

Dietary Restraint in College Women: Fear of an Imperfect Fat Self is Stronger than Hope of a Perfect Thin Self

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Abstract

We predicted that the perceived likelihood of acquiring a hoped-for thin self would mediate perfectionistic strivings on dietary restraint, and that the perceived likelihood of acquiring a feared fat self would mediate perfectionistic concerns on dietary restraint. We also predicted that the mediation pathway from perfectionistic concerns to dietary restraint would have a greater impact than that from perfectionistic strivings. Participants were 222 female college students who reported their height and weight and completed measures of perfectionism, the likelihood of acquiring the feared fat and hoped-for thin selves, and dietary restraint. Statistical analyses revealed that the perceived likelihood of acquiring the feared fat self mediated both perfectionistic concerns and perfectionistic strivings on dietary restraint, and that the mediating pathway from perfectionistic concerns to dietary restraint was greater than that from perfectionistic strivings. Implications for future research and eating pathology interventions are discussed.

Keywords:

perfectionistic concerns, perfectionistic strivings, perceived likelihood, dietary restraint, possible selves

Perfectionism has been implicated in the development and maintenance of female eating pathology (Stice, 2002). Yet, despite this, researchers have pointed to a lack of empirical studies addressing the nature of the mechanisms underpinning perfectionism's links to such pathology (Bardone-Cone et al., 2007).

Given the association between eating pathology and frequent dietary restraint, we seek to address this issue by placing the relationship between perfectionism and dietary restraint within a possible selves framework (Ackard, Croll, & Kearney-Cooke, 2002; Markus & Nurius, 1986). More precisely, we examined the mediational role of a hoped-for thin self and a feared fat self in a population where eating disorders and unhealthy dietary restraint are both prevalent and increasing: young college women (Ackard et al., 2002; Cohen & Petrie, 2005; White, Reynolds-Malear, & Cordero, 2011).

Perfectionism is a multidimensional personality disposition characterized by a striving for flawlessness, excessive self-criticism, and the setting of extremely high standards (Frost, Marten, LaHart, & Rosenblate, 1990; Hewitt & Flett, 1991; Stoeber & Otto, 2006). According to recent

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research perfectionism may also be usefully differentiated into an adaptive dimension, called perfectionistic strivings, and a maladaptive dimension, called perfectionistic concerns (Stoeber & Otto, 2006). While there is considerable empirical support for the presence of these adaptive and maladaptive forms of perfectionism, it nevertheless appears that, in some contexts, perfectionistic strivings is associated with pathology (Frost et al., 1990). For example, patients with disordered eating symptomatology tend to score higher not only on measures of perfectionistic concerns but also on measures of perfectionistic strivings (Bardone-Cone et al., 2007; Sassaroli et al., 2008).

The finding that clinical levels of dietary restraint can be characterized by high scores on both perfectionistic strivings and perfectionistic concerns is consistent with the dual process model of perfectionism (Slade & Owens, 1998). Within this theoretical framework, those higher in perfectionistic strivings are motivated by positive reinforcement and a desire to be successful, while those higher in perfectionistic concerns are motivated by negative reinforcement and a fear of failure (Bergman, Nyland, & Burns, 2007; Slade & Owens 1998). According to the dual process model, therefore, women higher in perfectionistic strivings should engage in dietary restraint in the hope of acquiring the culturally-ascribed rewards associated with a thin self. In contrast, women higher in perfectionistic concerns should engage in dietary restraint because they fear the culturally ascribed negative consequences of acquiring a fat or overweight self (Crandall & Martinez, 1996; Slade & Owens, 1998).

The dual process model also proposes that the self-concept is central to how perfectionistic strivings and perfectionistic concerns impact behaviour (Slade & Owens, 1998, 2008). With this in mind, we propose that possible selves, i.e., the future-oriented aspects of the self-concept that one hopes to become or fears to become, mediate the relationship between these two dimensions of perfectionism and dietary restraint (Markus & Nurius, 1986). Although hoped-for and feared possible selves are important mechanisms between thought and behaviour, their mediational role with regard to perfectionism and dietary restraint remains to be empirically confirmed (Markus & Nurius, 1986; Oyserman & James, 2009).

Possible selves influence behaviour by serving as reference standards against which the current self is compared (vanDellen & Hoyle, 2008). Building on a recent review by Oyserman and James (2009), as well as contemporary social comparison theory, the motivational impact of such a comparison should, in part, depend on an expectancy judgment about the likelihood of acquiring a possible self (Lockwood & Pinkus, 2007). Thus, with an increasing expectancy of acquiring either a hoped-for thin self or a feared fat self, the greater should be the motivation to engage in dietary restraint. However, assessments of expectancy, as well as the particular reference standard that is the focus of an expectancy assessment, may be influenced by personality disposition (Carver & Scheier, 1998). Accordingly, since perfectionistic strivings is associated with a focus on success and being optimistic about achieving success, and given that western culture equates thinness with success for women, we predicted that an expectancy judgment about the likelihood of acquiring a hoped-for thin self will mediate the impact of perfectionistic strivings on dieting restraint (Bergman et al., 2007; Evans, 2003; Slade & Owens, 1998). Conversely, because perfectionistic concerns is associated with a focus on anticipating and avoiding negative outcomes, and given that western culture stigmatizes fat bodies for women especially, we predicted that an expectancy judgment about the likelihood of acquiring a feared fat self will mediate the impact of perfectionistic concerns on dietary restraint (Crandall & Martinez, 1996; DiBartolo, Li, & Frost, 2008; Slade & Owens, 1998).

We also expected a negativity bias with regard to the mediating impact of the feared and hoped-for selves on dietary restraint. Specifically, we predicted that the mediating pathway from perfectionistic concerns will have a significantly greater impact on dietary restraint than

the mediating pathway from perfectionistic strivings. Support for this prediction comes from research demonstrating the greater potency of negative information, and negative identities in particular, over positive information on human functioning (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Ogilvie, 1987). Additionally, and consistent with this body of research, Dalley and Buunk (2011) recently reported that the women most motivated to engage in dietary restraint were characterized by having a highly available feared fat self in memory, as well as perceiving a high degree of similarity to this future self.

Finally, we expected that the predicted mediating pathways from perfectionistic strivings and perfectionistic concerns, as well as the associated negativity bias, to occur when controlling for body mass index (BMI). We based this expectation on previous research demonstrating that perfectionism exerts its impact on eating pathology regardless of actual body weight (Joiner, Heatherton, Rudd, & Schmidt, 1997).

1. Method

1.1. Participants

Two hundred and twenty two female university students ranging in age from 17 to 30 ($M_{age} = 22.12$ years, $SD_{age} = 2.21$ years; $M_{BMI} = 21.65$ kg/m^2 , $SD_{BMI} = 2.64$ kg/m^2) volunteered to participate in this study.

1.2. Measures

1.2.1. Possible self expectancy

Participants read the following: “From time to time, we all think about the sort of body we could have in the future. Sometimes, what comes to mind is a feared (hoped-for) body that is fat/overweight (thin).” Expectancy was then operationalized in terms of perceived likelihood (Lockwood, 2002). Following Lockwood (2002), participants indicated the likelihood of acquiring their feared (hoped-for) body on a single item: “How likely is it that you will acquire this feared (hoped-for) body in the future?” and responded on a scale ranging from 1 (not at all likely) to 9 (extremely likely).

1.2.2. Perfectionistic strivings and perfectionistic concerns

The Almost Perfect Scale-Revised (APS-R; Slaney, Rice, Mobely, Trippi, & Ashby, 2001) was used to operationalize perfectionistic strivings and perfectionistic concerns. Specifically, the 12-item Discrepancy subscale was used to measure perfectionistic concerns (e.g., “I often feel frustrated because I can’t meet my goals,” “Doing my best never seems to be good enough”), and the 7-item Standards subscale was used to measure perfectionistic strivings (e.g., “I have high standards for my performance at work and school,” “I try to do my best at everything I do”). The Order subscale of the APS-R was not used in this study. Responses were scored on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), and subscale items were summed. Slaney et al. (2001) have previously reported an internal reliability of $\alpha = .85$ for the APS-R Standards subscale and $\alpha = .92$ for the APS-R Discrepancy subscale among U.S. college students. In this study, a reliability analysis demonstrated Cronbach’s alphas of .83 and .93 for the Standards and Discrepancy subscales, respectively.

1.2.3. Dietary restraint

The Dietary Intent Scale (DIS; Stice, 1998) was used to measure dietary restraint. The DIS assesses dietary restriction over the past six months using nine items describing concrete weight-loss or weight-maintenance behaviours (e.g., “I take small helpings in an effort to control my weight,” “I skip meals in an effort to control my weight”). Responses were scored on a scale ranging from 1 (never) to 5 (always) and were summed. In Stice’s sample of college women the scores on the DIS were found to be internally consistent ($\alpha = .94$) and temporally reliable (1-month test-retest $r = .92$); in the current study, Cronbach’s alpha was .89.

1.2.4. Body mass index

Body mass index (BMI) was calculated for each participant using self-reported height and weight data. Bowman and DeLucia (1992) have previously shown that self-reported height and weight tends to vary by 1% to 3.5% from participants’ actual height and weight.

1.3. Procedure

After being approved by the local ethics committee, participants were recruited as part of a convenience sample taken at the central library of the University of Groningen. Participants were approached in the study area of the library and were informed as to the purpose of the study: the relationship between perfectionistic personality style and dieting behaviour. They then completed a paper and pencil questionnaire. Participants did not receive any monetary compensation. The sections concerning the feared and hoped-for selves were completed first. These sections were counterbalanced to prevent order effects. Participants then completed the DIS and the Standards and Discrepancy subscales of the APS-R. Following this, participants provided their age, height, and weight data. At the end of the study, participants were thanked and debriefed.

1.4. Mediation Analysis

Mediation was tested using Preacher and Hayes’ macro *MEDIATE* for SPSS (version 18.0). *MEDIATE* is a method for comparing multiple mediators as well as multiple predictor variables based on Preacher and Hayes (2008). This procedure yields unstandardized path coefficients for a multiple mediator model and estimates 95% confidence intervals (CI) of the indirect effects using a bootstrapping sample procedure. Assessing an indirect effect through bootstrapping is more reliable than testing the significance of the mediation effects because the sampling distribution of the indirect effects is normal only for large samples (Preacher & Hayes, 2008). The mediation analysis used here followed the product-of-coefficients approach, focusing on the indirect effects rather than the individual paths (Preacher & Hayes, 2008). The model we tested included perfectionistic strivings and perfectionistic concerns as predictors, the perceived likelihood of acquiring the feared and hoped-for possible selves as mediators and dietary restraint as the criterion variable. BMI was included as a control variable for dietary restraint and the perceived likelihood of acquiring the feared and hoped-for possible selves. *MEDIATE* was performed using unstandardized scores because it cannot estimate bootstrapped confidence intervals with standardized scores.

MEDIATE also cannot determine which of the indirect paths has a larger impact on dietary restraint because it does not compare the indirect effects of different independent variables. As a consequence Bayesian Structural Equation Modeling (carried out with AMOS 16) was used to address this issue (Arbuckle, 2009; Lee, 2007). This procedure uses an iterative Monte Carlo

Table 1: Pearson correlations among and summary of the means and standard deviations of the measured variables of the sample.

Variable	1	2	3	4	5	<i>M</i>	<i>SD</i>
1.BMI	-					21.65	2.65
2.PS	.12	-				35.23	5.99
3.PC	.08	.14*	-			39.33	12.81
4.HOPE	-.03	.16*	-.13	-		5.18	2.00
5.FEAR	.13	-.10	.28**	-.25**	-	4.19	1.99
6.DIET	.18*	.16*	.17*	.00	.25**	18.79	7.10

Note: $N = 222$. Legend: BMI = body mass index, PS = perfectionistic strivings, PC = perfectionistic concerns, HOPE = perceived likelihood of acquiring the hoped-for thin body, FEAR = perceived likelihood of acquiring the feared fat body, DIET = dietary restraint.

* $p < .05$.

** $p < .01$.

Markov Chain (MCMC) to estimate the model's parameters. Basically, the Bayesian (e.g., posterior) likelihood of any given parameter is estimated by simulating thousands of different samples (in this case 100,000). The iteration in the simulation was set as follows: 500 burn-in samples (i.e., the rejected initial simulations) and more than 95,000 post-burn-in samples, which were thinned (i.e., taking every n items from the simulation) twice. The model converged to less than 1.0001 (Arbuckle, 2009). Standardized estimates of the indirect paths were compared to evaluate whether one path was significantly stronger than the other path.

2. Results

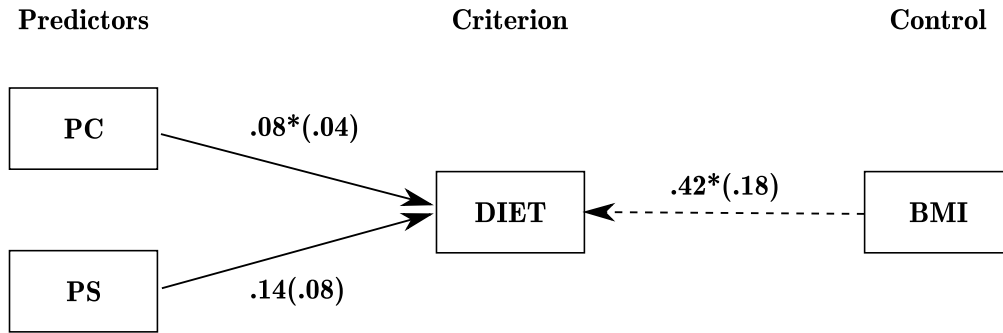
2.1. Descriptive statistics and correlations

Before analyzing the data, missing-values were removed in a list-wise fashion. Table 1 presents the means and standard deviations of the variables used in this study and the correlations between them. The perceived likelihood of acquiring the feared fat self was positively correlated with dietary restraint, whereas the perceived likelihood of acquiring the hoped-for thin self was not. The perceived likelihood of acquiring the hoped-for thin self was also positively correlated with perfectionistic strivings, whereas the perceived likelihood of acquiring the feared fat self was positively correlated with perfectionistic concerns. Both perfectionistic strivings and perfectionistic concerns were positively correlated with dietary restraint.

2.2. Mediation analysis

Figure 1 and Figure 2 present the direct and indirect paths, respectively, of the multiple mediation model tested in this analysis: the path of perfectionistic strivings and perfectionistic concerns on dieting restraint, through the likelihood of acquiring the feared fat and the hoped-for thin selves, while controlling for BMI. Indirect effects and CI of the model are reported in Table 2. Mediation is said to occur if an indirect effect contributes significantly to the model estimation (determined by subtracting the direct effect from the total effect; Preacher & Hayes, 2008). Therefore, mediation is present if the CI of the indirect path does not contain zero.

Figure 1: The total effects of perfectionistic concerns and perfectionistic standards on dietary restraint. PC = perfectionistic concerns. PS = perfectionistic strivings. DIET = dietary restraint. BMI is a control. Unstandardized coefficients (standard errors in parentheses) are presented. * corresponds to a p value smaller than .05.



Adjusted R^2 in the total effects model for dieting restraint was .06, $p = .001^3$. Adjusted R^2 for dieting restraint was .10, $p < .001$; adjusted R^2 for the likelihood of acquiring the feared fat self was .10, $p < .001$; adjusted R^2 for the likelihood of acquiring the hoped-for thin self was .04, $p = .01$.

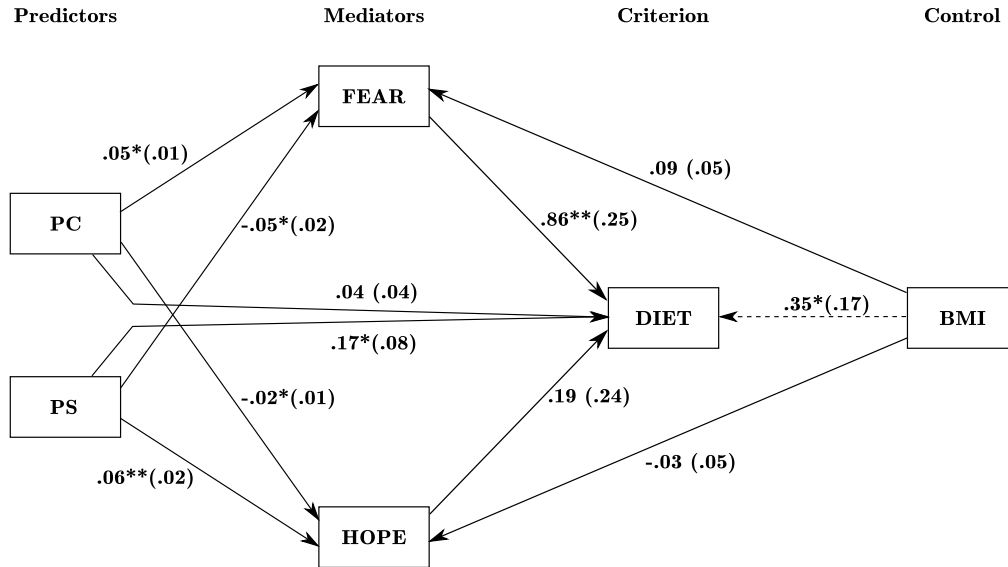
Figure 2 and Table 2 show that the specific indirect effects going through the perceived likelihood of acquiring the feared fat self were significant for both perfectionistic concerns and perfectionistic strivings (respectively: .039 and -.042). However, the indirect effects going through the perceived likelihood of acquiring the hoped-for thin body were not significant (both $|\text{indirect effects}| < .02$). Consequently, the perceived likelihood of acquiring the feared fat self can be said to mediate the relationship between perfectionistic strivings and dietary restraint, as well as the relationship between perfectionistic concerns and dieting restraint. With increasing perfectionistic concerns, therefore, the greater was the likelihood of acquiring the feared fat self, and thus the greater was the dietary restraint. Conversely, in the case of perfectionistic strivings, the direction of the indirect path toward the likelihood of acquiring the feared fat self was inverted: with increasing perfectionistic strivings, the feared fat self was perceived to be less likely, and as a result the women engaged in less dietary restraint.

While the mediation effects were statistically supported, the question remained as to which type of perfectionism had the greater impact on dieting restraint. Specifically, was the path to dietary restraint, through the likelihood of acquiring the feared fat self, influenced more by perfectionistic concerns or perfectionistic strivings? The Bayesian SEM analysis (we report the absolute values of the path estimates ($|\beta|$) because the paths have opposing signs) replicated the existence of two indirect paths (the indirect path from perfectionistic concerns: $|\beta| = .068 \pm .0002$; the indirect path via perfectionistic strivings: $|\beta| = .031 \pm .0001$). Since the 95% confidence intervals of the two specific indirect (absolute) paths did not overlap, the specific indirect effect of perfectionistic concerns can be said to be significantly stronger than, and roughly twice the size of, the specific indirect path of perfectionistic strivings.

³MEDIATE does not provide overall fit indices for the model

Figure 2: The direct and indirect effect of perfectionistic concerns and perfectionistic strivings on dietary restraint, through perceived likelihood of acquiring the feared fat body or perceived likelihood of acquiring the hoped-for thin body. PC = perfectionistic concerns. PS = perfectionistic strivings. DIET = dietary restraint. HOPE = perceived likelihood of acquiring the hoped-for thin body. FEAR = perceived likelihood of acquiring the feared fat body. BMI is a control. Constituent paths of the specific indirect effect are also displayed. Specific indirect effect are reported in Table 2. Unstandardized coefficients (standard errors in parentheses) are presented.

* corresponds to a p value smaller than .05, ** to a p value smaller than .01.



3. Discussion

This study placed the relationship between perfectionism and dietary restraint within a possible selves framework. We predicted that an expectancy judgment about the perceived likelihood of acquiring a hoped-for thin self would mediate the influence of perfectionistic strivings on dietary restraint. We also predicted that an expectancy judgment about the perceived likelihood of acquiring a feared fat self would mediate the influence of perfectionistic concerns on dietary restraint. Finally, we expected a negativity bias in the impact of the mediating pathways, to the extent that the pathway through the feared fat self would more strongly predict dietary restraint than the pathway through the hoped-for thin self. The results of this study were partially supportive of our predictions.

As predicted, the perceived likelihood of acquiring the feared fat self mediated the impact of perfectionistic concerns on dietary restraint. However, in contrast to our predictions, the perceived likelihood of acquiring the feared fat self also mediated the impact of perfectionistic strivings on dietary restraint: with increasing perfectionistic strivings, participants perceived they were less likely to acquire the feared fat self, and so they reported lower levels of dietary restraint. It would appear, therefore, that both perfectionistic concerns and perfectionistic strivings relate to dietary restraint through an assessment of the likelihood of acquiring a fat self in the future. These findings thus converge with studies suggesting that dietary restraint is more about avoiding fatness than about aspiring towards thinness (Dalley & Buunk, 2011; Mayer, Muris, & Wilschut, 2011; Woud, Anschutz, Van Strien, & Becker, 2011). The central role of the feared fat self also

Table 2: Mediation of perfectionistic concerns and perfectionistic strivings on dietary restraint through perceived likelihood of acquiring the feared fat body and perceived likelihood of acquiring the hoped-for thin body.

	Point Estimate	SE (boot)	Bootstrapping BC 95% CI	
			Lower	Upper
<i>Indirect Effects through FEAR</i>				
Perfectionistic concerns	0.038	0.016	0.013	0.075
Perfectionistic strivings	-0.043	0.025	-0.097	-0.004
<i>Indirect Effects through HOPE</i>				
Perfectionistic concerns	-0.004	0.006	-0.018	0.008
Perfectionistic strivings	0.012	0.017	-0.019	0.050

Note: BC, bias corrected; Parameters based on 5000 bootstrap samples. $N = 222$. Legend: FEAR = perceived likelihood of acquiring the feared fat body, HOPE = perceived likelihood of acquiring the hoped-for thin body. Coefficients are unstandardized.

builds on Sherry and colleagues (2009).

These authors reported that body dissatisfaction, a primary predictor of dietary restraint, was more reflective of a need to avoid appearing imperfect than a need to achieve a perfect appearance. Our results suggest that for women higher in perfectionistic concerns, or women lower in perfectionistic strivings, an imperfect appearance is manifested as a fat or overweight physique.

While both perfectionistic concerns and perfectionistic strivings exerted their influence through the feared fat self, the mediating pathway from perfectionistic concerns was stronger than that from perfectionistic strivings. This finding is consistent with research demonstrating that perfectionistic concerns is more strongly associated with eating pathology than perfectionistic strivings (Bardone-Cone et al., 2007). Moreover, and following on from this, the mediating pathway from perfectionistic concerns is also consistent with research indicating that perfectionistic concerns impacts psychopathology through a judgmental bias that overestimates the probability of negative outcomes (DiBartolo et al., 2007). We speculate that in disordered eating this bias is manifested as an increased likelihood of becoming fat, and in so doing underpins the feelings of fatness, subjective overweight status and obsessive body checking that are characteristic of such pathology (Altman & Shankman, 2009; Bardone-Cone et al., 2007; Cooper, Deepack, Grocutt, & Bailey, 2007).

Given that frequent dietary restraint is associated with both body dissatisfaction and disordered eating, the nature of the mediating pathway from perfectionistic strivings can be said to converge with those studies demonstrating that higher perfectionistic strivings is positively related to psychological well-being (Ackard et al., 2002; Stoeber & Otto, 2006). Furthermore, the nature of the mediating pathway from perfectionistic strivings is also consistent with research suggesting that being subjectively close to a feared or undesired self has a greater influence on behaviour than being subjectively far away from a hoped-for or desired self (Baumeister et al., 2001). It may be that those lower in perfectionistic strivings, because of repeated failures to acquire their hoped-for self, have abandoned their ambitions and instead are focused on avoiding their

feared fat possible self (Boone, Soenens, Braet, & Goossens, 2010). Unfortunately, but in line with this reasoning, recent studies suggest that regulating thoughts, feelings, and behaviour around avoidance goals is associated with poor psychological well-being generally, and eating symptomatology specifically (Elliot & Church, 2002; Mussap, 2007).

However, it is important to note that perfectionistic strivings was positively correlated with the perceived likelihood of acquiring a hoped-for thin self. Thus, in line with the dual process model, higher perfectionistic strivings was associated with an optimistic expectancy about acquiring a hoped-for thin body. Nevertheless this relationship failed to impact dietary restraint. Rather than being abandoned, therefore, it may be that the hoped-for possible self is just not as powerful a motivator as the feared possible self (Baumeister et al., 2001). Theoretically, there are two mechanisms which separately, or together, could underpin this negativity bias. Firstly, the relatively greater impact of the feared fat self may have arisen because negative information is more potent than positive information (Baumeister et al., 2001). Secondly, it could also have arisen because the judgment about the likelihood of acquiring the hoped-for thin self may have been a form of positive fantasy. According to Oettingen and Mayer (2002) such fantasies, while evoking positive affect and improving mood, can conceal the necessity to act and, in this case, undermined the motivation to engage in dietary restraint. Clearly, in order to elucidate these underlying processes, future work on the mediating role of hoped-for thin and feared fat possible selves needs to take account of mood state and body dissatisfaction (Rudiger, Cash, Roehrig, & Thompson, 2007).

It is also important to note that perfectionistic strivings was positively correlated with dietary restraint. Given the research linking higher perfectionistic strivings with eating pathology, we speculate that this dimension of perfectionism exerts its influence on dietary restraint (and eating pathology) through other manifestations of the thin ideal, or through other aspects of the hoped-for thin self. For example, it may be that those higher in perfectionistic strivings are focused on achieving the thin ideal as exemplified by images of female fashion models, actresses and pop stars in the media (Boone, Soenens, & Braet, 2011). We speculate that such a standard may be more motivating because it is not a future manifestation of the self; rather, it is an imagined-other. Whereas imagining a hoped-for thin possible self may promote assimilation, positive affect, and a reduction in dietary restraint, imagining a thin ideal in the media may tend to promote contrast, negative affect, and an increase in dietary restraint (Grabe, Ward, & Hyde, 2008; Oettingen and Mayer, 2002). Alternatively, it could also be that how perfectionistic strivings relates to dietary restraint (and eating pathology) is dependent on how important the hoped-for thin self is for self-worth. In this regard, although perfectionistic strivings is generally associated with positive characteristics, some research does suggest that this construct is maladaptive when meeting high personal standards is used to define self-worth (DiBartolo, Frost, Chang, LaSota, & Grills, 2004).

Our results, when taken together, suggest a complex relationship between perfectionistic strivings and dietary restraint. Nevertheless, our results do converge with research indicating that higher perfectionistic strivings is associated with both adaptive and maladaptive functioning (DiBartolo et al., 2007). To resolve this issue, we suggest future researchers utilize statistical models that account for a variety of moderating and mediating variables when examining how perfectionism, and perfectionistic strivings in particular, relates to dietary restraint. Since high levels of dietary restraint are not necessarily indicative of eating pathology, it may be useful in future to see whether our findings and general speculations concerning the role of perfectionistic strivings in dietary restraint can be supported within an eating disordered population. Such research would also provide an opportunity to determine whether our results can be replicated using other scales that purport to measure multidimensional perfectionism (Frost et al., 1990;

Hewitt & Flett, 1991).

As expected, and also consistent with previous research (Joiner et al., 1997), the contribution of perfectionism to dietary restraint was over and above that of actual body weight. However, contrary to previous research (Joiner et al., 1997), our results suggest that it is distance from a feared fat self rather than distance from a hoped-for thin-ideal self that appears to underpin the association between perfectionism and dietary restraint. Specifically, those women higher in perfectionistic concerns and/or lower in perfectionistic strivings appear to be more concerned about the possibility of acquiring Western culture's fat stigma, than about the possibility of acquiring the rewards Western culture associates with thinness (Crandall & Martinez, 1996; Dalley & Buunk, 2009; Evans 2003). As such, dietary restraint amongst these women appears to be a manifestation of avoidance motivation. Given the problems associated with avoidance regulation, such individuals may be more at risk of eating pathology. With this in mind, our findings can be said to have implications for the prevention of disordered eating in women, and in college women specifically. In this regard, those women lower in perfectionistic strivings or higher in perfectionistic concerns may benefit particularly from an intervention programme targeted at challenging the negative meanings associated with fatness. We also recommend future work be directed at investigating the socio-psychological dynamics that underpin the development of the feared fat self in college women. A useful starting point may be to examine the impact of environmental factors, such as fat talk and peer criticism/teasing, on the perceived expectancy of acquiring the feared fat possible self.

Several limitations of this research should be acknowledged. This study was cross-sectional in nature and thus any causal associations between the variables should not be interpreted as causal. Indeed, both longitudinal studies and experimental manipulations are warranted. Another limitation is that we used a single item measure to operationalize an expectancy judgment about the likelihood of acquiring a possible self. As cogently argued by Foster and Liberman (2008), expectancy can be conceptualized in a number of ways, and so in the future, we recommend that researchers include other proxies of expectancy (e.g., similarity, difficulty, time perspective) in order create a more reliable reflection of the expectancy construct. Finally, we did not ask participants to report their ethnic identification. It is worth noting that maladaptive perfectionism is also related to bulimic symptoms in African American college women (Bardone-Cone, Weishuhn, & Boyd, 2009). However, we encourage researchers to investigate how ethnicity may be associated with these mediational relationships.

In conclusion, both perfectionistic strivings and perfectionistic concerns appear to be associated with dietary restraint through an assessment of the likelihood of acquiring a feared fat self, and not through an assessment of the likelihood of acquiring a hoped-for thin self. Our findings also suggest a complex relationship between perfectionistic strivings and dietary restraint which requires further mediational analysis and more complex statistical modeling to elucidate. While there is a need to replicate this study in an eating disordered population, our findings suggest that interventions directed at maladaptive perfectionists should, in addition to challenging the unrealistic hopes of being thin, also challenge the fear of fatness.

4. References

Ackard, D. M, Croll, J. K., & Kearney-Cooke, A. (2002). Dieting frequency among college females, body image and related psychological problems. *Journal of Psychosomatic Research*, 52, 129-136.

- Altman, S. E., & Shankman, S. A. (2009). What is the association between obsessive-compulsive disorder and eating disorders? *Clinical Psychology Review*, 29, 638-646.
- Arbuckle, J. L. (2009). *Amos 16.0 user's guide*. SPSS; Chicago, IL.
- Bardone-Cone, A. M., Weishuhn, A. S., & Boyd, C. A. (2009). Perfectionism and bulimic symptoms in African American college women: Dimensions of perfectionism and their interactions with perceived weight status. *Journal of Counseling Psychology*, 56, 266-275.
- Bardone-Cone, A. M., Wonderlich, S. A., Frost, R. O., Bulik, C. M., Mitchell, S. A., Uppala, S., & Simonich, H. (2007). Perfectionism and eating disorders: Current status and future directions. *Clinical Psychology Review*, 27, 384-405.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5, 323-370.
- Bergman, A., Nyland, J., & Burns, L. (2007). Correlates with perfectionism and the utility of a dual process model. *Personality and Individual Differences*, 43, 389-399.
- Boone, L., Soenens, B., & Braet, C. (2011). Perfectionism, body dissatisfaction, and bulimic symptoms: The intervening role of perceived pressure to be thin and thin ideal internalization. *Journal of Social and Clinical Psychology*, 30, 1043-1038.
- Boone, L., Soenens, B., Braet, C., & Goossens, L. (2010). An empirical typology of perfectionism in early-to-mid adolescents and its relation with eating disorder symptoms. *Behavior Research and Therapy*, 48, 686-691.
- Bowman, R. L., & DeLucia, J. L. (1992). Accuracy of self-reported weight: A meta-analysis. *Behavior Therapy*, 23, 637-655.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York, NY: Cambridge University Press.
- Cohen, D. L., & Petrie, T. A. (2005). An examination of psychosocial correlates of disordered eating among undergraduate women. *Sex Roles*, 52, 29-42.
- Cooper, M. J., Deepak, K., Grocutt, E., & Bailey, E. (2007). The experience of "feeling fat" in women with anorexia nervosa, dieting and non-dieting women: An exploratory study. *European Eating Disorders Review*, 15, 366-372.
- Crandall, C. S., & Martinez, R. (1996). Culture, ideology, and antifat attitudes. *Personality and Social Psychology Bulletin*, 22, 1165-1176.
- Dalley, S. E., & Buunk, A. P. (2009). "Thinspiration" vs. "Fear of Fat": Using prototypes to predict frequent weight-loss dieting in women. *Appetite*, 52, 217-222.
- Dalley, S. E., & Buunk, A. P. (2011). The motivation to diet in young women: Fear is stronger than hope. *European Journal of Social Psychology*, 41, 672-680.
- DiBartolo, P. M., Frost, R. O., Chang, P., LaSota, M., & Grills, A. E. (2004). Shedding light on the relationship between personal standards and psychopathology: The case for contingent self-worth. *Journal of Rational-Emotive and Cognitive Behavior Therapy*, 22, 241-254.
- DiBartolo, P. M., Li, C. Y., & Frost, R. O. (2008). The relationship of perfectionism judgmental biases and psychopathology. *Cognitive Therapy and Research*, 31, 573-587.
- Elliot, A. J., & Church, M. A. (2002). Client articulated avoidant goals in the therapy context. *Journal of Counseling Psychology*, 49, 243-325.
- Evans, P. C. (2003). "If only I were thin like her, maybe I could be happy like her": The self-implications of associating a thin female ideal with life success. *Psychology of Women Quarterly*, 27, 209-214.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblatt, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 14, 449-468.

- Flett, G. L., & Hewitt, P. L. (2006). Adaptive versus negative aspects of perfectionism in psychopathology: A comment on Slade and Owen's dual process model. *Behavior Modification*, 30, 11-24.
- Forster, J., & Liberman, N. (2009). Goal gradients: Challenges to a basic principle of motivation. In J. P. Forgas, R. F. Baumeister, & D. Tice (Eds.), *Psychology of self-regulation: Cognitive, affective, and motivational processes* (pp. 147-162). New York, NY: Psychology Press.
- Grabe, S., Ward, M. L., & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin*, 134, 460-476.
- Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology*, 60, 456-470.
- Joiner, T. E., Heatherton, T. F., Rudd, M. D., & Schmidt, N. (1997). Perfectionism, perceived weight status, and bulimic symptoms: Two studies testing a diathesis model. *Journal of Abnormal Psychology*, 106, 145-153.
- Lee, S. (2007). *Structural equation modeling: A Bayesian approach*. New York, NY: John Wiley & Sons Ltd.
- Lockwood, P. (2002). Could it happen to you? Predicting the impact of downward comparisons on the self. *Journal of Personality and Social Psychology*, 82, 343-358.
- Lockwood, P., & Pinkus, R. T. (2007). The impact of social comparisons on motivation. In W. L. Gardner and J. Y. Shah (Eds.), *The handbook of motivation science*. New York, NY: Guilford Press.
- Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, 41, 954-969.
- Mayer, B., Muris, P., & Wilschut, M. (2011). Fear and disgust-related covariation bias and eating disorders symptoms in healthy young women. *Journal of Behaviour Therapy and Experimental Psychiatry*, 42, 19-25.
- Mussap, A. J. (2007). Motivational processes associated with unhealthy body change attitudes and behaviors. *Eating Behaviors*, 8, 423-428.
- Oettingen, G., & Mayer, D. (2002). The motivating function of thinking about the future: Expectations versus fantasies. *Journal of Personality and Social Psychology*, 83, 1198-1212.
- Ogilvie, D. M. (1987). The undesired self: A neglected variable in personality research. *Journal of Personality and Social Psychology*, 52, 1379-1385.
- Oyserman, D., & James, L. (2011). Possible identities. In S. Schwartz, K. Luyckx, & V. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 117-148). New York, NY: Springer-Verlag.
- Pearson, C. A., & Gleaves, D. H. (2006). The multiple dimensions of perfectionism and their relation with eating disorder features. *Personality and Individual Differences*, 41, 225-235.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879-890.
- Rudiger, J. A., Cash, T. F., Roehrig, M., & Thompson, J. K. (2007). Day-to-day body image states: Prospective predictors of intra-individual level and variability. *Body Image*, 4, 1-9.
- Sassaroli, S., Romero-Lauro, L. J., Ruggiero, G. M., Mauri, M. C., Vinai, P., & Frost, R. O. (2008). Perfectionism in depression, obsessive compulsive disorder, and eating disorders. *Behaviour Research and Therapy*, 46, 757-765.
- Sherry, S. B., Vriend, J. L., Hewitt, P. L., Sherry, D. L., Flett, G. L., & Wardrop, A. V. (2009). Perfectionism dimensions, appearance schemas, and body image disturbance in community members and university students. *Body Image*, 6, 83-89.

- Slade, P. D., & Owens, R. G. (1998). A dual process model of perfectionism based on reinforcement theory. *Behavior Modification*, 22, 372-390.
- Slade, P. D., & Owens, R. G. (2008). So perfect it's positively harmful: Reflections on the adaptiveness and maladaptiveness of positive and negative perfectionism. *Behavior Modification*, 32, 928-937.
- Slaney, R. B., Rice, K. G., Mobley, M., Trippi, J., & Ashby, J. S. (2001). The revised Almost Perfect Scale. *Measurement and Evaluation in Counseling and Development*, 34, 130-145.
- Stice, E. (1998). Prospective relation of dieting behaviors to weight change in a community sample of adolescents. *Behavior Therapy*, 29, 277-297.
- Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychological Bulletin*, 128, 825-848.
- Stoeber, J., & Otto, K. (2006). Adaptive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review*, 10, 295-319.
- vanDellen, M. R., & Hoyle, R. H. (2008). Possible selves as behavioral standards in self-regulation. *Self and Identity*, 7, 295-304.
- White, S., Reynolds-Malear, J. B., & Cordero, E. (2011). Disordered eating and the use of unhealthy control methods in college students: 1995, 2002, and 2008. *Eating Disorders*, 19, 323-334.
- Woud, M. L., Anschutz, D. J., Van Strien, T., & Becke, E. S. (2011). Measuring thinpiration and fear of fat indirectly. A matter of approach and avoidance. *Appetite*, 56, 451-456.