Understanding the socially prescribed perfectionist's cycle of self-defeat: A 7-day, 14-occasion daily diary study

Aislin R. Mushquash [a,*], Simon B. Sherry [a,b]

[a] Department of Psychology, Dalhousie University, 1355 Oxford Street, PO Box 15000, Halifax, Nova Scotia, Canada B3H4R2
[b] Department of Psychiatry, Dalhousie University, 5909 Veteran's Memorial Lane, Halifax, Nova Scotia, Canada B3H2E2

ARTICLE INFO

ABSTRACT

People high in socially prescribed perfectionism (SPP; i.e., those who perceive others demand perfection of them) behave in ways that are incongruent with their efforts to be perfect. The present research suggests SPP is associated with a cycle of perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviors (i.e., binge eating, procrastination, interpersonal conflict). When testing the model, 317 undergraduates completed structured daily diaries. Results of multilevel structural equation modeling largely supported hypotheses. People high in SPP experience patterns of self-evaluation, self-presentation, and affect that are associated with their self-defeating behaviors. These behaviors undermine their efforts to be or look perfect for others and set the stage for yet another go around in their cycle of self-defeat.

1. Introduction

Perfectionism is usually conceptualized and studied as a personality structure (i.e., the enduring part of personality). For example, socially prescribed perfectionism (i.e., perceiving others are demanding perfection of oneself) and self-oriented perfectionism (i.e., demanding perfection of oneself) from Hewitt and Flett's (1991) perfectionism model are two key dimensions of the perfectionism personality structure. Evidence suggests these dimensions are stable and predict various outcomes (Sherry & Hall, 2009). However, perfectionism structure provides a static picture and offers little information on dynamic underlying processes (i.e., the fluctuating parts of personality). Thus, researchers are increasingly interested in perfectionism processes such as perfectionistic forms of self-presentation (Hewitt et al., 2003). However, studies unifying and testing how perfectionism structure and processes work together are scarce. We argue that to understand why perfectionism is associated with painful self-defeat, it is vital to consider both perfectionism structure and perfectionism processes in an integrative model.

Methodological improvements are needed if a model integrating perfectionism structure and related perfectionism processes is to emerge. For example, cross-sectional and longitudinal studies are ill suited to studying perfectionism processes. Daily diary studies,

involving multiple reports from participants over short periods of time, offer an improvement. Such designs provide greater ecological validity and diminished recall bias by asking people to report events closer to their actual occurrence (Sherry & Hall, 2009). Past daily diary research on perfectionism is limited by reliance on suboptimal statistics. For example, some studies aggregate daily reports to create a mean score for participants (Sherry & Hall, 2009), thereby losing variability and preventing tests of within-person patterns. In sum, improvements are needed in research focusing on perfectionism structure, associated processes, and self-defeating behaviors.

The present study proposes and tests a model that conceptualizes perfectionists as caught in self-defeating cycles (see Fig. 1). This model uses one dimension of perfectionism structure (i.e., socially prescribed perfectionism; SPP) and related processes to explain why socially prescribed perfectionists engage in behaviors that are seemingly antithetical to their perfectionistic goals, motives, and expectations.[1] Socially prescribed perfectionists often feel pressured to reach lofty standards they believe others have imposed on them; and we assert this personality structure leads to cyclical, maladaptive patterns of self-evaluation (perfectionistic discrepancies), self-presentation (perfectionistic self-presentation),

---

* Corresponding author. Fax: +1 902 494 6585.
E-mail address: aislin.mushquash@gmail.com (A.R. Mushquash).

[1] Given the interpersonal nature of our model (see Fig. 1), we focus on SPP and not self-oriented perfectionism (which is highly intrapersonal; Hewitt & Flett, 1991). Whereas SPP is tied to social problems and self-defeating behaviors (Hewitt, Flett, Sherry, & Caelian, 2006; Sherry & Hall, 2009), self-oriented perfectionism is often unrelated to negative outcomes and sometimes tied to positive outcomes (e.g., achievement or positive affect; Stoeber & Otto, 2006).

affect (depressive affect), and behavior (self-defeating behaviors; see Fig. 1). We test our model in 317 undergraduates using a 7-day, 14-occasion daily diary design analyzed with multilevel structural equation modeling.

SPP is accompanied by a sense of disharmony with others (Hewitt et al., 2006). In particular, perfectionistic discrepancies (i.e., viewing oneself as falling short of others' expectations) are common among people high in SPP (Mackinnon et al., 2011). According to our model, struggling with a belief that others are demanding perfection (i.e., SPP) predisposes perceptions of letting other people down (i.e., perfectionistic discrepancies; see Fig. 1). Such perceptions are motivating for people high in SPP. As Fig. 1 shows, perfectionistic discrepancies are proposed to initiate a cycle of compensatory strategies (i.e., perfectionistic self-presentation) set in motion to remedy the (perceived) failure of having let others down.

Hewitt et al. (2003) differentiated the structure of perfectionism from the public expression of perfectionism, which they called perfectionistic self-presentation. Perfectionistic self-presentation involves perfectionistic self-promotion (i.e., promoting a perfect image), nondisclosure of imperfection (i.e., avoiding verbal disclosures of imperfection), and nondisplay of imperfection (i.e., avoiding behavioral displays of imperfection). Our model maintains that once people high in SPP believe they have fallen short of others' expectations, or feel they were judged as imperfect by others, they engage in a "corrective" process of trying to seem perfect to others (see Fig. 1). However, carrying on this façade and relating to others in a "perfect" but inauthentic way, leaves people high in SPP prone to distress (Graham et al., 2010).

SPP is tied to various negative emotions, including depressive affect, anxiety, and anger (e.g., Dunkley & Blankstein, 2000; Hewitt et al., 2006; Nepon, Flett, Hewitt, & Molnar, 2011). In the present study, we focused on depressive affect, as it is a key emotion experienced by socially prescribed perfectionists. Moreover, depressive affect is related to the perfectionism processes and the self-defeating behaviors in our model (Hewitt et al., 2003; Sherry & Hall, 2009). We view depressive affect both as a part of the daily experience of people high in SPP and as a consequence of how these people behave around others (see Fig. 1). Interacting with others while trying to appear perfect is depressing (Mackinnon & Sherry, 2012). In response to depressive affect brought on by this interpersonal style, people high in SPP engage in self-defeating behaviors counter to their original goal of proving to others that they are perfect.

Self-defeating behaviors negatively impact the self and are detrimental to achieving one's goals (Baumeister & Scher, 1988). Binge eating, procrastination, and interpersonal conflict are common self-defeating behaviors for socially prescribed perfectionists (Flett, Hewitt, Davis, & Sherry, 2004; Sherry & Hall, 2009). Like others, we view binge eating (i.e., rapidly and uncontrollably eating a large amount of food in a short period of time) as lying along a continuum from mild to severe (Sherry & Hall, 2009). Evidence suggests people high in SPP are vulnerable to binge eating due to their interpersonal problems and their emotional distress (Sherry & Hall, 2009). Feeling rejected and depressed, people high in SPP turn to binge eating in an effort to cope (Mackinnon et al., 2011). However, binge eating is incongruent with a key goal for people high in SPP: Attaining a slender, desirable body reflecting socially valued ideals for thinness (Sherry & Hall, 2009). Thus, binge eating is a painful failure that disrupts the pursuit of interpersonal goals and leads people high in SPP to think they disappointed others.

Procrastination involves a delay in beginning or in completing one's tasks that is detrimental to success (Ferrari, 1994). Procrastination may be explained, in part, by perceived performance pressures and heightened emotionality (e.g., depressive affect) experienced by people high in SPP (Flett et al., 2004). People who suffer from depressive affect are less likely to initiate or to complete daily tasks, making procrastination a common problem

(van Eerde, 2003). People high in SPP believe others hold them to unrealistic standards (Hewitt & Flett, 1991). Perceiving great pressure, they tend to disengage from tasks, which may allow them to alleviate their evaluative fears for a short time (Flett et al., 2004). However, this task avoidance is unlikely to alleviate such concerns in the long-term. When people high in SPP procrastinate, they jeopardize the perfect performance they believe is needed to gain approval and acceptance, leaving them feeling as if they have once again let others down (Hewitt & Flett, 1991).

Interpersonal conflict involves hostile, critical, and inconsiderate interactions with others (Oishi & Sullivan, 2006). Believing others always need them to be perfect, people high in SPP are overconcerned about—yet in frequent conflict with—others (e.g., Mackinnon et al., 2012). According to our model, depressive affect brings about self-defeating interpersonal behaviors among people high in SPP, with depressive affect leading to interpersonal conflict (see Hammen, 2006). Socially prescribed perfectionists appear stuck in a self-defeating mode of interpersonal functioning. Faced with feelings of depression arising from their inability to be perfect, they lash out creating new opportunities to view themselves as falling short of others' expectations.

In sum, our model asserts that socially prescribed perfectionists see others as dissatisfied with them and disappointed in them. In response to such perceptions, they try to appear perfect to others. However, showing a false façade of perfection backfires, often with depressing consequences. This manner of self-presentation is defensive, inauthentic, and ultimately, depressogenic (Hewitt et al., 2003). Driven by depressing emotions, people high in SPP cope in an ineffective, self-defeating manner. They binge eat, avoid tasks, and come into conflict with others. These behaviors are painfully and paradoxically opposed to the ultra-thin, task-focused, well liked, perfect person that they want to be (Hewitt et al., 2003). Such self-defeating behaviors confirm the disappointment people high in SPP see in the eyes of others. These behaviors thus represent a painful failure for socially prescribed perfectionists, reinvigorating their cycle of self-defeat by generating more perfectionistic discrepancies (see Fig. 1).

We expected our model would fit the data well and constructs in our model would represent distinct entities (see Fig. 1). Based on past work (e.g., Sherry & Hall, 2009), we also expected that (a) at the between-person level, SPP would be positively related to perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviors and (b) at the between- and within-person levels, positive relations would be found between perfectionistic discrepancies and perfectionistic self-presentation, perfectionistic self-presentation and depressive affect, and depressive affect and self-defeating behaviors. Some authors also assert researchers should focus on a perfectionism model where intrapersonal, self-imposed perfectionistic standards are paramount (Shafran, Cooper, & Fairburn, 2002). This suggests a need to test if SPP (a strongly interpersonal variable) contributes incrementally to the variables of our model beyond self-oriented perfectionism (a strongly intrapersonal variable). Consistent with past work (Sherry & Hall, 2009), paths in the model were expected to remain significant and largely unchanged when controlling for self-oriented perfectionism.

Self-defeating behaviors have lasting negative consequences (Barker, Williams, & Galambos, 2006). For socially prescribed perfectionists, we believe these lasting negative consequences occur in the form of perfectionistic discrepancies. In our multilevel structural model (see Fig. 1), we were unable to directly test the link between self-defeating behaviors and perfectionistic discrepancies due to the singularity (overlap) of the perfectionistic discrepancies variable and the next-day perfectionistic discrepancies variable at the between-person level. Analyses at the between-person aggregate level and, separately, at the within-person daily level, provide

another way to test this path. We expected that at both levels self-defeating behaviors would be positively related to perfectionistic discrepancies.

2. Materials and methods

2.1. Participants

We recruited 317 undergraduates (247 women; 70 men) at Dalhousie University. On average, participants were 20.32 years old (SD = 4.34) and had 1.72 years (SD = 0.91) of university education. Most participants were in their first (50.3%) or second (35.7%) year of university, with 7.4% in their third year, 5.7% in their fourth year, and 0.9% in their fifth year or above; 82.3% of participants reported their ethnicity as Caucasian, 5.4% as Asian, 3.8% as Black, 3.6% as more than one ethnicity, and 4.9% as other ethnicities (e.g., Aboriginal). Most participants reported being single (51.4%) or in a dating relationship (42.6%). Average body mass index (BMI) was 23.37 (SD = 4.68) for women and 24.16 (SD = 3.66) for men. This sample resembles other samples recruited at Dalhousie University (Graham et al., 2010).

2.2. Measures

Higher scores signify higher levels of all constructs. A long-term timeframe (i.e., during the past several years) was used for SPP and self-oriented perfectionism measures, as evidence suggests these variables are stable (e.g., Graham et al., 2010). Congruent with our conceptual model and reporting schedule, a short-term timeframe (i.e., since your last entry) was used for perfectionism processes and self-defeating behavior measures. This timeframe is also consistent with research showing these constructs change over short periods of time (Sherry & Hall, 2009).

Some items for measures of perfectionism processes and self-defeating behaviors were slightly modified to reflect the past tense. To reduce participant burden and to increase response rates, daily measures were also shortened. Based on factor analytic evidence, we selected three to five items with the highest factor loadings to represent each scale. This approach is consistent with other daily diary studies (e.g., Sherry & Hall, 2009).[2]

2.2.1. SPP

We adopted Sherry and Hall's (2009) measurement model for SPP, including the SPP subscale of Hewitt and Flett's (1991) Multidimensional Perfectionism Scale (HFMPS), a modified version of the parental perceptions subscale of Frost et al.'s (1990) Multidimensional Perfectionism Scale (FMPS; see Cox, Enns, & Clara, 2002), and a modified version of the SPP subscale of Garner, Olmstead, and Polivy's (1983) Eating Disorder Inventory (EDI). The 15-item HFMPS SPP subscale (e.g., "Others expect perfection from me") is rated on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). Items on the FMPS parental perceptions subscale and EDI SPP were previously modified to reflect broader interpersonal content (Sherry & Hall, 2009). Hence, the parental perceptions subscale was renamed the interpersonal perceptions subscale in our study. One FMPS interpersonal perceptions item was dropped, as it is redundant with one EDI SPP item. The 4-item FMPS interpersonal perceptions subscale is rated on a 5-point scale

from 1 (strongly disagree) to 5 (strongly agree). The original 3-item EDI SPP subscale had weak psychometrics (Sherry & Hall, 2009). As in McGrath et al. (2012), we added one item from Mitzman, Slade, and Dewey (1994) to the EDI SPP. The 4-item EDI SPP is rated on a 6-point scale from 1 (never) to 6 (always). Studies support the reliability and validity of our SPP measures (Brannan & Petrie, 2008; McGrath et al., 2012; Sherry & Hall, 2009).

2.2.2. Self-oriented perfectionism

We adopted McGrath et al.'s (2012) measurement model for self-oriented perfectionism, including the self-oriented perfectionism subscale of the HFMPS, the personal standards subscale of the FMPS, and a modified version of the self-oriented perfectionism subscale of the EDI. The 15-item HFMPS self-oriented perfectionism subscale (e.g., "I strive to be as perfect as I can be") is rated on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). The 7-item FMPS personal standards subscale (e.g., "I expect higher performance in my tasks than most people") is rated on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). Psychometrics for the 3-item EDI self-oriented perfectionism subscale are lacking (e.g., Sherry & Hall, 2009) As in McGrath et al. (2012), we added one item from Mitzman et al. (1994) to the EDI self-oriented perfectionism subscale. The EDI self-oriented perfectionism subscale is rated on a 6-point scale from 1 (never) to 6 (always). Studies support the reliability and validity of our self-oriented perfectionism measures (Dunkley, Zuroff, & Blankstein, 2003; McGrath et al., 2012; Sherry, Hewitt, Flett, Lee-Baggley, & Hall, 2007).

2.2.3. Perfectionistic discrepancies

Perfectionistic discrepancies were assessed with short-forms of Flett and Hewitt's (in preparation) Multidimensional Discrepancies Inventory (MDI; see Sherry & Hall, 2009), Bagby, Parker, Joffe, and Buis' (1994) Reconstructed Depressive Experiences Questionnaire (DEQ-R; see Mackinnon et al., 2011), and Slaney, Rice, Mobley, Trippi, and Ashby's (2001) Almost Perfect Scale-Revised (APS-R; see Sherry & Hall, 2009). Each scale had three items. The MDI (e.g., "Did you fall short of others' expectations?") is rated on a 4-point scale from 1 (not at all) to 4 (very much). The DEQ-R (e.g., "My performance did not measure up to others' standards") and the APS-R (e.g., "I found that I didn't live up to others' standards for me") are rated on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). Mushquash (2012) found correlations (p < .05) between the original and revised MDI (r = .61), DEQ-R (r = .57), and APS-R (r = .56), thus supporting their convergent validity.

2.2.4. Perfectionistic self-presentation

Perfectionistic self-presentation was measured with the perfectionistic self-promotion (e.g., "I strived to look perfect to others"), nondisclosure of imperfection (e.g., "I tried to keep my faults to myself"), and nondisplay of imperfection (e.g., "I thought failing at something is awful if others know about it") subscales of the Perfectionistic Self-Presentation Scale (Hewitt et al., 2003). Each scale had three items. Items are rated on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). The original and revised perfectionistic self-promotion (r = .65), nondisclosure of imperfection (r = .66), and nondisplay of imperfection (r = .78) subscales are correlated (p < .05; Mushquash, 2012).

2.2.5. Depressive affect

Depressive affect was assessed with short-forms of the Profile of Mood States depression subscale (POMS-D; McNair, Lorr, & Droppleman, 1992), Depression Adjective Checklist Form G (DACL-G; Lubin, 1965), and sadness subscale of the Positive and Negative Affect Schedule Expanded (PANAS-X; Watson & Clark, 1994). Each subscale had three items. On the POMS-D (e.g., "sad"), DACL-G (e.g., "miserable"), and PANAS-X (e.g., "down-

---

[2] We conducted a cross-sectional, supplementary study that assessed the psychometric properties of these modified measures. A total of 78 undergraduates (70 women, 6 men, and 2 undisclosed) completed the modified daily measures and their original, unmodified counterparts. Consistent with the sample for the main study, participants had a mean age of 20.15 years (SD = 2.57), were predominantly Caucasian (86.4%), and had an average of 2.27 (SD = 1.25) years of university education. This supplementary study is referenced as Mushquash (2012).

hearted"), participants indicated how well each word described their feelings on a 5-point scale from 0 (not at all) to 4 (extremely). Mushquash (2012) found correlations ($p < .05$) between the original and short-form POMS-D ($r = .83$), DACL-G ($r = .77$), and PANAS-X ($r = .79$).

2.2.6. Self-defeating behaviors

Self-defeating behaviors were measured as a latent variable involving one binge eating, procrastination, and interpersonal conflict manifest indicator. Binge eating, emotionality, and compensatory behaviors (e.g., purging) are often confounded in binge eating scales (Sherry & Hall, 2009). We focused on binge eating behavior per se. As in Sherry and Hall (2009), we used four items of the EDI binge eating subscale (e.g., "I stuffed myself with food"; Garner, Olmstead, & Polivy, 1983). Participants responded to items on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). Procrastination was measured with five items from Tuckman's (1991) Procrastination Scale. Items (e.g., "I promised myself I'd do something and then dragged my feet") are rated on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). To measure interpersonal conflict, we used five items representing conflictual behaviors towards others (e.g., "controlling") from the interpersonal qualities scale (Murray, Holmes, & Griffin, 1996; Oishi & Sullivan, 2006). The original measure referenced behaviors towards a romantic partner. We slightly modified the original instructions to allow participants to report how well each behavior described them when they were "with other people" rather than "with your partner." Participants rated each statement on a 9-point scale from 1 (not at all characteristic) to 9 (completely characteristic). The original and shortened binge eating ($r = .67$) and procrastination ($r = .71$) measures were correlated ($p < .05$; Mushquash, 2012).

2.3. Procedure

Dalhousie University's Ethics Board approved our study. Participants were recruited via the Department of Psychology participant pool and responded to an ad inviting their participation in a study on personality. Participants received $10 and 3.0% towards a psychology course mark.

Our study involved two phases. In the first phase, participants completed an informed consent form. Then participants completed demographics and perfectionism structure measures and received instruction about the rest of the study. The second phase began the day after phase one and involved completing two online structured daily diaries each day for seven consecutive days. Participants completed measures of perfectionism processes and self-defeating behaviors roughly 8-h after waking (i.e., their midday diary) and just before going to sleep (i.e., their bedtime diary) each day. We selected this reporting schedule to capture the first half and the second half of participants' days. We emailed participants two reminders to participate each day.

2.4. Data analytic strategy

Prior to testing the multilevel model, we conducted exploratory analyses (see Muthen, 1994). We also tested the multilevel measurement model with confirmatory factor analysis and conducted discriminant validity analyses to test if highly correlated variables were distinct constructs. Then, we tested the multilevel structural model. Incremental validity analyses tested if paths in the model were significant after controlling for self-oriented perfectionism. We conducted secondary analyses to test the path between self-defeating behaviors and perfectionistic discrepancies. Analyses were conducted using Mplus.

3. Results

3.1. Compliance and missing data

All 317 participants completed the first phase of our study, and no data were missing. All participants completed at least one daily diary; 3790 daily diaries were provided. Same-day diaries (i.e., the midday and bedtime diary for a given day) were submitted roughly 7 h apart ($M = 6.74$ and SD = 2.21). To ensure temporal separation, same-day diaries were only retained if they were provided between 2 and 14 h apart. This resulted in the exclusion of 92 daily diaries; 97.6% (3698 of 3790) of daily diaries were retained. The number of daily diaries provided by each participant ranged from 1 to 14, with only 0.6% (2 of the 317) of participants providing only one daily diary. On average, participants completed 11.67 (of a possible 14) daily diaries (SD = 2.59). We used the maximum likelihood robust estimator in Mplus to handle missing diary data, as this method is less biased than other methods for handling missing data (e.g., listwise deletion or mean substitution), even when data are not missing completely at random, when data are multivariate nonnormal, and when non-independence of observations are present (Acock, 2005; Muthen & Muthen, 2010; Schlomer, Bauman, & Card, 2010).

Prior to multilevel SEM, same-day diaries were linked (e.g., the midday diary for day 1 was linked to the bedtime diary of day 1), resulting in 1836 full day entries. In multilevel SEM, we used midday diaries of perfectionistic discrepancies, perfectionistic self-presentation, and depressive affect and used bedtime diaries of self-defeating behaviors. This is consistent with studies suggesting self-defeating behaviors tend to occur later in the day (Smyth et al., 2009).

3.2. Descriptive statistics

Means, standard deviations, alpha reliabilities, and ranges for manifest indicators are in presented in Table 1. Values for perfectionism processes and self-defeating behaviors are based on aggregated daily diary data. Means for perfectionism structure are consistent with research involving similar samples (Sherry & Hall, 2009). Means for perfectionism processes and self-defeating behaviors are also consistent with values from comparable samples (Mushquash, 2012). Alpha reliabilities were adequate (i.e., >.72; see Table 1). At the between-person level, SPP indicators were positively and significantly related to self-oriented perfectionism indicators (with one exception; see Table 2). SPP indicators were positively and significantly related to indicators of perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviors. All self-oriented perfectionism indicators were positively and significantly related to indicators of perfectionistic self-presentation. Two of three self-oriented perfectionism indicators (i.e., HFMPS and EDI) were positively and significantly tied to most indicators of perfectionistic discrepancies, depressive affect, and self-defeating behaviors. However, the FMPS personal standards subscale was not consistently tied to perfectionistic discrepancies, depressive affect, or self-defeating behaviors. At both the between-person and within-person level, perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviors were positively related.

3.3. Multilevel SEM

Small's Omnibus Test suggested significant multivariate non-normality in our data, $\chi^2(19) = 342.26$, $p < .001$. We used maximum likelihood robust estimation since it is robust against normality violations. Model fit was assessed with the comparative

Table 1
Means, standards deviations, alpha reliabilities, ranges, and intraclass correlations for manifest indicators.

Variable	M	SD	α	Potential range	Actual range	ICC
Socially prescribed perfectionism						
HFMPS socially prescribed perfectionism	47.68	14.68	.87	15–105	21–92	
FMPS interpersonal perceptions	7.97	3.62	.78	4–20	4–20	
EDI socially prescribed perfectionism	12.66	4.19	.72	4–24	4–24	
Self-oriented perfectionism						
HFMPS self-oriented perfectionism	66.80	16.20	.89	15–105	23–105	
FMPS personal standards	21.93	5.87	.83	7–35	7–35	
EDI self-oriented perfectionism	13.31	4.36	.76	4–24	4–24	
Perfectionistic discrepancies						
MDI perfectionistic discrepancies	4.36	1.51	.98	3–12	3–12	.47
DEQ-R perfectionistic discrepancies	6.28	3.37	.98	3–12	3–12	.68
APS-R perfectionistic discrepancies	6.40	3.33	.98	3–12	3–12	.70
Perfectionistic self-presentation						
PSPS perfectionistic self-promotion	8.28	4.79	.99	3–12	3–12	.55
PSPS nondisclosure of imperfection	7.12	4.09	.95	3–12	3–12	.48
PSPS nondisplay of imperfection	7.78	4.56	.97	3–12	3–12	.58
Depressive affect						
POMS depression	1.57	2.01	.94	0–12	0–12	.52
DACL-G depressive affect	1.24	1.92	.95	0–12	0–12	.58
PANAS-X sadness	1.87	2.23	.91	0–12	0–12	.55
Self-defeating behaviors						
EDI binge eating	6.40	3.37	.90	4–28	4–28	.41
Tuckman procrastination	15.80	7.34	.98	5–35	5–35	.61
Interpersonal conflict	12.34	6.60	.88	5–45	5–45	.47

Note: Values based on aggregated data (*N* = 317). HFMPS = Hewitt and Flett's Multidimensional Perfectionism Scale; FMPS = Frost's Multidimensional Perfectionism Scale; EDI = Eating Disorder Inventory; MDI = Multidimensional Discrepancies Inventory; DEQ-R = Reconstructed Depressive Experiences Questionnaire; APS-R = Almost Perfect Scale-Revised; PSPS = Perfectionistic Self-Presentation Scale; POMS = Profile of Mood States; DACL-G = Depression Adjective Checklist Form G; and PANAS-X = Positive and Negative Affect Schedule Expanded Form.

Table 2
Bivariate correlations.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. HFMPS socially prescribed perfectionism	–	.71	.75	.45	.36	.53	.43	.49	.48	.42	.49	.52	.36	.33	.38	.32	.26	.33
2. FMPS interpersonal perceptions		–	.71	.19	.11	.31	.41	.45	.46	.32	.41	.42	.31	.34	.30	.33	.29	.27
3. EDI socially prescribed perfectionism			–	.40	.35	.50	.32	.37	.37	.41	.43	.44	.22	.18	.22	.26	.22	.24
4. HFMPS self-oriented perfectionism				–	.77	.71	.09	.14	.14	.45	.33	.36	.15	.13	.17	.14	.06	.16
5. FMPS personal standards					–	.69	.03	.08	.08	.35	.25	.27	.06	.06	.09	.09	.01	.15
6. EDI self-oriented perfectionism						–	.24	.30	.29	.46	.40	.40	.28	.25	.25	.23	.25	.26
7. MDI perfectionistic discrepancies							–	.89	.90	.47	.59	.57	.68	.59	.54	.47	.52	.62
8. DEQ-R perfectionistic discrepancies							.41	–	.97	.51	.63	.63	.71	.64	.59	.53	.58	.64
9. APS-R perfectionistic discrepancies							.55	.40	–	.53	.64	.64	.68	.61	.55	.51	.59	.63
10. PSPS perfectionistic self-promotion							.48	.31	.70	–	.76	.76	.47	.41	.42	.40	.38	.45
11. PSPS nondisclosure of imperfection							.48	.29	.68	.86	–	.91	.54	.49	.45	.48	.42	.52
12. PSPS nondisplay of imperfection							.46	.34	.66	.72	.79	–	.52	.48	.45	.46	.45	.48
13. POMS depression							.34	.22	.40	.29	.31	.30	–	.92	.84	.50	.41	.61
14. DACL-G depressive affect							.38	.29	.42	.32	.33	.31	.78	–	.80	.45	.34	.56
15. PANAS-X sadness							.39	.27	.45	.34	.35	.31	.82	.88	–	.41	.34	.54
16. EDI binge eating							.33	.20	.35	.32	.35	.34	.31	.29	.30	–	.35	.49
17. Tuckman procrastination							.39	.32	.49	.42	.45	.46	.32	.34	.34	.41	–	.45
18. Interpersonal conflict							.32	.26	.27	.20	.22	.22	.22	.21	.22	.18	.28	–

Note: HFMPS = Hewitt and Flett's Multidimensional Perfectionism Scale; FMPS = Frost's Multidimensional Perfectionism Scale; EDI = Eating Disorder Inventory; MDI = Multidimensional Discrepancies Inventory; DEQ-R = Reconstructed Depressive Experiences Questionnaire; APS-R = Almost Perfect Scale-Revised; PSPS = Perfectionistic Self-Presentation Scale; POMS = Profile of Mood States; DACL-G = Depression Adjective Checklist Form G; and PANAS-X = Positive and Negative Affect Schedule Expanded Form. Between-person correlations are above the diagonal and are based on between-person aggregated data (*N* = 317). At the between-person level, correlations greater than or equal to .13 are significant at *p* < .05 and correlations greater than or equal to .15 are significant at *p* < .01. Within-person correlations are below the diagonal and are based on the total sample (*N* = 1836). At the within-person level, correlations greater than or equal to .22 are significant at *p* < .001. Correlations among between-person variables and within-person variable are not available due to the multilevel data structure.

fit index (CFI), Tucker–Lewis index (TLI), root-mean-square error of approximation (RMSEA), and standardized root-mean-square residual (SRMR). When available, RMSEA values are reported with 90% confidence intervals (90% CI). Mplus does not provide RMSEA CIs for multilevel structural models; thus, RMSEA CIs are not reported in step 5 or incremental validity analyses (see below). A CFI and TLI in the range of .95, a RMSEA in the range of .06, and SRMR in the range of .08 suggest excellent model fit (Hu & Bentler, 1999). Moderate model fit is suggested by a CFI and TLI in the range of .90, RMSEA in the range of .08, and SRMR in the range of .10. CFI and TLI values < .90, RMSEA values > .08, and SRMR values > .10 indicate poor model fit (Byrne, 2001).

3.3.1. Step 1: conventional SEM

In step 1, we ignored the multilevel structure of our data (see Cheung & Au, 2005). All observations were treated as independent

and a structural model was tested with the total sample covariance matrix (Muthen, 1994). This provided an initial estimate of model parameters and model fit. The model showed moderate fit: CFI = .93, TFI = .92, RMSEA = .09 (90% CI: .08, .09), and SRMR = .09. Muthen (1994) cautioned against interpretation at this step as poor to moderate fit may arise from an ill-fitting model, ignoring the nested data structure, or both.

3.3.2. Step 2: estimation of between-person variation

In step 2, variability at the between-person level, or the degree of dependence (clustering) in the data, was estimated by calculating intraclass correlations (ICCs). West, Ryu, Kwok, and Cham (2011) noted ICCs would be high in daily diary studies since the level 1 unit is repeated observations and the level 2 unit is individuals. ICCs for our study were high (see Table 1) suggesting a large amount of the variance in daily perfectionism processes and self-defeating behaviors is attributable to between-person differences. With large ICCs, non-independence is evident and progression to step 3 is justified.

3.3.3. Step 3: estimation of pooled within-person structure

In step 3, the within-person estimates were separated from overall model estimates. Using the pooled within-person covariance matrix, the structural model was estimated only at the within-person level. This model had poor to moderate fit: CFI = .93, TFI = .90, RMSEA = .11 (90% CI: .10, .11), and SRMR = .13. Analyzing data at only the within-person level can result in a better fitting model compared to the model in step 1 (Muthen, 1994). However, models with improved fit often involve different contexts (e.g., employees nested in departments) where level 2 variables (e.g., departments) exert less influence relative to level 1 variables (e.g., employees; Harman & Amico, 2009). Our data involved repeated daily reports nested within individuals. Thus, the level 2 (between-person) influence may be stronger than the level 1 (within-person) influence. Our large ICC values suggested level 2 variables exert a strong influence. As a result we failed to see improved fit when testing the model at the within-person level.[3]

3.3.4. Step 4: estimation of between-person structure

In step 4, the between-person estimates were separated from the overall model estimates. Using the between-person covariance matrix, the structural model was estimated at the between-person level only. Results suggested our model had poor to moderate fit when analyzed only at the between-person level: CFI = .90, TFI = .87, RMSEA = .14 (90% CI: .14, .15), and SRMR = .06. These results, along with results of step 3, suggested our proposed model does not fit well as a solely between- or a solely within-person model. Thus, we tested the proposed model using the within- and between-person covariance matrix simultaneously using multilevel SEM.

3.3.5. Step 5: fitting the multilevel structural equation model

Prior to analyzing the multilevel structural model (Fig. 1), we used confirmatory factor analysis to test the multilevel measurement model. At each level, latent variables covaried freely and manifest indicators were loaded onto their associated latent variables. This measurement model had excellent fit: CFI = .97, TFI = .96, RMSEA = .03, SRMR$_{within}$ = .02, and SRMR$_{between}$ = .06. Unstandardized factor loadings were significant ($p < .05$), indicating manifest indictors load significantly on their respective latent variables. Overall, the multilevel measurement model was well-fitting and suitable for testing in structural form. However, some manifest indicators of different latent variables were highly correlated (see Table 2). Discriminant validity analyses tested if the latent variables for highly correlated manifest indicators were best seen as distinct. The multilevel measurement model (Model 1)

was compared with two modified versions of this measurement model. Modified versions were identical to Model 1, except certain latent variables were treated as identical by fixing the latent correlation to 1.0 (Kline, 2005).

In Model 2, the correlation between the between-person perfectionistic discrepancies latent variable and the between-person depressive affect latent variable was fixed to 1.0. In Model 3, the correlation between latent within-person perfectionistic discrepancies and latent within-person perfectionistic self-presentation was fixed to 1.0. Smaller AIC values indicate better model fit and parsimony, with AIC differences greater than four provide clear evidence of model superiority (Burnham & Anderson, 2002). AIC values indicated Model 1 (AIC = 100908.21) was superior to Model 2 (AIC = 101021.96) and Model 3 (AIC = 100938.17). Results suggest highly correlated variables in our multilevel measurement model (Model 1) are meaningfully distinct and are best represented as distinct constructs.

The multilevel structural model (Fig. 1) was estimated using the between- and within-person covariance matrices simultaneously. Consistent with notation for multilevel structural equation modeling (Iacobucci, 2009; Preacher, Zhang, & Zyphur, 2011), the structural model for our multilevel model can be described by the following equations:

The within-person model:

$$\eta_{2ij} = \alpha_{2j} + \Gamma_{21j}X_{2i} + \zeta_{2ij}$$
$$\eta_{3ij} = \alpha_{3j} + B_{32j}\eta_{2ij} + \zeta_{3ij}$$
$$\eta_{4ij} = \alpha_{4j} + B_{43j}\eta_{3ij} + \zeta_{4ij}$$

The between-person model:

$$\eta_{1j} = \mu_1 +_{11}X_{1j} + \zeta_{1j}$$
$$\eta_{2j} = \mu_2 + \beta_{21}\eta_{1j} + \gamma_{21}X_1 + \zeta_{2j}$$
$$\eta_{3j} = \mu_3 + \beta_{32}\eta_{2j} + \gamma_{31}X_{1j} + \zeta_{3j}$$
$$\eta_{4j} = \mu_4 + \beta_{43}\eta_{3j} + \gamma_{41}X_1 + \zeta_{4j}$$

where i indexes within-person units and j indexes between-person units. $_1$ is the latent variable for perfectionistic discrepancies, η_2 is the latent variable for perfectionistic self-presentation, η_3 is the latent variable for depressive affect, η_4 is the latent variable for self-defeating behaviors, X_1 is the latent variable for exogenous socially prescribed perfectionism at the between-person level, and X_2 is the latent variable for the exogenous perfectionistic discrepancies variable at the within-person level. α and μ represent intercept terms, B and β represent coefficient matrices for endogenous variables, Γ and γ represent coefficient matrices for exogenous variables, and ζ represents residual error.

As hypothesized, the multilevel structural model had good fit: CFI = .95, TFI = .93, RMSEA = .04, SRMR$_{within}$ = .05, and SRMR$_{between}$ = .11. These results, and results of steps 1–4, suggest the proposed model fits the data best as a multilevel model. Our SRMR$_{within}$ was smaller than SRMR$_{between}$, suggesting the within-person model has slightly better fit than the between-person model. Paths were largely congruent with hypotheses. At the between-person level (top of Fig. 1), SPP was positively and significantly related to perfectionistic discrepancies, depressive affect, and self-defeating behaviors, but not to perfectionistic self-presentation. Perfectionistic discrepancies were positively and significantly related to perfectionistic self-presentation; perfectionistic self-presentation was positively and significantly related to depressive affect; and depressive affect was positively and significantly related to self-defeating behaviors. As hypothesized, at the within-person level (bottom of Fig. 1), we found perfectionistic discrepancies were positively and significantly related to perfectionistic self-presentation and perfectionistic self-presentation was positively and significantly related to depressive affect. However, contrary to hypotheses and results
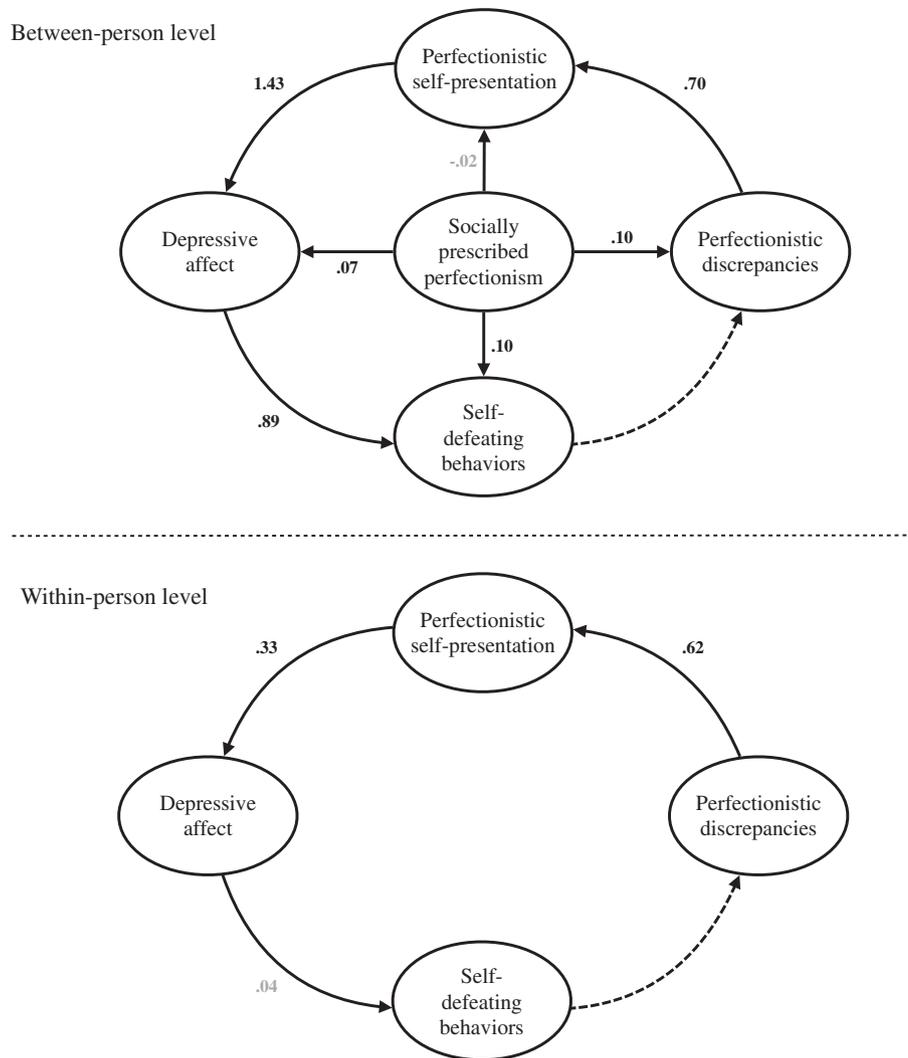
Fig. 1. Multilevel structural model. Ovals represent latent variables. Solid arrows represent direct effects. The dashed arrow was tested in secondary analyses, but not in the context of the full multilevel structural model. All paths shown represent hypotheses derived from our model. Significant unstandardized path coefficients are black. Non-significant unstandardized path coefficients are gray. In the interest of clarity, manifest indicators and error terms are not shown.

at the between-person level, depressive affect was not significantly related to self-defeating behaviors.

In sum, at the between- and within-person levels, fit indices and path coefficients largely supported our hypothesized multilevel structural model. Considering the between-person model relative to the within-person model, some important differences emerged (e.g., the path from depressive affect to self-defeating behaviors is significant only at the between person level). This unique information would have been lost had we ignored the multilevel structure of our data.

3.4. Incremental validity analyses

In testing incremental validity, we specified a multilevel structural model identical to Fig. 1, with one key change: We replaced SPP with self-oriented perfectionism. In terms of absolute fit, this new model was moderate to excellent: CFI = .94, TFI = .92, RMSEA = .04, SRMR$_{within}$ = .04, and SRMR$_{between}$ = .11. However, we compared the AIC (i.e., 101082.36) for our original model focusing on SPP (see Fig. 1) to the AIC (i.e., 101535.79) for this new model focusing on self-oriented perfectionism and found that our original model was superior. Once SPP was added back in to this multilevel structural model, the model showed moderate fit: CFI = .95, TFI = .93, RMSEA = .04, SRMR$_{within}$ = .05, and SRMR$_{between}$

= .12. In addition, AIC values indicated this model involving both SPP and self-oriented perfectionism (AIC = 106994.81) was also inferior to our model focusing solely on SPP (AIC = 101082.36). After controlling for self-oriented perfectionism, all paths between SPP, perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviors were essentially unchanged (compared to paths in Fig. 1). Thus, as hypothesized, SPP was an important predictor of model variables above and beyond self-oriented perfectionism.

One last model comparison was also run where SPP, self-oriented perfectionism, and an interaction term involving SPP and self-oriented perfectionism were included. Our model in Fig. 1 (AIC = 101082.36) fit the data better than a model involving SPP, self-oriented perfectionism, and an interaction term involving SPP and self-oriented perfectionism (AIC = 116706.13). Moreover, the interaction term involving SPP and self-oriented perfectionism was not significantly associated with perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviors. Our incremental validity results are important. However, partitioning out variance in SPP that is associated with self-oriented perfectionism may result in a form of SPP that is not typical of people high in SPP and that is of questionable meaning. Thus, Fig. 1 does not show results controlling for self-oriented perfectionism.

3.5. Secondary analyses

We tested the link between self-defeating behaviors and perfectionistic discrepancies separately at the between- and within-person level. Using the between-person covariance matrix, we tested the top of Fig. 1 with one path added between self-defeating behaviors and perfectionistic discrepancies (see dashed arrow in top of Fig. 1). This model had excellent fit: CFI = .98, TFI = .98, and RMSEA = .06 and the path between self-defeating behaviors and perfectionistic discrepancies was as hypothesized (B = .54, p < .001). On average, people who engaged in more self-defeating behaviors also experienced more perfectionistic discrepancies.

Using the within-person covariance matrix, we tested the bottom of Fig. 1 with one path added between self-defeating behaviors and next-day perfectionistic discrepancies (see dashed arrow in bottom of Fig. 1). This model had moderate fit: CFI = .93, TFI = .92, and RMSEA = .09 and the path between self-defeating behaviors and next-day discrepancies was as hypothesized (B = .18, p < .001). Engaging in self-defeating behaviors on one day was associated with feelings of having fallen short of others' expectations on the next day.

4. Discussion

Allport wrote: "Personality is something and personality does something" (1937, p. 48). In our model, SPP represents what perfectionism is, while perfectionistic processes and self-defeating behaviors represent what perfectionism does. Using multilevel SEM, we found unfolding, dynamic relationships among perfectionism structure, perfectionism processes, and self-defeating behaviors. The measurement and structural model for our model fit the data well and involved related, but distinct, constructs. Our results were also generally consistent with our hypotheses, including evidence SPP adds to our understanding of the variables in our model beyond self-oriented perfectionism.

4.1. Perfectionism structure

Consistent with our hypotheses and past work (Sherry & Hall, 2009), it appears people high in SPP think, feel, and behave in ways that undermine their well-being. Our study joins a wider effort to describe the social world of the socially prescribed perfectionist and suggests a subjective sense of falling short of others' expectations is prominent. Not surprisingly, given numerous studies reporting generally similar findings (e.g., Brannan & Petrie, 2008), we also found that SPP was associated with depressive affect and self-defeating behaviors. One unexpected finding was observed. Though SPP and perfectionistic self-presentation were moderately to strongly correlated, in the context of the multilevel structural model, SPP was not significantly associated with perfectionistic self-presentation. This contrasts research showing a link between SPP and perfectionistic self-presentation (Hewitt et al., 2003). However, past work did not test if this link remained after controlling for perfectionistic discrepancies. Perfectionistic discrepancies may be a private, cognitive expression of SPP that increases the salience of others' expectations and motivates the public, interpersonal expression of SPP (i.e., perfectionistic self-presentation). People high in SPP may see perfectionistic self-presentation as the "solution" to the problem of being imperfect in the eyes of others. Future studies might test this conjecture and see if SPP indirectly affects perfectionistic self-presentation via perfectionistic discrepancies.

4.2. Perfectionism processes

As hypothesized, results at the within-person level suggested on days when people felt they had fallen short of others' expecta-

tions, they tried to present themselves as perfect to others. Congruent with our model, results also indicated that on days when people tried to present themselves as perfect, they felt depressed. Counter to hypotheses, and to results at the between-person level suggesting depressive affect is associated with self-defeating behaviors, on days when people felt sad, they did not engage in more self-defeating behaviors. These results underline the importance of testing if relationships between variables are observable at both between- and within-person levels. More research on the daily link between depressive affect and self-defeating behaviors is needed. Studies using alternative measurement schedules (e.g., shorter intervals between daily assessments) would be useful in testing the daily link between depressive affect and self-defeating behaviors. It is possible we failed to find a significant link between these variables at the daily level because too much time elapsed between the assessment of depressive affect (midday) and the assessment of self-defeating behaviors (bedtime).

4.3. The socially prescribed perfectionist's cycle of self-defeat

Consistent with our model, results indicated SPP is associated with cyclical, maladaptive patterns of self-evaluation, self-presentation, affect, and behavior. People high in SPP often see others as dissatisfied with them and disappointed in them (see Fig. 1). Such perceptions are upsetting since they believe others require them to be perfect (Sherry & Hall, 2009). Believing they have fallen short of others' expectations, our results suggest socially prescribed perfectionists try to make up for their perceived transgressions by appearing perfect to others. Based on past work, we conceptualize this self-presentational style as interpersonally motivated, aimed at gaining acceptance or avoiding disapproval by coming across as perfect (Hewitt et al., 2003). However, showing a façade of perfection backfires, often with depressing consequences (Graham et al., 2010). Feeling depressed and disconnected from others, our results suggested that, on average, people high in SPP engage in more self-defeating behaviors that impede their ability to achieve valued goals and undercut their efforts to showcase their "perfection" to others. They binge eat, avoid tasks, and come into conflict with others—behaviors painfully opposed to the ultra-thin, task-focused, well-liked perfect person they aspire to be (Hewitt et al., 2003).

Our results also suggested the self-defeating behaviors we studied loaded onto the same latent factor. We believe these behaviors have similar functions—escape and avoidance—for people high in SPP. Binge eating offers an escape from aversive self-awareness and depressive affect (Haedt-Matt & Keel, 2011; Heatherton & Baumeister, 1991); procrastination creates an opportunity to postpone evaluation or to avoid tasks where one might not succeed (Flett et al., 2004); and interpersonal conflict can create distance from others, protecting oneself from future evaluation (Hammen, 2006). These self-defeating behaviors may offer a brief escape from negative psychosocial conditions associated with SPP, but eventually backfire as these three behaviors jeopardize perfect performance and elicit real or imagined disapproval from others.

When divorced from their psychosocial context and viewed as isolated acts of dyscontrol, it is hard to explain why socially prescribed perfectionists engage in behaviors counter to their perfectionistic goals, motives, and expectations. However, when these behaviors are seen through the lens of our model, and situated in their interpersonal and characterological context, we can understand why people who are preoccupied with being perfect in the eyes of others generate situations incongruent with their quest for perfection.

4.4. Discriminant and incremental validity

Results suggested that between-person perfectionistic discrepancies and depressive affect, and within-person perfectionistic

discrepancies and perfectionistic self-presentation are meaningfully distinct. Knowing these variables are discriminable supports their validity. Our results also supported the hypothesized incremental validity of our model, with SPP predicting the other variables of our model after controlling for self-oriented perfectionism.

4.5. Limitations and future directions

Our study relied on self-report questionnaires. Information obtained via self-report may be biased due to participants' efforts to present their behavior in a socially desirable manner. Research involving informant reports is needed. Future studies might also supplement self-report measures with assessments of observable behaviors (e.g., binge eating, interpersonal conflict).

Due to the nature of our multilevel data, we were unable to test the relation between self-defeating behaviors and perfectionistic discrepancies in our multilevel structural model. However, this link was tested and supported in between-person and within-person analyses, thus providing support for the association between self-defeating behaviors and perfectionistic discrepancies. In our study, we proposed and tested a specific sequence informed by theory and research. Yet, other sequences are possible and warrant attention in future work. In addition, our study focused on one common emotional experience for people high in SPP (i.e., depressive affect). Future research should test whether different emotions (e.g., anxiety or anger) contribute to our understanding of socially prescribed perfectionists' self-defeating behaviors.

Some scales in our study were shortened to reduce participate burden. Supplementary psychometric study supported the reliability and validity of our shortened scales. Ultimately, less is known about the psychometrics of these modified scales. Using modified scales may also limit the generalizability of our results. Our study used a large sample of young, mainly female, undergraduates. It is unclear whether our results will generalize to other samples (e.g., men or psychiatric patients). Although our twice-a-day reporting schedule (with midday and bedtime reporting) represents an improvement on past studies (Dunkley et al., 2003; Sherry & Hall, 2009), our daily diary study was relatively short-term (7 days). Using an alternative, more intensive and longer duration, reporting schedule is an important next step in testing our model.

5. Conclusions

Our model synthesizes past research into a multilevel framework where SPP is seen as driving a vicious cycle of perfectionism processes and self-defeating behaviors. Believing that others demand perfection, socially prescribed perfectionists often feel they have let others down. To remedy this perceived failure, they try to hide their shortcomings by presenting a picture of "perfection." This unsatisfying way of relating to others results in feelings of sadness. Struggling with depressive affect, socially prescribed perfectionists tend to cope ineffectively by engaging in self-defeating behaviors. These self-defeating behaviors lead them to believe that they have let others down once again—a belief that initiates yet another go around in their cycle of self-defeat.

Acknowledgments

Appendix A. Supplementary material

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.jrp.2012.08.006.

References

Acock, A. C. (2005). Working with missing values. *Journal of Marriage and Family, 67*, 1012–1028. http://dx.doi.org/10.1111/j.1741-3737.2005.00191.x.

Allport, G. W. (1937). *Personality: A psychological interpretation*. New York, NY: Holt.

Bagby, R. M., Parker, J. D. A., Joffe, R. T., & Buis, T. (1994). Reconstruction and validation of the depressive experiences questionnaire. *Assessment, 1*, 59–68. http://dx.doi.org/10.1177/1073191194001001009.

Barker, E. T., Williams, R. L., & Galambos, N. L. (2006). Daily spillover to and from binge eating in first-year university females. *Eating Disorders: The Journal of Treatment and Prevention, 14*, 229–242. http://dx.doi.org/10.1080/10640260600639079.

Baumeister, R. F., & Scher, S. J. (1988). Self-defeating behavior patterns among normal individuals. *Psychological Bulletin, 104*, 3–22. http://dx.doi.org/10.1037/0033-2909.104.1.3.

Brannan, M. E., & Petrie, T. A. (2008). Moderators of the body dissatisfaction-eating disorder symptomatology relationship: Replication and extension. *Journal of Counseling Psychology, 55*, 263–275. http://dx.doi.org/10.1037/0022-0167.55.2.263.

Burnham, K. P., & Anderson, D. R. (2002). *Model selection and multimodel inference. A practical information-theoretic approach* (2nd ed.). New York, NY: Springer.

Byrne, B. (2001). *Structural equation modeling with AMOS*. Mahwah, NJ: Erlbaum.

Cheung, M. L., & Au, K. (2005). Applications of multilevel structural equation modeling to cross-cultural research. *Structural Equation Modeling, 12*, 598–619. http://dx.doi.org/10.1207/s15328007sem1204_5.

Cox, B. J., Enns, M. W., & Clara, I. P. (2002). The multidimensional structure of perfectionism in clinically distressed and college student samples. *Psychological Assessment, 14*, 365–373. http://dx.doi.org/10.1037/1040-3590.14.3.365.

Dunkley, D. M., & Blankstein, K. R. (2000). Self-critical perfectionism, coping, hassles, and current distress: A structural equation modeling approach. *Cognitive Therapy and Research, 24*, 713–730. http://dx.doi.org/10.1023/A:1005543529245.

Dunkley, D. M., Zuroff, D. C., & Blankstein, K. R. (2003). Self-critical perfectionism and daily affect: Dispositional and situational influences on stress and coping. *Journal of Personality and Social Psychology, 84*, 234–252. http://dx.doi.org/10.1037/0022-3514.84.1.234.

Ferrari, J. R. (1994). Dysfunctional procrastination and its relationship with self-esteem, interpersonal dependency, and self-defeating behaviors. *Personality and Individual Differences, 17*, 673–679. http://dx.doi.org/10.1016/0191-8869(94)90140-6.

Flett, G. L., & Hewitt, P. L. (in preparation). The Multidimensional Discrepancy Inventory.

Flett, G. L., Hewitt, P. L., Davis, R. A., & Sherry, S. B. (2004). Description and counseling of the perfectionistic procrastinator. In H. C. Schouwenburg, C. H. Lay, T. A. Pychyl, J. R. Ferrari, H. C. Schouwenburg, C. H. Lay, & J. R. Ferrari (Eds.), *Counseling the procrastinator in academic settings* (pp. 181–194). Washington, DC: American Psychological Association.

Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research, 14*, 449–468. http://dx.doi.org/10.1007/BF01172967.

Garner, D. M., Olmstead, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders, 2*, 15–34. http://dx.doi.org/10.1002/1098-108X(198321.

Graham, A. R., Sherry, S. B., Stewart, S. H., Sherry, D. L., McGrath, D., Fossum, K., et al. (2010). The existential model of perfectionism and depressive symptoms. *Journal of Counseling Psychology, 57*, 423–438. http://dx.doi.org/10.1037/a0020667.

Haedt-Matt, A. A., & Keel, P. K. (2011). Revisiting the affect regulation model of binge eating. *Psychological Bulletin, 137*, 660–681. http://dx.doi.org/10.1037/a0023660.

Hammen, C. (2006). Stress generation in depression: Reflections on origins, research, and future directions. *Journal of Clinical Psychology, 62*, 1065–1082. http://dx.doi.org/10.1002/jclp.20293.

Harman, J., & Amico, K. (2009). The relationship-oriented information-motivation-behavioral skills model. *AIDS and Behavior, 13*, 173–184. http://dx.doi.org/10.1007/s10461-007-9350-4.

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.

Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts. *Journal of Personality and Social Psychology, 60*, 456–470. http://dx.doi.org/10.1037/0022-3514.60.3.456.

Hewitt, P. L., Flett, G. L., Sherry, S. B., & Caelian, C. F. (2006). Trait perfectionism dimensions and suicide behavior. In T. E. Ellis (Ed.), *Cognition and suicide: Theory,*

research, and practice (pp. 215–235). Washington, DC: American Psychological Association.

Hewitt, P. L., Flett, G. L., Sherry, S. B., Habke, M., Parkin, M., Lam, R. W., & Stein, M. B. (2003). The interpersonal expression of perfection. *Journal of Personality and Social Psychology, 84*, 1303–1325. http://dx.doi.org/10.1037/0022-3514.84.6.1303.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis. *Structural Equation Modeling, 6*, 1–55. http://dx.doi.org/10.1080/10705519909540118.

Iacobucci, D. (2009). Everything you always wanted to know about SEM but were afraid to ask. *Journal of Consumer Psychology, 19*, 673–680. http://dx.doi.org/10.1016/j.jcps.2009.09.002.

Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York, NY: Guilford.

Lubin, B. (1965). Adjective checklists for measurement of depression. *Archives of General Psychiatry, 12*, 57–62.

Mackinnon, S. P., & Sherry, S. B. (2012). Perfectionistic self-presentation mediates the relationship between perfectionistic concerns and subjective well-being. *Personality and Individual Differences, 53*, 22–28. http://dx.doi.org/10.1016/j.paid.2012.02.010.

Mackinnon, S. P., Sherry, S. B., Antony, M. M., Stewart, S. H., Sherry, D. L., & Hartling, N. (2012). Caught in a bad romance. Perfectionism, conflict, and depression in romantic relationships. *Journal of Family Psychology, 26*, 215–225. http://dx.doi.org/10.1037/a0027764.

Mackinnon, S. P., Sherry, S. B., Graham, A. R., Stewart, S. H., Sherry, D. L., Allen, S. L., & McGrath, D. S. (2011). Reformulating and testing the perfectionism model of binge eating. *Journal of Counseling Psychology, 58*, 630–646. http://dx.doi.org/10.1037/a0025068.

McGrath, D. S., Sherry, S. B., Stewart, S. H., Mushquash, A. R., Allen, S. L., Nealis, L. J., et al. (2012). Reciprocal relations between self-critical perfectionism and depressive symptoms. *Canadian Journal of Behavioural Science, 44*, 169–181. http://dx.doi.org/10.1037/a0027764.

McNair, D. M., Lorr, M., & Droppleman, L. F. (1992). *Profile of mood states manual.* San Diego, CA: Educational and Industrial Testing Service.

Mitzman, S. F., Slade, P., & Dewey, M. E. (1994). Preliminary development of a questionnaire designed to measure neurotic perfectionism in the eating disorders. *Journal of Clinical Psychology, 50*, 516–528. http://dx.doi.org/10.1002/1097-4679(199407)50:4<516.

Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The benefits of positive illusions. *Journal of Personality and Social Psychology, 70*, 79–98. http://dx.doi.org/10.1037/0022-3514.70.1.79.

Mushquash, A. R. (2012). [Psychometric data]. Unpublished raw data.

Muthen, B. O. (1994). Multilevel covariance structure analysis. *Sociological Methods and Research, 22*, 376–398.

Muthen, L. K., & Muthen, B. O. (2010). *Mplus user's guide* (6th ed.). Los Angeles, CA: Muthen & Muthen.

Nepon, T., Flett, G. L., Hewitt, P. L., & Molnar, D. S. (2011). Perfectionism, negative social feedback, and interpersonal rumination in depression and social anxiety. *Canadian Journal of Behavioural Science, 43*, 297–308. http://dx.doi.org/10.1037/a0025032.

Oishi, S., & Sullivan, H. W. (2006). The predictive value of daily vs. retrospective well-being judgments in relationship stability. *Journal of Experimental Social Psychology, 42*, 460–470. http://dx.doi.org/10.1016/j.jesp.2005.07.001.

Preacher, K. J., Zhang, Z., & Zyphur, M. J. (2011). Alternative methods for assessing mediation in multilevel data: The advantages of multilevel SEM. *Structural Equation Modeling, 18*, 161–182. http://dx.doi.org/10.1080/10705511.2011.557329.

Schlomer, G. L., Bauman, S., & Card, N. A. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling Psychology, 57*, 1–10. http://dx.doi.org/10.1037/a0018082.

Shafran, R., Cooper, Z., & Fairburn, C. G. (2002). Clinical perfectionism: A cognitive-behavioral analysis. *Behavior Research and Therapy, 40*, 773–791. http://dx.doi.org/10.1016/S0005-7967(01)00059-6.

Sherry, S. B., & Hall, P. A. (2009). The perfectionism model of binge eating. *Journal of Personality and Social Psychology, 96*, 690–709. http://dx.doi.org/10.1037/a0014528.

Sherry, S. B., Hewitt, P. L., Flett, G. L., Lee-Baggley, D. L., & Hall, P. A. (2007). Trait perfectionism and perfectionistic self-presentation in personality pathology. *Personality and Individual Differences, 42*, 477–490. http://dx.doi.org/10.1016/j.paid.2006.07.026.

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.

Smyth, J. M., Wonderlich, S. A., Sliwinski, M. J., Crosby, R. D., Engel, S. G., Mitchell, J. E., et al. (2009). Ecological momentary assessment of affect, stress, and binge-purge behaviors. *International Journal of Eating Disorders, 42*, 429–436. http://dx.doi.org/10.1002/eat.v42:510.1002/eat.20623.

Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism. *Personality and Social Psychology Review, 10*, 295–319. http://dx.doi.org/10.1207/s15327957pspr1004_2.

Tuckman, B. W. (1991). The development and concurrent validity of the procrastination scale. *Educational and Psychological Measurement, 51*, 73–80. http://dx.doi.org/10.1177/0013164491512022.

van Eerde, W. (2003). A meta-analytically derived nomological network of procrastination. *Personality and Individual Differences, 35*, 1401–1418. http://dx.doi.org/10.1016/S0191-8869(02)00358-6.

Watson, D., & Clark, L. A. (1994). The PANAS-X: Manual for the positive and negative affect schedule-expanded form. Unpublished manuscript, University of Iowa, Iowa City, IA.

West, S. G., Ryu, E., Kwok, O., & Cham, H. (2011). Multilevel modeling: Current and future applications in personality research. *Journal of Personality, 79*, 2–50. http://dx.doi.org/10.1111/j.1467-6494.2010.00681.x.