietary disinhibition) and second, that self-compassion prevents the initial occurrence of a risk factor (i.e., dietary disinhibition) of a maladaptive outcome (e.g., binge eating). Third, the interaction effect demonstrates that self-compassion buffers the otherwise deleterious impact of forbidden food consumption on disinhibition among highly restrained eaters. Finally, that self-compassion buffers two risk factors (i.e., forbidden food consumption, disinhibition) among highly restrictive eaters partially supports the postulate that self-compassion interrupts the mediational chain through which risk factors operate.

Body image intervention in a non-clinical sample. A final treatment study examined the effect of a self-compassion intervention on dimensions of body image. In a randomized controlled trial conducted in the U.S., 228 multigenerational females with body image concerns were randomly assigned to receive three weeks of self-compassion podcasts based on the Mindful Self-Compassion (MSC) training protocol (Neff & Germer, 2012) or to a wait-list control group (Albertson, Neff, & Dill-Shackleford, 2014). At post-intervention, relative to controls, self-compassion participants improved significantly more in self-compassion and body appreciation, and decreased in body dissatisfaction, body shame, and contingent self-worth based on appearance, with findings maintained at a 3-month follow-up. These findings suggest that self-compassion training decreases maladaptive outcomes directly (i.e., poor body image), and similarly infers disruption of the mediational chain through which such risk factors may otherwise foster ED-related outcomes.

Discussion

In aggregate and across a number of study designs and populations, the reviewed findings indicate beneficial associations between self-compassion and an array of markers related to body image and eating pathology. Overall, these empirical and conceptual linkages provide support for the suggestion by Tylka and Kroon Van Diest (2015) that self-compassion may serve as a protective factor against eating pathology in the following ways:

1. *Decreasing ED-related outcomes directly*. Across an array of samples and study designs, the reviewed literature strongly links dispositional self-compassion to lower ED-related outcomes, increases in self-compassion during standard ED treatment to greater improvement in ED-related outcomes, and self-compassion training to reduction of ED-related outcomes.

Results for AN, consistent with the broader literature, were less robust than for those with EDNOS, BN, or BED.
2. *Preventing the initial occurrence of a risk factor of a maladaptive outcome*. Lower self-compassion was linked with maladaptive body image variables, and was suggested to mediate the relationships between risk factors and body- and ED-related maladaptive outcomes. Self-compassion was beneficially linked with other protective factors (e.g., body appreciation, body image flexibility) that may prevent the initial occurrence of risk factors, with several such factors suggested to mediate the effects of self-compassion on improvements in binge eating severity and intuitive eating.
3. *Interacting with a risk factor to interrupt deleterious effects*. Self-compassion moderated associations between numerous risk factors and maladaptive outcomes in cross-sectional, longitudinal, and intervention research. In clinical samples participating in ED or self-compassion interventions, lower baseline self-compassion and higher fear of self-compassion were linked to poorer treatment outcomes over time. In non-clinical samples, those high in self-compassion appeared to be protected from the connection of numerous risk factors to body- and ED-related outcomes, with some notable exceptions.
4. *Disrupting the mediational chain through which a risk factor operates*. The one study to examine moderated mediation suggested stronger mediational links between risk factors among those lower relative to higher in self-compassion. Clearly, more research in this area is needed.

Methodological Considerations

Measurement.

Full versus brief Self-Compassion Scale. Most of the reviewed studies employed the original 26-item Self-Compassion Scale (SCS; Neff, 2003b) although a number used the 12-item brief version (SCS-SF; Raes, Pommier, Neff, & Van Gucht, 2011), both of which assess trait self-compassion. Other studies used versions tailored for physical appearance or state self-compassion. While the SCS-SF indicated a near-perfect correlation with the SCS in three validation samples, suggesting it an equally valid predictor, SCS-SF subscales (i.e., self-kindness, low self-judgment, mindfulness, low over-identification, common humanity, and low isolation, accounting for the reverse coding applied to negative subscales) are less reliable than are those from the full form, underscoring the need to use the full SCS for research examining the differential predictive utility of subscales related to observed outcomes (Raes et al., 2011). In the present review, all studies examining SCS subscales employed the full SCS.

Notably, recent validation work in clinical samples supports a two-factor model theorized to align with the CFT paradigm (Costa, Marôco, Pinto-Gouveia, Ferreira, & Castilho, 2015; Lopez et al., 2015), comprised of SCS positive (i.e., self-compassionate attitudes) and negative (i.e., self-critical attitudes) subscales rather than a unitary construct or the original six factors posited by Neff (2003b). Neff's (2015) response to these findings cites empirical evidence that 90% of reliable variance in SCS scores are explicable by reference to an overall factor across five different population subsamples; she also indicated that evidence supported a six-factor (i.e., subscale) structure. The theoretical paradigms supported by these factor analyses are highly complementary, yet distinct; social ranking theory underlies Gilbert's (2010) CFT, while Buddhist psychology in the Insight tradition undergirds Neff's, 2003b self-compassion formulation. Continued assessment of the SCS factor structure by additional and theoretically neutral researchers may elucidate the most clinically predictive and useful factor structure. Moreover, different factor structures may well prove clinically useful and relevant for diverse populations.

Affective tone of measures. Integrally, self-compassion is conceptualized to function predominantly through one's capacity to respond to difficult or painful thoughts, affect, or experiences with non-judgmental awareness, self-soothing, and warmth (Neff & Dahm, 2015). As suggested by Daye et al. (2014), one reason for potential null associations between self-compassion and other constructs such as appearance control beliefs may be the affectively valenced neutral content of such measures, relative to the SCS. Thus, while we might theoretically conceptualize self-compassion as a protective factor against affectively neutral risk factors that may foster eating pathology (e.g., internalization of sociocultural appearance norms), unless such factors are accompanied by suffering and mindful awareness of such suffering, self-compassion's protective influence may be considered at best to function as a proxy of other, third variables, such as general dispositional mindfulness or secure attachment.

Design and sampling. Most studies reviewed were cross-sectional, indicating the temporal ordering of findings remains to be elucidated. In particular, all studies assessing mediation were cross-sectional in design. Because mediation is a process that occurs over time, mediational testing of data collected at one time-point precludes truly examining mediation, with such findings signifying little absent replication in longitudinal or well-controlled designs (Maxwell & Cole, 2007). Further, while intervention studies all indicated increases in self-compassion, none statistically tested whether increases in self-compassion mediated the improved outcomes; this is an important question for future work, given that it would bring clarity to whether self-compassion could disrupt the mediational chain through which risk factors operate. Furthermore, relatively few of the reported studies sampled ED patients, men, and ethnic/racial minority populations, raising important concerns with respect to generalizability. Finally, six studies were published by the same research group from Canada, and five from the same research group in Portugal, raising the possibility of researcher allegiance effects and underscoring the need for replicability of findings from independent research groups.

Avenues for future research. Self-compassion was examined in relation to variables from numerous theoretical and clinical frameworks. These included the tripartite influence model (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), dual pathway model (Stice, 2001), objectification theory (Fredrickson & Roberts, 1997), and variables related to CFT and ACT. While most studies considered self-compassion as a predictor, others examined self-compassion as a mediator between outcomes, as well as variables through which self-compassion may act on ED-related outcomes. That self-compassion emerged a consistently significant predictor, mediator, and moderator of outcome across such frameworks and conceptualizations highlights its utility as a potential transtheoretical protective factor. Nonetheless, the small and methodologically variable nature of this literature clearly indicates a continuing need for future investigation in several key areas.

General theoretical considerations. Across findings, operational parallels emerged best explicated by reference to the tripartite influence model. Social appearance norms transmitted through cultural or interpersonal mechanisms facilitate distinct yet overlapping maladaptive facets related to body image. These constructs are predominantly interpersonal in origin, characterized by latent fear of judgment by others, and related to contingent self-worth, the belief that external appearance is intrinsically linked

with social acceptance and, by extension, self-worth or value. When the self is perceived as discrepant with the idealized or socially accepted self, efforts to attain social acceptance via eating pathology may result, further compounding the cycle of shame and social comparison (Cook-Cottone, Beck, & Kane, 2008). The reviewed findings support self-compassion as a potent protective factor against the links in this framework.

However, the tripartite influence model and other sociocultural models do not adequately account for the role of affect regulation or shame as poor body image and eating pathology risk factors, or explain the potential roles played by lower self-compassion and fear of self-compassion in these processes. Pinto-Gouveia et al.'s (2014) social ranking model of eating pathology, drawn from the CFT , marks the first effort to integrate self-compassion into a comprehensive and testable theoretical framework. While an excellent contribution, we suggest the literature may further benefit from a meta-theoretical model to best understand the pathways through which dimensions of self-compassion may protect against body- and ED-related outcomes (e.g., Karazsia et al., 2013).

Refining and clarifying pathways of action. The relationship of self-compassion to other protective factors, observed here to evidence consistent and positive associations, warrants clarification in future work. In the broader literature, self-compassion has been associated with transdiagnostic protective factors of psychological flexibility and mindfulness (e.g., Costa & Pinto-Gouveia, 2011; Neff & Dahm, 2015; Neff & Tirch, 2013). Given the explicit emphasis of self-compassion on actively turning toward and soothing experiences of suffering, Neff and Tirch (2013) propose it to theoretically enrich these transdiagnostic constructs. Their view is supported in part by findings reported here that self-compassion's effects partially act through emotional tolerance and body image flexibility (Webb & Forman, 2013), and a study that observed self-compassion up to ten times more predictive of variance in psychological health than mindfulness (Van Dam, Sheppard, Forsyth, & Earleywine, 2011).

Affect regulation. Indeed, evidence cited here aligns with the rich conceptualization of self-compassion as an adaptive affect regulation strategy (Neff & Dahm, 2015). Some research suggests the influence of self-compassion on health behaviors to function primarily through transformation of negative affect into positive affect (e.g., Sirois, 2015; Sirois et al., 2015), consistent with evidence demonstrating compassion training to activate neural circuitry implicated in positive emotion and affiliation (e.g., Klimecki, Leiberg, Lamm, & Singer, 2015). Given the centrality of poor affect regulation in the etiology and maintenance of EDs (e.g., Heatherton & Baumeister, 1991), examination of these pathways is an important focus of future work. Future research should examine whether self-compassion's role as a protective factor operates directly on ED-related outcomes, or whether characteristics generated as a result of self-compassion, such as affect regulation, positive affect, or effects on other protective factors, better explicate these pathways.

Eating behavioral protective factors. Other findings suggested that intuitive eating may be a stronger predictor of ED-related outcomes (Stapleton & Nikalje, 2013). The theoretical relationship between self-compassion and eating behavioral protective factors, such as mindful and intuitive eating, thus remains to be clarified. Future research should utilize theory and consider prevention and treatment implications when seeking to clarify these associations. For example, might self-compassion training directly or indirectly generalize to intuitive eating, thereby preventing or ameliorating other ED-related outcomes, or might optimal outcomes be leveraged by simultaneously training both characteristics? Alternately, as suggested, might intuitive eating be the stronger predictor of ED-related outcomes and thus, a more comprehensive prevention or treatment target?

Interoceptive awareness. Operational and empirical parallels between self-compassion, intuitive eating, and mindful eating observed here infer self-compassion may beneficially correspond to interoceptive awareness, a risk factor for eating pathology (Tylka & Hill, 2004). However, investigation of self-compassion in relation to interoceptive awareness was strikingly absent from the reviewed literature. Self-compassion training may directly or indirectly foster increased interoceptive awareness, and/or be particularly helpful at inducing self-soothing and non-reactivity during unpleasant emotional or endogenous hunger and satiety cues that may otherwise be suppressed or misinterpreted. These hypotheses warrant future investigation.

Treatment moderators and attachment orientation. Self-compassion did not buffer the association of several factors with ED-related outcomes, including pressure to eat caregiver messages, interpersonal thinness pressures, and shame memories. These factors, as well as poor body image, share variance with constructs related to insecure attachment (e.g., Cash, Thériault, & Annis, 2004), particularly noteworthy given increasing conceptualizations of trait self-compassion as interpersonally facilitated (e.g., Pepping, Davis, O'Donovan, & Pal, 2015). Several studies cited here implicated fears of self-compassion as a powerful mitigator of ED treatment effectiveness, consistent with CFT's conceptualization of this construct as deriving from the deleterious impact of adverse early childhood experiences on the attachment motivational system (Gilbert, McEwan, Matos, & Rivis, 2011). Fears of self-compassion may interact with insecure attachment, cultural or interpersonal pressures, and other factors, such as trauma, to prevent self-compassion and foster poor body image and ED-related outcomes. Overall, these conceptualizations and empirical findings highlight a potent need to further elucidate the roles of these constructs in relation to interpersonal and ED-related outcomes across preventive and treatment contexts.

Considerations for developing self-compassion. Consideration of self-compassion's development or trainability yields important insight for future research. Self-compassion, similar to mindfulness, is broadly theorized to develop in two primary ways. In the first, self-compassion is conceptualized a personality trait stemming from childhood attachment orientation (e.g., Pepping et al., 2015) or earned attachment following therapy and other relationships (Shaver, Lavy, Saron, & Mikulincer, 2007). In the second, self-compassion is viewed as a trainable attribute enhanced through explicit training, as in CFT, or via non-explicit or indirect training, as witnessed in the prospective studies of eating disorder patients cited here (e.g., Kelly & Carter, 2014) and participation in yoga (e.g., Gard et al., 2012).

Each approach may yield differential efficacy for varied psychosocial or behavioral phenotypes vulnerable to ED-related outcomes. For example, Mindfulness-Based Cognitive Therapy (MBCT) views explicit teaching of self-compassion in highly-critical, depressed patients as less likely to be effective, suggesting as an implicit administration route that instructors reflect and mirror a self-compassionate orientation when interacting with participants (Segal, Williams, & Teasdale, 2013). This relational method, as well as activities such as mindful yoga that indirectly facilitate increases in self-compassion, may be particularly salient for individuals with high fears of self-compassion. Explicit training (e.g., CFT or MSC) is similarly likely to play an important preventive and clinical role, particularly when techniques are relationally modeled or taught with a compassionate, affiliative presence. Each approach likely represents an important vehicle of transmission in different psychosocial phenotypes at risk for or suffering

ED-related outcomes, and the differential efficacy of each warrants future investigation.

Conclusion

Findings across 28 studies strongly support a role for self-compassion as a protective factor in relation to body- and ED-related outcomes. Recent work has suggested expanding investigation of "upward spirals" or aggregations of protective factors that engender self-reifying patterns and continuums of positive psychosocial development (Garland, Fredrickson, Kring, Johnson, Meyer, & Penn, 2010) to research of maladaptive body image and EDs (Tylka & Kroon Van Diest, 2015). Given compelling preliminary research suggesting that self-compassion's effects may foster other protective factors and potentiate body- and ED-related outcomes, future research should more comprehensively and rigorously assess whether such spirals are fostered by dispositional or trained self-compassion, and consequently impact body image and eating behaviors.

Acknowledgements

This research was unfunded, and the authors declare no conflict of interest.

Special thanks to the associate editor and reviewers for their excellent content and organizational suggestions, to Joan Daniel and Angelina Hernandez for their technical assistance, and to those who first inspired this line of inquiry; Sara Lazar, PhD, Lisa Conboy, MA, MS, ScD, and the Kripalu IEL.

References

Adams, C. E., & Leary, M. R. (2007). Promoting self-compassionate attitudes toward eating among restrictive and guilty eaters. *Journal of Social and Clinical Psychology*, *26*, 1120–1144. http://dx.doi.org/10.1521/jscp.2007.26.10.1120

Ainley, V., & Tsakiris, M. (2013). Body conscious? Interoceptive awareness, measured by heartbeat perception, is negatively correlated with self-objectification. *PLOS ONE*, *8*, 1–9. http://dx.doi.org/10.1371/journal.pone.0055568

Albertson, E. R., Neff, K. D., & Dill-Shackleford, K. E. (2014). Self-compassion and body dissatisfaction in women: A randomized controlled trial of a brief meditation intervention. *Mindfulness*, *6*, 444–454. http://dx.doi.org/10.1007/s12671-014-0277-3

Bailey, S. D., & Ricciardelli, L. A. (2010). Social comparisons, appearance related comments, contingent self-esteem and their relationships with body dissatisfaction and eating disturbance among women. *Eating Behaviors*, *11*, 107–112. http://dx.doi.org/10.1016/j.eatbeh.2009.12.001

Barnard, L. K., & Curry, J. F. (2011). Self-compassion: Conceptualizations, correlates, & interventions. *Review of General Psychology*, *15*, 289–303. http://dx.doi.org/10.1037/a0025754

Breines, J., Toole, A., Tu, C., & Chen, S. (2014). Self-compassion, body image, and self-reported disordered eating. *Self and Identity*, *13*, 432–448. http://dx.doi.org/10.1080/15298868.2013.838992

Cash, T. F., Thériault, J., & Annis, N. M. (2004). Body image in an interpersonal context: Adult attachment, fear of intimacy and social anxiety. *Journal of Social and Clinical Psychology*, *23*, 89–103. http://dx.doi.org/10.1521/jscp.23.1.89.26987

Cook-Cottone, C., Beck, M., & Kane, L. (2008). Manualized-group treatment of eating disorders: Attunement in Mind, Body, and Relationship (AMBR). *The Journal for Specialists in Group Work*, *33*, 61–83. http://dx.doi.org/10.1080/01933920701798570

Costa, J., Marôco, J., Pinto-Gouveia, J., Ferreira, C., & Castilho, P. (2015). Validation of the psychometric properties of the Self-Compassion Scale. Testing the factorial validity and factorial invariance of the measure among borderline personality disorder, anxiety disorder, eating disorder and general populations. *Clinical Psychology & Psychotherapy*, http://dx.doi.org/10.1002/cpp.1974 (Advance online publication)

Costa, J., & Pinto-Gouveia, J. (2011). Acceptance of pain, self-compassion and psychopathology: Using the Chronic Pain Acceptance Questionnaire to identify patients' subgroups. *Clinical Psychology and Psychotherapy*, *18*, 292–302. http://dx.doi.org/10.1002/cpp.718

Daye, C. A., Webb, J. B., & Jafari, N. (2014). Exploring self-compassion as a refuge against recalling the body-related shaming of caregiver eating messages on dimensions of objectified body consciousness in college women. *Body Image*, *11*, 547–556. http://dx.doi.org/10.1016/j.bodyim.2014.08.001

Duarte, C., Ferreira, C., Trindade, I. A., & Pinto-Gouveia, J. (2015). Body image and college women's quality of life: The importance of being self-compassionate. *Journal of Health Psychology*, *20*, 754–764. http://dx.doi.org/10.1177/1359105315573438

Fairburn, C. G. (1995). *Overcoming binge eating*. New York, NY: Guilford Press.

Ferreira, C., Matos, M., Duarte, C., & Pinto-Gouveia, J. (2014). Shame memories and eating psychopathology: The buffering effect of self-compassion. *European Eating Disorders Review*, *22*, 487–494. http://dx.doi.org/10.1002/erv.2322

Ferreira, C., Pinto-Gouveia, J., & Duarte, C. (2011). The validation of the Body Image Acceptance and Action Questionnaire: Exploring the moderator effect of acceptance on disordered eating. *International Journal of Psychology and Psychological Therapy*, *11*, 327–345. Retrieved from http://www.ijpsy.com/index.php

Ferreira, C., Pinto-Gouveia, J., & Duarte, C. (2013). Self-compassion in the face of shame and body image dissatisfaction: Implications for eating disorders. *Eating Behaviors*, *14*, 207–210. http://dx.doi.org/10.1016/j.eatbeh.2013.01.005

Fredrickson, B. L., & Roberts, T.-A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, *21*, 173–206. http://dx.doi.org/10.1111/j. 1471-6402.1997.tb00108.x

Gale, C., Gilbert, P., Read, N., & Goss, K. (2014). An evaluation of the impact of introducing compassion focused therapy to a standard treatment programme for people with eating disorders. *Clinical Psychology & Psychotherapy*, *21*, 1–12. http://dx.doi.org/10.1002/cpp.1806

Gard, T., Brach, N., Hölzel, B. K., Noggle, J. J., Conboy, L. A., & Lazar, S. W. (2012). Effects of a yoga-based intervention for young adults on quality of life and perceived stress: The potential mediating roles of mindfulness and self-compassion. *Journal of Positive Psychology*, *7*, 165–175. http://dx.doi.org/10.1080/17439760.2012.667144

Garland, E. L., Fredrickson, B., Kring, A. M., Johnson, D. P., Meyer, P. S., & Penn, D. L. (2010). Upward spirals of positive emotions counter downward spirals of negativity: Insights from the broaden-and-build theory and affective neuroscience on the treatment of emotion dysfunctions and deficits in psychopathology. *Clinical Psychology Review*, *30*, 849–864. http://dx.doi.org/10.1016/j.cpr.2010.03.002

Gilbert, P., McEwan, K., Matos, M., & Rivis, A. (2011). Fears of compassion: Development of three self-report measures. *Psychology and Psychotherapy*, *84*, 239–255. http://dx.doi.org/10.1348/147608310X526511

Gilbert, P. (2010). *Compassion focused therapy: Distinctive features*. London: Rutledge.

Goss, K. (2011). *The compassionate-mind guide to ending overeating: Using Compassion-Focused Therapy to overcome bingeing and disordered eating*. Oakland, CA: New Harbinger.

Heatherton, T. F., & Baumeister, R. F. (1991). Binge eating as escape from self-awareness. *Psychological Bulletin*, *110*, 86–108. http://dx.doi.org/10.1037/0033-2909.110.1.86

Herman, C. P., & Mack, D. (1975). Restrained and unrestrained eating. *Journal of Personality*, *43*, 647–660. http://dx.doi.org/10.1111/j. 1467-6494.1975.tb00727.x

Homan, K. J., & Tylka, T. L. (2015). Self-compassion moderates body comparison and appearance self-worth's inverse relationships with body appreciation. *Body Image*, *15*, 1–7. http://dx.doi.org/10.1016/j.bodyim.2015.04.007

Karazsia, B. T., van Dulmen, M. H., Wong, K., & Crowther, J. H. (2013). Thinking meta-theoretically about the role of internalization in the development of body dissatisfaction and body change behaviors. *Body Image*, *10*, 433–441. http://dx.doi.org/10.1016/j.bodyim.2013.06.005

Klimecki, O. M., Leiberg, S., Lamm, C., & Singer, T. (2015). Functional neural plasticity and associated changes in positive affect after compassion training. *Cerebral Cortex*, *23*, 1552–1561. http://dx.doi.org/10.1093/cercor/bhs142

Keery, H., van den Berg, P., & Thompson, J. K. (2004). An evaluation of the tripartite influence model of body dissatisfaction and eating disturbance with adolescent girls. *Body Image*, *1*, 237–251. http://dx.doi.org/10.1016/j.bodyim.2004.03.001

Kelly, A. C., & Carter, J. C. (2014). Eating disorder subtypes differ in their rates of psychosocial improvement over treatment. *Journal of Eating Disorders*, *2*, 1–10. http://dx.doi.org/10.1186/2050-2974-2-2

Kelly, A. C., & Carter, J. C. (2015). Self-compassion training for binge eating disorder: A pilot randomized controlled trial. *Psychology and Psychotherapy*, *88*, 285–303. http://dx.doi.org/10.1111/papt.12044

Kelly, A. C., Carter, J. C., & Borairi, S. (2014). Are improvements in shame and self-compassion early in eating disorders treatment associated with better patient outcomes? *International Journal of Eating Disorders*, *47*, 54–64. http://dx.doi.org/10.1002/eat.22196

Kelly, A. C., Carter, J. C., Zuroff, D. C., & Borairi, S. (2013). Self-compassion and fear of self-compassion interact to predict response to eating disorders treatment: A preliminary investigation. *Psychotherapy Research*, *23*, 252–264. http://dx.doi.org/10.1080/10503307.2012.717310

Kelly, A. C., Vimalakanthan, K., & Carter, J. C. (2014). Understanding the roles of self-esteem, self-compassion, and fear of self-compassion in eating disorder pathology: An examination of female students and eating disorder patients. *Eating Behaviors*, *15*, 388–391. http://dx.doi.org/10.1016/j.eatbeh.2014.04.008

Kelly, A. C., Vimalakanthan, K., & Miller, K. E. (2014). Self-compassion moderates the relationship between body mass index and both eating disorder pathology and body image flexibility. *Body Image*, *11*, 446–453. http://dx.doi.org/10.1016/j.bodyim.2014.07.005

Liss, M., & Erchull, M. J. (2015). Not hating what you see: Self-compassion may protect against negative mental health variables connected to self-objectification in college women. *Body Image*, *14*, 5–12. http://dx.doi.org/10.1016/j.bodyim.2015.02.006

Lopez, A., Sanderman, R., Smink, A., Zhang, Y., van Sonderen, E., Ranchor, A., & Schroevers, M. J. (2015). A reconsideration of the self-compassion scale's total

score: Self-compassion versus self-criticism. *PLoS ONE*, *10*, 1–12. http://dx.doi.org/10.1371/journal.pone.0132940
MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychology Review*, *32*, 545–552. http://dx.doi.org/10.1016/j.cpr.2012.06.003
Magnus, C. M. R., Kowalski, K. C., & McHugh, T.-L. F. (2010). The role of self-compassion in women's self-determined motives to exercise and exercise-related outcomes. *Self and Identity*, *9*, 363–382. http://dx.doi.org/10.1080/15298860903135073
Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, *12*, 23–44. http://dx.doi.org/10.1037/1082-989X.12.1.23
Mosewich, A. D., Kowalski, K. C., Sabiston, C. M., Sedgwick, W. A., & Tracy, J. L. (2011). Self-compassion: A potential resource for young women athletes. *Journal of Sport & Exercise Psychology*, *33*, 103–123. Retrieved from http://journals.humankinetics.com/jsep
Neff, K. D. (2003a). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2*, 85–101. http://dx.doi.org/10.1080/15298860309032
Neff, K. D. (2003b). The development and validation of a scale to measure self-compassion. *Self and Identity*, *2*, 223–250. http://dx.doi.org/10.1080/15298860309027
Neff, K. D. (2015). The Self-Compassion Scale is a valid and theoretically coherent measure of self-compassion. *Mindfulness*, http://dx.doi.org/10.1007/s12671-015-0479-3. Advance online publication
Neff, K. D., & Dahm, K. A. (2015). Self-compassion: What it is, what it does, and how it relates to mindfulness. In M. Robinson, B. Meier & B. Ostafin (Eds.), *Handbook of mindfulness and self-regulation* (pp. 1–40). New York: Springer.
Neff, K. D., & Germer, C. K. (2012). A pilot study and randomized controlled trial of the Mindful Self-Compassion Program. *Journal of Clinical Psychology*, *69*, 28–44. http://dx.doi.org/10.1002/jclp.21923
Neff, K. D., Hsieh, Y.-P., & Dejitterat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and Identity*, *4*, 263–287. http://dx.doi.org/10.1080/13576500444000317
Neff, K. D., & Tirch, D. (2013). Self-compassion and ACT. In T. B. Kashdan & J. Ciarrochi (Eds.), *Mindfulness, acceptance, and positive psychology: The seven foundations of well-being* (pp. 78–106). Oakland, CA: Context Press/New Harbinger Publications.
Noll, S. M., & Fredrickson, B. L. (1998). A mediational model linking self-objectification, body shame, and disordered eating. *Psychology of Women Quarterly*, *22*, 623–636. http://dx.doi.org/10.1111/j. 1471-6402.1998.tb00181.x
Pepping, C. A., Davis, P. J., O'Donovan, A., & Pal, J. (2015). Individual differences in self-compassion: The role of attachment and experiences of parenting in childhood. *Self and Identity*, *14*, 104–117. http://dx.doi.org/10.1080/15298868.2014.955050
Pinto-Gouveia, J., Ferreira, C., & Duarte, C. (2014). Thinness in the pursuit for social safeness: An integrative model of social rank mentality to explain eating psychopathology. *Clinical Psychology and Psychotherapy*, *21*, 154–165. http://dx.doi.org/10.1002/cpp.1820
Pisitsungkagarn, K., Taephant, N., & Attasaranya, P. (2013). Body image satisfaction and self-esteem in Thai female adolescents: The moderating role of self-compassion. *International Journal of Adolescent Medicine and Health*, *26*, 333–338. http://dx.doi.org/10.1515/ijamh-2013-0307
Przezdziecki, A., Sherman, K. A., Baillie, A., Taylor, A., Foley, E., & Stalgis-Bilinski, K. (2013). My changed body: Breast cancer, body image, distress and self-compassion. *Psycho-Oncology*, *22*, 1872–1879. http://dx.doi.org/10.1002/pon.3230
Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical Psychology & Psychotherapy*, *18*, 250–255. http://dx.doi.org/10.1002/cpp.702
Rosen, J. C., Srebnik, D., Saltzberg, E., & Wendt, S. (1991). Development of a body image avoidance questionnaire. *Psychological Assessment*, *3*, 32–37. http://dx.doi.org/10.1037/1040-3590.3.1.32
Sandoz, E. K., Wilson, K. G., Merwin, R. M., & Kellum, K. K. (2013). Assessment of body image flexibility: The Body Image Acceptance and Action Questionnaire. *Journal of Contextual Behavioral Science*, *2*, 39–48. http://dx.doi.org/10.1016/j.jcbs.2013.03.002
Schoenefeld, S. J., & Webb, J. B. (2013). Self-compassion and intuitive eating in college women: Examining the contributions of distress tolerance and body image acceptance and action. *Eating Behaviors*, *14*, 493–496. http://dx.doi.org/10.1016/j.eatbeh.2013.09.001
Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2013). *Mindfulness-based cognitive therapy for depression* (2nd ed.). New York, NY: Guilford Press.
Shaver, P. R., Lavy, S., Saron, C. D., & Mikulincer, M. (2007). Social foundations of the capacity for mindfulness: An attachment perspective. *Psychological Inquiry*, *18*, 264–271. http://dx.doi.org/10.1080/10478400701598389
Sirois, F. M. (2015). A self-regulation resource model of self-compassion and health behavior intentions in emerging adults. *Preventive Medicine Reports*, *2*, 218–222. http://dx.doi.org/10.1016/j.pmedr.2015.03.006
Sirois, F. M., Kitner, R., & Hirsch, J. (2015). Self-compassion, affect, and health-promoting behaviors. *Health Psychology*, *34*, 661–669. http://dx.doi.org/10.1037/hea0000158
Stapleton, P., & Nikalje, A. (2013). Constructing body image in university women: The relationship between self-esteem, self-compassion, and intuitive eating. *International Journal of Healing and Caring*, *13*, 1–20. Retrieved from http://ijhc.org/
Stice, E. (2001). A prospective test of the dual-pathway model of bulimic pathology: Mediating effects of dieting and negative affect. *Journal of Abnormal Psychology*, *110*, 124–135. http://dx.doi.org/10.1037/0021-843X.110.1.124
Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychological Bulletin*, *128*, 825–848. http://dx.doi.org/10.1037//0033-2909.128.5.825
Taylor, M. B., Daiss, S., & Krietsch, K. (2015). Associations among self-compassion, mindful eating, eating disorder symptomatology, and body mass index in college students. *Translational Issues in Psychological Science*, *1*, 229–238. http://dx.doi.org/10.1037/tps0000035
Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. Washington, DC: American Psychological Association.
Tylka, T. L. (2006). Development and psychometric evaluation of a measure of intuitive eating. *Journal of Counseling Psychology*, *53*, 226–240. http://dx.doi.org/10.1037/0022-0167.53.2.226
Tylka, T. L., & Hill, M. S. (2004). Objectification theory as it relates to disordered eating among college women. *Sex Roles*, *51*, 719–730. http://dx.doi.org/10.1007/s11199-004-0721-2
Tylka, T. L., & Kroon Van Diest, A. M. (2015). Protective factors. In L. Smolak & M. P. Levine (Eds.), *The Wiley handbook of eating disorders* (pp. 430–444). West Sussex, UK: John Wiley & Sons, Ltd.
Tylka, T. L., Russell, H. L., & Neal, A. A. (2015). Self-compassion as a moderator of thinness-related pressures' associations with thin-ideal internalization and disordered eating. *Eating Behaviors*, *17*, 23–26. http://dx.doi.org/10.1016/j.eatbeh.2014.12.009
Van Dam, N. T., Sheppard, S. C., Forsyth, J. P., & Earleywine, M. (2011). Self-compassion is a better predictor than mindfulness of symptom severity and quality of life in mixed anxiety and depression. *Journal of Anxiety Disorders*, *25*, 123–130. http://dx.doi.org/10.1016/j.janxdis.2010.08.011
Wasylkiw, L., MacKinnon, A. L., & MacLellan, A. M. (2012). Exploring the link between self-compassion and body image in university women. *Body Image*, *9*, 236–245. http://dx.doi.org/10.1016/j.bodyim.2012.01.007
Webb, J. B., & Forman, M. J. (2013). Evaluating the indirect effect of self-compassion on binge eating severity through cognitive-affective self-regulatory pathways. *Eating Behaviors*, *14*, 224–228. http://dx.doi.org/10.1016/j.eatbeh.2012.12.005