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Toward a better understanding of narcissistic perfectionism: Evidence of factorial validity, incremental validity, and mediating mechanisms

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ABSTRACT

Narcissistic perfectionism is frequently described in theory, but there are no empirically tested models of this construct. Our study tested a model of narcissistic perfectionism, and differentiated this construct from self-critical perfectionism. Data from two samples of undergraduates, including a 28-day daily diary study, were used to test the factorial validity of narcissistic perfectionism and its unique indirect pathways to aversive social behavior. Results supported the factorial validity of narcissistic perfectionism as distinct from self-critical perfectionism, and each perfectionism construct predicted negative social behaviors through overlapping but distinct forms of perfectionistic discrepancies. Our study suggests narcissistic perfectionism is a distinct personality construct that predicts aversive social behavior, thereby supporting theoretical descriptions of this oft-discussed, but rarely studied, personality construct.

1. Introduction

Perfectionism is a multidimensional trait with important implications for understanding adjustment (e.g., Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). Sylvia Plath, a Pulitzer Prize winning author, vividly illustrates the destructiveness of perfectionism. In her diaries, Plath describes her perfectionism as a "demon" (Plath, 2000) whose torment contributed to her suicide at age 30 (Shulman, 1998). She was intensely self-critical, preoccupied with mistakes, doubted her performance abilities, and saw others as demanding perfection of her. This constellation of traits, known as self-critical perfectionism, robustly predicts various negative outcomes (Dunkley, Zuroff, & Blankstein, 2003; McGrath et al., 2012).

Not all perfectionists are the same, however. Imagine a different sort of perfectionist who directs his or her need for perfection outward onto others in a grandiose, hyper-critical way. An example is Steve Jobs, co-founder of Apple. Since his death in 2011, stories of his perfectionism abound (Gladwell, 2011). According to one biography (Isaacson, 2011), he expected perfection from others in an entitled, demanding, and hyper-critical manner. Employees reported going from "hero to zero" in Jobs' estimation after even minor mistakes; employees also noted Jobs routinely derogated them in front of co-workers (Isaacson, 2011). Despite Jobs' perfectionism (e.g., rigidly demanding flawless performance from others) and his narcissism (e.g., entitlement and grandiose sense of superiority over others), his personality, and the personalities of those like him, are not well captured by any single model of perfectionism or narcissism to date.

Theory speculates about a constellation of narcissistic and perfectionistic features (e.g., Beck & Freeman, 1990), yet existing models do not bridge the gap between narcissism and perfectionism to adequately capture this personality style. We propose that a constellation of traits from perfectionism and narcissism capture the attributes described by theory (e.g., Millon & Davis, 1996). We call this constellation narcissistic perfectionism. Our aim is to articulate and to test a factorially valid model of narcissistic perfectionism that predicts outcomes beyond existing constructs (e.g., self-critical perfectionism), and to identify possible mechanisms through which narcissistic perfectionists engage in aversive social behaviors.

1.1. Narcissistic perfectionism: existing descriptions and needed advances

Theorists from various traditions make passing reference to a harsh and an outwardly directed need for perfection in narcissism.

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Rothstein (1999) emphasized the role of perfectionism in narcissism, noting the core of narcissism rests in a "felt quality of perfection" (Rothstein, 1999, p. 17). Sorotzkin (1985) noted that perfectionistic tendencies in narcissistic individuals are exacerbated when others do not fulfill their narcissistic needs. Though narcissistic injury (and subsequent rage) may be triggered by any experienced loss of perfection, this may also occur when an idealized other disappoints the narcissistic individual who "feels entitled to the presence of an idealized object" (Rothstein, 1999, p. 22). In this way, idealized others are expected to maintain the aura of perfection, and the narcissistic individual may react with intense anger if those expectations go unmet (Kohut, 1972).

From a cognitive lens, Beck and Freeman (1990) viewed narcissism as a dysfunctional schema thought to involve entitled and grandiose expectations of others. Similarly, Ellis (1997) posited that, in the context of a disordered personality (e.g., narcissistic personality disorder), people treat their desires or preferences as grandiose and unrealistic demands. Such demands are often forced onto others resulting in intense anger when others do not satisfy these demands.

These perspectives are echoed in recent theoretical descriptions. Ronningstam (2011) notes narcissists are vocal in their own pursuit of perfection, and such people also express their "contempt for the perceived imperfections of other people" (p. 93). In a similar way, Millon and Davis (1996) describe how narcissists impose their standards onto other people. Once others fail to meet these expectations, the narcissistic individual will react with contempt (Millon, Davis, Millon, Escovar, & Meagher, 2000). Dimaggio and Attinà (2012) also describe how narcissists impose their perfectionistic expectations on others.

Despite perfectionism toward others being clearly discussed in theoretical literature, perfectionism is noticeably absent in empirical models of narcissism (e.g., pathological narcissism). Contemporary research divides pathological narcissism into two subtypes: grandiose narcissism (characterized by grandiosity, arrogance, entitlement, and exploitativeness), and vulnerable narcissism (characterized by entitlement and grandiose expectations of oneself and others with an overt presentation of hopelessness, constraint, and withdrawal; see Dickinson & Pincus, 2003; Pincus et al., 2009). This conceptual model of narcissism has gained prominence, with measurement tools such as the Pathological Narcissism Inventory (PNI; Pincus et al., 2009) developed to assess both subtypes with a single scale. In a well-cited paper describing the development and the validation of the PNI (Pincus et al., 2009), perfectionism is mentioned only twice: once regarding the desire for perfection in the context of "fantasies of unlimited power, superiority, perfection and adulation" (p. 367), and once regarding the "tendency to hide the self's imperfections" (p. 376). Other prominent papers on pathological narcissism (e.g., Cain, Pincus, & Ansell, 2008; Dickinson & Pincus, 2003; Roche, Pincus, Lukowitsky, Ménard, & Conroy, 2013) omit perfectionism entirely. Furthermore, items in the PNI do not reference perfectionism pertaining to either the self or other people. Despite numerous references to harsh and to critical demands for the perfection of others described by theory, these ideas are not represented in current empirical models of pathological narcissism.

While demanding perfection of others is more clearly represented in the perfectionism literature, these conceptual and empirical models also have shortcomings. A notable formulation of the perfectionism–narcissism link is Hewitt and Flett's (1990) original description of other-oriented perfectionism. These authors described other-oriented perfectionists as people who project their expectations for perfection onto others in a harsh, critical way. This construct was later modified to its current form, as reflected in the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991). Since then, similar constructs, such as Hill et al.'s (2004) notion of high standards for others, have also emerged to represent outwardly directed perfectionistic demands.

Whereas research on self-critical perfectionism is burgeoning (e.g., Chang, Hirsch, Sanna, Jeglic, & Fabian, 2011; Rice, Choi, Zhang, Morero, & Anderson, 2012; Sherry, Gautreau, Mushquash, Sherry, & Allen, 2014), research on other-oriented perfectionism is comparatively neglected, perhaps because other-oriented perfectionism does not evidence strong predictive or incremental validity. For example, Haring, Hewitt, and Flett (2003) found other-oriented perfectionism was not a strong predictor of marital adjustment compared to socially prescribed perfectionism (i.e., perceiving that others demand perfection of oneself). In another study, other-oriented perfectionism did not uniquely predict conflict after other forms of perfectionism were accounted for (Mackinnon et al., 2012). Other-oriented perfectionism was even omitted from a measure of child and adolescent perfectionism (Hewitt et al., 2002). Though other-oriented perfectionism is an important construct, it may not be sufficiently broad to capture the attributes of those who express a demanding and hyper-critical style of perfectionism toward others.

In sum, an outwardly directed need for perfection marked by a grandiose self-image, interpersonal entitlement, hyper-criticism of others, and lofty expectations for others' performance is frequently discussed in theory (e.g., Beck & Freeman, 1990; Hewitt & Flett, 1991; Kohut, 1972; Millon et al., 2000), but remains largely unrepresented in extant models and measures of narcissism and perfectionism. Consequently, there is no well-developed empirical model of narcissistic perfectionism available. Our study is an important first step in this direction.

2. Study 1

2.1. Background

2.1.1. An empirical model of narcissistic perfectionism

The key to an empirical model of narcissistic perfectionism may rest in a constellation of narcissistic and perfectionistic traits, as existing models of grandiose narcissism and other-oriented perfectionism each neglect key features of this overall personality style. While other-oriented perfectionism maps onto the outwardly directed need for perfection, grandiose narcissism maps onto the sense of grandiosity and entitlement described in theoretical accounts of narcissistic perfectionism. In addition, one trait may only lead to interpersonal difficulties in the presence of other traits. For example, high standards for others may be innocuous when paired with a warm and nurturing interpersonal style. However, when combined with grandiosity and entitlement, it may result in a particularly negative form of other-directed perfectionism where people are rigidly held to unreasonably high standards, resulting in conflict and harsh criticism when those demands for perfection go unmet. Thus, we propose a constellation of key traits from grandiose narcissism and perfectionism form the foundation for narcissistic perfectionism.

Existing research shows links between perfectionism and narcissism, which provides support for the combination of these traits into an empirical model of narcissistic perfectionism. Other-oriented perfectionism shows correlations with grandiose narcissism as measured by the Narcissistic Personality Inventory and the narcissism scale of the Dirty Dozen, with specific links to features of authority, exploitativeness, and entitlement (Hewitt & Flett, 1991; Stoeber, 2014). While self-oriented perfectionism (i.e., demanding perfection of oneself) showed similar, albeit weaker, relations with these narcissistic features, socially prescribed perfectionism (i.e., believing that others are demanding perfection of oneself) did not (Hewitt & Flett, 1991). Similarly, other-oriented

perfectionism is the only form of perfectionism associated with clinical measures of narcissistic personality disorder (Hewitt & Flett, 1991; Hewitt, Flett, & Turnbull, 1992). Though self-oriented and other-oriented perfectionism both show a relation to narcissism, recent work shows a more prominent role for other-oriented perfectionism than self-oriented perfectionism in grandiose narcissism (Sherry, Gralnick, Hewitt, Sherry, & Flett, 2014; Stoeber, 2014).

Recent research has also investigated these measures of perfectionism as they relate to both grandiose and vulnerable subtypes of narcissism. Work by Flett, Sherry, Hewitt, and Nepon (2014) shows other-oriented perfectionism is related to grandiose narcissism, but not vulnerable narcissism. Other research showed that, when looking at the unique contributions of other-oriented perfectionism and socially prescribed perfectionism to both subtypes of pathological narcissism, other-oriented perfectionism was uniquely related to grandiose narcissism, whereas socially prescribed perfectionism was predominantly related to vulnerable narcissism (Stoeber, Sherry, & Nealis, 2015). These findings coincide with earlier work showing other-oriented perfectionism was positively related to grandiose features of narcissism (e.g., arrogance), whereas socially prescribed perfectionism was negatively related to these same grandiose features (Trumpeter, Watson, & O'Leary, 2006). Grandiose narcissism is thought to involve increased entitlement, anger in response to unmet expectations, and devaluation of others relative to vulnerable narcissism (Gabbard, 1989). These descriptions coincide with descriptions of narcissistic perfectionism from theory, and suggest that an empirical model of narcissistic perfectionism would require traits from grandiose narcissism. Research has identified grandiosity and entitlement as key features of grandiose narcissism (Brown, Budzek, & Tamborski, 2009), and these traits constitute key features of our empirical model of narcissistic perfectionism.

Research on harsh, unrealistic expectations for others includes constructs such as Hewitt and Flett's (1990, 1991) other-oriented perfectionism and Hill et al.'s (2004) high standards for others. These scales predominantly measure high standards for others', which is seen as central to narcissistic perfectionism as described by theory. Item content in the earliest version of other-oriented perfectionism (Hewitt & Flett, 1990), however, seems to capture a more harsh and hyper-critical expression of these high standards for others. For example, this earliest version of other-oriented perfectionism showed stronger positive associations with measures of dominance and stronger negative associations with intimacy, nurturance, and agreeableness compared to Hewitt and Flett's (1991) newer version of other-oriented perfectionism (Stoeber, 2014). Thus, combining this earliest version of other-oriented perfectionism with Hill et al.'s (2004) measure of high standards for others could more accurately capture narcissistic perfectionism than Hewitt and Flett's (1991) version of other-oriented perfectionism.

2.1.2. Objectives and hypotheses

A coherent empirical model of narcissistic perfectionism would help fill an existing gap in the perfectionism literature and reinvigorate research regarding the role of perfectionistic tendencies in narcissism. Our initial objectives were to test the factorial validity of our model of narcissistic perfectionism and to show evidence of its convergence (and non-equivalence) with an existing perfectionism construct, self-critical perfectionism.

Self-critical perfectionism has gained prominence in the perfectionism literature, due in part to its theoretical and empirical integration of perfectionistic traits. Similar to our proposed model of narcissistic perfectionism, self-critical perfectionism is represented in extant models as a constellation of traits (e.g., Dunkley et al., 2003). Given this theoretical and empirical similarity, we test our measurement model of narcissistic perfectionism alongside an analogous and previously validated model of self-critical perfectionism. Including both trait constellations in a measurement model allows us to test the convergence with, and non-equivalence of, narcissistic perfectionism in relation to self-critical perfectionism.

Given the pattern of associations shown in previous research (e.g., Sherry, Gralnick, et al., 2014; Stoeber, 2014), we hypothesized the four proposed indicators of narcissistic perfectionism (i.e., grandiosity, entitlement, high standards for others, and other-oriented perfectionism) would cohere together as a constellation of traits. Specifically, we hypothesized the four indicators of narcissistic perfectionism would load on a separate latent construct from the four indicators of self-critical perfectionism (see Fig. 1). Based on previously described associations between the components of narcissistic and self-critical perfectionism in the theoretical (Ronningstam, 2011) and the empirical literatures (Hewitt & Flett, 1991), we also hypothesized that these higher-order constructs would be moderately to strongly correlated, but would be best represented as distinct, rather than identical.

2.2. Method

2.2.1. Participants

We recruited 323 undergraduates (264 women) from Dalhousie University in Halifax, Nova Scotia. Participants averaged 20.57 years of age (SD = 3.70) and reported living in Canada for an average of 18.12 years (SD = 6.58); 80.4% of participants were Caucasian, 8.4% were Asian, 1.9% were Black, 3.1% were multiracial, and 6.2% were members of other ethnicities (e.g., East Indian). Participants averaged 2.56 years of university education, with 30.0% in first year, 22.0% in second year, 23.3% in third year, and 24.7% in fourth year. The most common majors were psychology (31.1%), other sciences (19.2%; e.g., biology), double majors (9.9%), arts (9.0%), undeclared (20.5%), and "other" (10.3%; e.g., nursing). The median family of origin household income for participants was $80,000–$99,999, with an average household size of 3.79 people (SD = 1.34). Most participants were single (45.5%) or in a dating relationship (43.0%).

2.2.2. Measures

Narcissistic and self-critical perfectionism were measured using four manifest indicators. Higher scores indicate higher levels for all measures. Measures of narcissistic and self-critical perfectionism used a long-term timeframe (i.e., during the past several years) as research suggests these constructs are highly stable (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004; Hewitt & Flett, 1991). Cronbach's alphas for each scale are in Table 2.

Narcissistic perfectionism was measured using Jonason and Webster's (2010) Narcissism subscale of the Dirty Dozen scale (DD-N), Campbell et al.'s (2004) Psychological Entitlement Scale (PES), Hill et al.'s (2004) High Standards for Others subscale of the Perfectionism Inventory (PI-HSFO), and Hewitt and Flett's (1990) Other-Oriented Perfectionism subscale (HF-OOP). The 4-item DD-N measured narcissistic grandiosity (e.g., "I tend to want others to admire me") and was rated on a 9-point scale from 1 (*strongly disagree*) to 9 (*strongly agree*). Evidence supports the reliability and validity of the DD-NJ (Jonason & Webster, 2010). The 9-item PES assessed narcissistic entitlement (e.g., "Great things should come to me") and was rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Studies support the reliability and validity of the PES (Campbell et al., 2004). The 7-item PI-HSFO measured demandingness and hyper-criticism of others (e.g., "I have little tolerance for others' mistakes") and was rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Studies support the reliability and validity of the PI-HSFO (Hill et al., 2004). The 8-item HF-OOP measured perfectionistic judgments, demands, and criticisms (e.g., "If someone I know

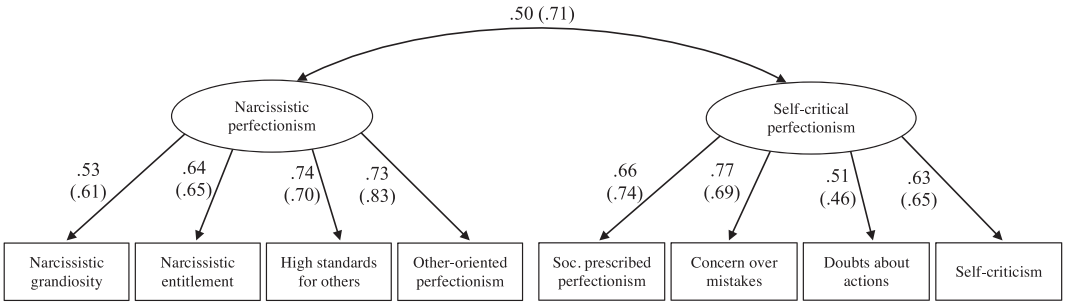

Fig. 1. Measurement model for narcissistic and self-critical perfectionism. Soc. = socially. Ovals represent latent variables and rectangles represent manifest indicators. The double-headed black arrow represents a latent correlation. The single-headed black arrows represent standardized factor loadings for manifest indicators of latent variables. All standardized factor loadings were significant ($p < .001$). Model parameters for Study 1 are indicated outside parentheses and model parameters for Study 2 are indicated inside parentheses. Error terms are not shown in the interest of clarity.

cannot do something really well, they shouldn't do it at all") and was rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Studies support the reliability and validity of the HF-OOP (Hewitt & Flett, 1990).

Self-critical perfectionism was measured using Dunkley et al.'s (2003) measurement model, which was comprised of a short form of Hewitt and Flett's (1991) Socially Prescribed Perfectionism subscale of the Multidimensional Perfectionism Inventory (HFMPS-SPP; see Hewitt, Habke, Lee-Baggley, Sherry, & Flett, 2008), a short form of Frost et al.'s (1990) Concern Over Mistakes subscale of the Multidimensional Perfectionism Inventory (FMPS-COM; see Cox, Enns, & Clara, 2002), Frost et al.'s (1990) Doubts About Actions subscale of the Multidimensional Perfectionism Inventory (FMPS-DAA; see Cox et al., 2002), and Bagby, Parker, Joffe, and Buis' (1994) Self-Criticism subscale of the Reconstructed Depressive Experiences Questionnaire (RDEQ-SC; see Blatt, D'Afflitti, & Quinlan, 1976). The 5-item HFMPS-SPP (e.g., "People expect nothing less than perfection from me") was rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Research supports the reliability and validity of the 5-item HFMPS-SPP. The original, 15-item HFMPS-SPP (Hewitt & Flett, 1991) may be reduced to five items without diminishing its psychometric properties (see Cox et al., 2002 for details). Hewitt et al. (2008) reported the 5-item HFMPS-SPP and original, 15-item HFMPS-SPP are strongly correlated ($r = .90$). The 5-item FMPS-COM (e.g., "If I fail partly, it is as bad as being a complete failure") was rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Evidence supports the reliability and validity of the 5-item FMPS-COM. The psychometric properties of the FMPS-COM were improved after it was reduced from nine to five items (see Cox et al., 2002). Graham et al. (2010) reported the 5-item FMPS-COM and original, 9-item FMPS-COM (Frost et al., 1990) are strongly related ($r = .91$). The 4-item FMPS-DAA (e.g., "Even when I do something very carefully, I often feel that it is not quite right") was rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Research supports the reliability and validity of the FMPS-DAA. The 9-item RDEQ-SC (e.g., "I tend not to be satisfied with what I have") was rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Studies support the reliability and validity of the RDEQ-SC (Bagby et al., 1994).

2.2.3. Procedure

Dalhousie University's Research Ethics Board approved Study 1. Participants were recruited over a 4-month period from the participant pool in the Department of Psychology at Dalhousie University and from the general student population at Dalhousie University. Participants responded to an ad inviting them to participate in a study on personality and relationships. This ad was posted on the Department of Psychology's online research management system and on flyers posted on various bulletin boards around campus. After reading a description of our study, participants scheduled a time to participate in our lab. Before participating, all students were given a chance to ask questions and to read and to sign a consent form. During Study 1, participants completed a questionnaire package including demographics and study measures. When finished, participants were debriefed and given either (a) 1% bonus for a psychology course or (b) $5.

2.2.4. Data analytic plan and power considerations

We examined bivariate correlations among manifest indicators and tested hypotheses concerning factorial validity using confirmatory factor analysis (CFA). CFA tested if the measurement model in Fig. 1 represented the data well. Model comparisons were conducted between our hypothesized model and alternative models.

Power analyses (Preacher & Coffman, 2006) indicated 96% power to detect a well-fitting measurement model using RMSEA values. This calculation assumes an alpha of .05, 18 degrees of freedom, and $N = 323$. In testing the null hypothesis of close fit (see MacCallum, Browne, & Sugawara, 1996), we specified null and alternative values of RMSEA as .05 and .10, respectively.

2.3. Results

2.3.1. Missing data

Overall, 0.06% of our data was missing in Study 1. Analyses (Little, 1988) indicated our missing data were missing completely at random, $\chi^2(348, N = 323) = 355.71$, $p > .05$. These missing data were imputed using SPSS 19.0's expectation maximization algorithm. This approach is indicated as a small amount of data were missing (<5.0%) and data were missing completely at random (Scheffer, 2002).

2.3.2. Descriptive statistics

Table 1 includes means, standard deviations, and ranges for manifest indicators of latent constructs. Means of manifest indicators fell within one standard deviation of means from past studies of undergraduates (e.g., Campbell et al., 2004; Graham et al., 2010; Hill et al., 2004; Mushquash & Sherry, 2012; Nealis & Sherry, 2015). This suggests our means are generally congruent with past research using comparable samples.

2.3.3. Bivariate correlations

Table 2 shows correlations among manifest indicators and composite measures. For composite measures (i.e., narcissistic and self-critical perfectionism), manifest indicators were standardized, summed, and re-standardized prior to running correlations. For example, narcissistic perfectionism was comprised of standardized and summed values for the DD-N, PES, PI-HSFO, and HF-OOP.

Table 1
Means, standard deviations, and ranges for manifest indicators in Study 1.

Manifest indicator	*M*	*SD*	Range	
			Potential	Actual
Narcissistic perfectionism				
Narcissistic grandiosity (DD-N)	21.49	6.04	4–36	4.0–36.0
Narcissistic entitlement (PES)	24.35	9.19	9–63	9.0–48.0
High standards for others (PI-HSFO)	16.65	6.39	7–35	7.0–32.0
Other-oriented perfectionism (HF-OOP)	12.98	4.62	8–40	8.0–33.0
Self-critical perfectionism				
Socially prescribed perfectionism (HFMPS-SPP)	18.96	6.76	5–35	5.0–35.0
Concern over mistakes (FMPS-COM)	11.85	4.37	5–25	5.0–25.0
Doubts about actions (FMPS-DAA)	10.99	4.18	4–20	4.0–20.0
Self-criticism (RDEQ-SC)	31.85	11.50	9–63	9.0–62.0

Note. DD-N = Jonason and Webster's (2010) Narcissism subscale of the Dirty Dozen; PES = Campbell et al.'s (2004) Psychological Entitlement Scale (PES); PI-HSFO = Hill et al.'s (2004) High Standards for Others subscale of the Perfectionism Inventory; HF-OOP = Hewitt and Flett's (1990) Other-Oriented Perfectionism subscale; HFMPS-SPP = a short form of Hewitt and Flett's (1991) Socially Prescribed Perfectionism subscale of the Multidimensional Personality Inventory; FMPS-COM = a short form of Frost et al.'s (1990) Concern Over Mistakes subscale of the Multidimensional Personality Inventory; FMPS-DAA = Frost et al.'s (1990) Doubts About Actions subscale of the Multidimensional Personality Inventory; RDEQ-SC = Bagby et al.'s (1994) Self-Criticism subscale of the Reconstructed Depressive Experiences Questionnaire.

Table 2 shows high Cronbach's alphas (>.90) for composite measures of narcissistic perfectionism and self-critical perfectionism. Manifest indicators of narcissistic perfectionism were moderately to strongly correlated with each other. Manifest indicators of self-critical perfectionism were also moderately to strongly correlated with each other. However, correlations between manifest indicators of narcissistic and self-critical perfectionism were generally lower in magnitude (small to moderate effect sizes). Narcissistic perfectionism was more strongly correlated with manifest indicators of narcissistic perfectionism than with manifest indicators of self-critical perfectionism. Similarly, self-critical perfectionism was more strongly correlated with manifest indicators of self-critical perfectionism than with manifest indicators of narcissistic perfectionism. Composite measures of narcissistic and self-critical perfectionism were moderately to strongly correlated with each other. Overall, these correlations suggest merit in testing the measurement model.

2.3.4. Factorial validity and convergence

We tested hypotheses of factorial validity by comparing the model fit of two competing measurement models. In Model 1, manifest indicators of narcissistic perfectionism and self-critical perfectionism were allowed to load on a single latent factor. In Model 2, manifest indicators of narcissistic perfectionism and self-critical perfectionism were restricted to load onto their corresponding latent variables in a two-factor model, with latent variables being free to covary. Small's omnibus test (DeCarlo, 1997) indicated multivariate non-normality for manifest indicators. CFA was therefore conducted using robust maximum likelihood estimation in Mplus 5.0, which is robust against violations of multivariate normality (Muthén & Muthén, 2013).

One correlated error term between two manifest indicators of self-critical perfectionism (i.e., doubts about actions and self-criticism) was included in our CFA. This correlated error term was added on empirical grounds, with modification indices (MI) showing a significant improvement in model fit in Model 1 (MI = 59.35) and Model 2 (MI = 25.34) with this correlated error term added. No other correlated error terms were specified in the present study.[1]

Excellent model fit is indicated by a CFI and TLI around .95 and a RMSEA value around .06 (Hu & Bentler, 1999). Moderate model fit is indicated by a CFI and TLI around .90 and a RMSEA value around .08. Poor model fit is indicated by CFI and TLI values <.90 and RMSEA values >.10 (Byrne, 2001). We used chi-squared difference tests ($\Delta\chi^2$) and ΔCFI values to evaluate model comparisons. Models are considered significantly different from each other if $\Delta\chi^2$ is significant and ΔCFI is >.01 (Cheung & Rensvold, 2002).

The one-factor model (Model 1) showed poor overall fit with our data, $\chi^2(19, N = 323) = 146.58$, $p < .001$, CFI = .78, TLI = .68, RMSEA = .14. As hypothesized, the two-factor model (Model 2; see Fig. 1) showed excellent model fit, $\chi^2(18, N = 323) = 30.64$, $p = .03$, CFI = .98, TLI = .97, RMSEA = .05. Model comparisons favored Model 2, with a significant $\Delta\chi^2(1, N = 323) = 115.94$, $p < .001$, and ΔCFI = .20. As shown in Fig. 1, Model 2 showed substantial (>.51) and significant ($p < .001$) standardized factor loadings for all manifest indicators of latent variables. The correlated error between doubts about actions and self-criticism was significant ($r = .36$, $p < .001$). Narcissistic perfectionism and self-critical perfectionism showed a strong (.50) and significant ($p < .001$) latent correlation. In sum, CFA indicated latent narcissistic and self-critical perfectionism variables were adequately measured by their respective manifest indicators, and that these constructs show a strong association with each other.

2.3.5. Non-equivalence of narcissistic perfectionism and self-critical perfectionism

Due to a strong latent correlation between our latent variables, we compared Model 2 to a third model. Model 3 was identical to Model 2, except the covariance between narcissistic perfectionism and self-critical perfectionism was constrained to equality to test whether these two constructs are best conceptualized as identical or distinct. Model 3 showed poor to moderate fit, $\chi^2(19, N = 323) = 67.46$, $p < .001$, CFI = .92, TLI = .88, RMSEA = .09. Model comparison favored Model 2, $\Delta\chi^2(1, N = 323) = 36.82$, $p < .001$, ΔCFI = .06. This indicates that, although Model 2 shows convergence between narcissistic and self-critical perfectionism, the data indicates they are best understood as distinct (vs. identical).

2.4. Discussion

Based on theory (e.g., Kohut, 1972; Millon et al., 2000) and research (Hewitt & Flett, 1991; Sherry, Gralnick, et al., 2014; Stoeber, 2014), we developed a model of narcissistic perfectionism, which we conceptualized as an outwardly directed need for perfection marked by hyper-criticism, grandiose self-image, interpersonal entitlement, and lofty expectations for others. The present study tested the factorial validity, convergence, and non-equivalence of a measurement model of narcissistic perfectionism alongside an analogous model of self-critical perfectionism.

As hypothesized, the factorial validity of narcissistic perfectionism was supported by excellent model fit for the two-factor model. These results supported our prediction that grandiosity, entitlement, high standards for others, and other-oriented perfectionism cohere together as a constellation of traits, and that this constellation is best modeled as a construct in its own right, rather than combined with self-critical perfectionism. These results

[1] Correlated error terms in CFA are a matter of debate (Schweizer, 2012). Thus, the measurement model was tested without the correlated error between doubts about actions and self-criticism. The model showed moderate fit: $\chi^2(19, N = 323) = 53.05$, $p < .001$; CFI = .94; TLI = .91; RMSEA = .07.

Table 2
Bivariate correlations and Cronbach's alphas for manifest indicators and composite measures in Study 1.

Manifest indicator	1	2	3	4	5	6	7	8	9	10
1. Narcissistic grandiosity	.76	.40***	.37***	.33***	.29***	.30***	.19***	.19***	.69***	.31***
2. Psychological entitlement		.81	.46***	.45***	.23***	.22***	.18***	.21***	.76***	.27***
3. High standards for others			.89	.57***	.24***	.26***	.23***	.14*	.79***	.28***
4. Other-oriented perfectionism				.83	.28***	.28***	.22***	.15**	.78***	.30***
5. Socially prescribed perfectionism					.83	.50***	.30***	.44***	.35***	.73***
6. Concern over mistakes						.81	.41***	.50***	.35***	.79***
7. Doubts about actions							.84	.56***	.27***	.74***
8. Self-criticism								.85	.22***	.82***
9. Narcissistic perfectionism									.89	.39***
10. Self-critical perfectionism										.91

Note. A bivariate correlation in the range of .10 signifies a small effect size; a bivariate correlation in the range of .30 signifies a medium effect size; a bivariate correlation in the range of .50 signifies a large effect size. Cronbach's alphas are indicated on the diagonal.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

support a growing literature suggesting a link between grandiose narcissism and other-oriented perfectionism (Sherry, Gralnick, et al., 2014; Stoeber, 2014; Stoeber et al., 2015). Factor loadings in our measurement model also suggested perfectionistic expectations for others are a central feature of narcissistic perfectionism, which is buttressed by concomitant features of grandiosity and entitlement.

In further support of our hypotheses, narcissistic and self-critical perfectionism showed a strong association with each other, which is consistent with theory suggesting a connection between these two constructs (Ronningstam, 2011). Despite this overlap, results suggest these two constructs are related, but distinct, and provide support for the non-equivalence of these two trait constellations. Overall, our results support an empirical model of narcissistic perfectionism.

Our study also added to research on self-critical perfectionism. Results supported the factorial validity of self-critical perfectionism, with substantial and significant factor loadings for manifest indicators (see Dunkley et al., 2003; McGrath et al., 2012 for other evidence supporting the factorial validity of self-critical perfectionism).

Despite this initial support for narcissistic perfectionism, many questions remain regarding the uniqueness and the utility of narcissistic perfectionism. We showed evidence that narcissistic perfectionism may be a *novel* construct in perfectionism research, but this does not indicate that it is a *useful* construct. If narcissistic perfectionism is indeed a useful and non-redundant construct, it should predict outcomes where other competing models (e.g., other-oriented perfectionism) have not. Because the data support narcissistic perfectionism and self-critical perfectionism as related but distinct constructs, the question also remains whether these two constructs predict similar outcomes, and if they do, whether they exert effects through different pathways. Our second study addressed this gap by testing the predictive utility of narcissistic perfectionism and its potential mechanisms when predicting interpersonal problems.

3. Study 2

3.1. Background

3.1.1. Narcissistic perfectionism and interpersonal problems

Theoretical discussion paints the narcissistic perfectionist as someone who experiences substantial social difficulties. Cognitive theorists (e.g., Beck & Freeman, 1990) suggest narcissistic schemas involving entitled and grandiose expectations of others result in conflictual interactions with others, including hostile, rejecting, and inconsiderate interactions with others (e.g., embarrassing others in public). Such conflict results when one's lofty expectations inevitably go unmet. There is also a noted propensity for such individuals to complain about others' shortcomings (Beck & Freeman, 1990). Dimaggio and Attinà (2012) described how narcissists impose their perfectionistic expectations on others, with others being "derogated when they fail to meet these expectations" (Dimaggio & Attinà, 2012, p. 923). Based on these accounts, we believe narcissistic perfectionism is related to interpersonal difficulties on a daily basis, and that these difficulties manifest as conflict with others and derogation of others.

We conceptualize conflict and derogation as separate, but related, concepts where conflict refers to negative and explicit interpersonal behaviors (e.g., yelling at somebody) and derogation refers to disparaging and hostile automatic thoughts about others (e.g., thinking that somebody is a "loser"). Past research has measured derogation through verbal expressions of negativity towards another (Buss & Dedden, 1990) and through negative ratings of another's personality (South, Oltmanns, & Turkheimer, 2003). Because the direct expression of negativity towards another may occur, but is not a defining feature of derogation, we consider derogation as a primarily cognitive phenomenon. Thus, we conceptualize conflict and derogation as representing domains of behavior and cognition, respectively.

Narcissistic perfectionists may be prone to daily conflict and derogation as they hold unrealistic expectations for others and are often disappointed by others (Sherry, Hewitt, Flett, Lee-Baggley, & Hall, 2007). Few people deliver the special treatment a narcissistic perfectionist "deserves." Research also suggests entitlement is related to a tendency to put others down (South et al., 2003), usually when lofty expectations for others go unmet. Moreover, narcissistic perfectionists may react with conflict or derogation when others threaten their sense of perfection. We also view narcissistic perfectionism as a socially aversive trait with the potential to evoke negative, conflictual responses from others (Buss, 1987). Narcissistic perfectionists may both attack—and be attacked—as part of conflictual interactions. In summary, while nearly everyone is prone to some degree of conflict and derogation, we believe narcissistic perfectionists engage in and experience these behaviors more readily and with less provocation.

Research suggests discrepancies are central to the negative outcomes experienced by perfectionists (Rice & Slaney, 2002; Sherry et al., 2013). These discrepancies involve a perceived difference between expectations for performance and actual performance (Higgins, 1987). Theoretical descriptions of narcissistic perfectionism suggest discrepancies play a key role in triggering the conflict and derogation characteristic of narcissistic perfectionists (Dimaggio & Attinà, 2012; Kohut, 1972; Ronningstam, 2011). For the narcissistic perfectionist, a discrepancy would involve the failure of others to meet their unrealistic expectations for them (e.g., "other's performance did not meet my standards"). We will refer

to these as *other-oriented discrepancies*. Thus, narcissistic perfectionists may be prone to chronic conflict and derogation as they hold unrealistic expectations for others and are often disappointed by others (Sherry et al., 2007).

In contrast, research suggests self-critical perfectionism (and related constructs such as perfectionistic concerns and socially prescribed perfectionism) involve discrepancies that result when a person perceives that his or her performance fails to meet others' unrealistic expectations for them (e.g., Mushquash & Sherry, 2012; Sherry & Hall, 2009; Sherry et al., 2013). We will refer to these as *socially prescribed discrepancies*. These discrepancies result in depression and self-defeating behaviors, including interpersonal problems (Mushquash & Sherry, 2012).

In sum, narcissistic perfectionism and self-critical perfectionism involve discrepancies, but in meaningfully different ways. Theory predicts that narcissistic perfectionism involves other-oriented discrepancies that result in harsh and critical behavior towards others (e.g., conflict and derogation). In contrast, research suggests self-critical perfectionism involves socially prescribed discrepancies that also result in conflict and derogation, but that these problems of conflict and derogation arise from feelings of being judged or attacked by others. Thus, both forms of perfectionism are related (e.g., Ronningstam, 2010, 2011), and result in similar outcomes, but are thought to operate through different forms of discrepancies.

3.1.2. Needed methodological advances

Most perfectionism research relies on cross-sectional designs that do not clarify temporal processes. Even longitudinal research may miss important short-term processes due to widely spaced measurement intervals (e.g., six months). We believe narcissistic perfectionism manifests itself via micro-level, daily interactions with others. Theory suggests narcissistic perfectionists have major interpersonal problems (Ronningstam, 2010), and putting narcissistic perfectionists under the microscope of intense daily measurement may elucidate the nature of these problems.

We used a daily diary design in Study 2, which assesses short-term changes in cognition and behavior. This design reduces recall bias due to daily measurement, increases reliability due to repeated assessments, and increases ecological validity due to measurement in the context of a person's daily experience (Bolger, Davis, & Rafaeli, 2003). Many such studies use 7-day sampling periods (e.g., Sherry & Hall, 2009), which capture a relatively narrow slice of behavior. In contrast, we use a 28-day sampling period. This larger sampling period is needed to assess within-person processes and provide more reliable estimates. Few studies in perfectionism research use daily diary designs (for exceptions, see Boone et al., 2012; Dunkley et al., 2003; Luyten et al., 2011; Mackinnon et al., 2012; Mushquash & Sherry, 2012; Sherry & Hall, 2009), and none of these examine narcissistic perfectionism. Our study thus fills a gap in knowledge.

Several other diary studies of perfectionism (e.g., Mackinnon et al., 2012; Sherry & Hall, 2009) aggregate daily data, thus failing to make use of a strength of this method (i.e., testing within-person processes). Advances in multilevel modeling (e.g., multilevel path analysis) have resulted in statistical models that allow simultaneous investigation of processes within days and between people. This renders aggregation of data across days unnecessary and provides improved statistical estimates relative to traditional path analysis (Muthén & Muthén, 2013).

3.1.3. Objectives and hypotheses

Study 2 expanded on Study 1 by replicating the measurement model of narcissistic perfectionism in a separate sample, while also showing the uniqueness and the utility of narcissistic perfectionism when predicting interpersonal problems described by theory (Beck & Freeman, 1990; Dimaggio & Attinà, 2012). There are increasing calls for replication in behavioral research to mitigate spurious results (Rosenthal, 1990). Showing evidence of replicability across separate samples was thus considered important to supporting the factorial validity of our model of narcissistic perfectionism. We hypothesized our measurement model from Study 1 (see Fig. 1) would show adequate fit in a second sample of undergraduates, and that our two-factor model would continue to show superior fit compared to competing models.

Using a 28-day daily diary design, we also sought to test a mediation model wherein narcissistic perfectionism and self-critical perfectionism predict conflict with others and derogation of others, but through different pathways. According to theory, narcissistic perfectionists derogate others and experience conflict with others because people do not live up to their grand expectations (Dimaggio & Attinà, 2012; Ellis, 1997). In contrast, research suggests self-critical perfectionists derogate others and experience conflict with others because they believe others expect too much of them (Mushquash & Sherry, 2012). We hypothesized the effect of narcissistic perfectionism on daily conflict and derogation across the 28-day period would function indirectly, at least in part, through increased other-oriented discrepancies. In contrast, we hypothesized the effect of self-critical perfectionism on conflict and derogation across the 28-day period would function indirectly, at least in part, through socially prescribed discrepancies.

Because self-critical perfectionism is a robust predictor of a wide range of interpersonal problems (e.g., Mackinnon et al., 2012), and narcissistic perfectionism is thought to overlap with self-critical perfectionism (Ronningstam, 2010, 2011), there is a need to establish if narcissistic perfectionism is non-redundant with self-critical perfectionism when predicting conflict and derogation over the 28-day period. Indirect effects of narcissistic perfectionism on conflict and derogation (through other-oriented discrepancies) were hypothesized to remain significant even with self-critical perfectionism in the model. Including narcissistic and self-critical perfectionism in our model provides a strict test of the uniqueness of narcissistic perfectionism.

3.2. Method

3.2.1. Participants

In Study 2, we recruited 155 undergraduates (119 women) from Dalhousie University in Halifax, Nova Scotia. Participants averaged 20.65 years of age (SD = 3.03) and reported living in Canada for an average of 14.92 years (SD = 8.15); 70.8% of participants were Caucasian, 13.0% were Asian, 3.2% were Black, 3.9% were multiracial, and 9.1% were "other" (e.g., Aboriginal). Participants averaged 2.24 years of university education, with 46.5% in first year, 21.9% in second year, 14.8% in third year, and 16.8% in fourth year. The most common majors were psychology (9.7%), other sciences (22.6%; e.g., chemistry), double majors (9.0%), arts (12.3%), undeclared (19.4%), and "other" (27.0%; e.g., computer science). The median family of origin household income for participants was $80,000–$99,999, with an average household size of 4.01 people (SD = 1.21). Most participants were single (57.9%) or in a dating relationship (31.6%).

3.2.2. Measures

Latent constructs of narcissistic perfectionism and self-critical perfectionism were each measured consistent with Study 1 (see Section 2.2.2). For each construct, individual indicators were standardized, summed, and re-standardized to create composites suitable for path analysis in our mediational model (see Fig. 2). Cronbach's alphas for manifest indicators of narcissistic perfectionism and self-critical perfectionism are shown in Table 4.

Conflict, derogation, socially prescribed discrepancies, and other-oriented discrepancies, were each measured using one

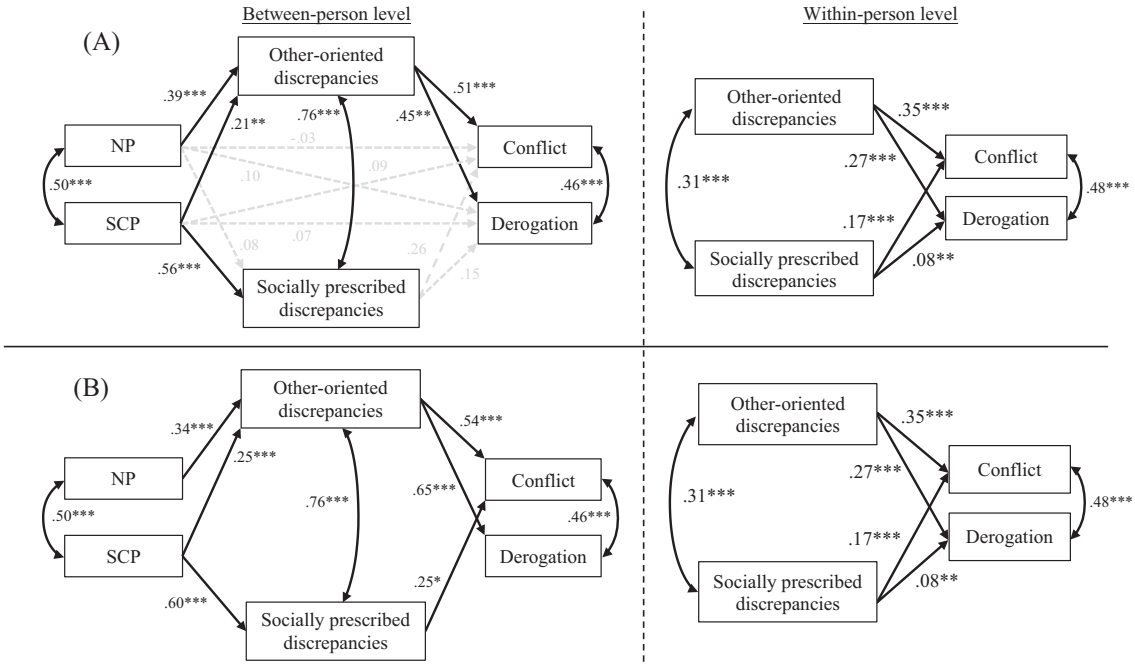

Fig. 2. Multilevel path models for (A) the saturated model and (B) the final model. Between-person models are on the left; within-person models are on the right. Single headed arrows are standardized regression coefficients, and double-headed arrows represent covariances. Non-significant paths are indicated as gray dashed lines. NP = narcissistic perfectionism; SCP = self-critical perfectionism. * $p < .05$. ** $p < .01$. *** $p < .001$.

manifest indicator. All four daily measures used a 24-h timeframe (i.e., during the past 24 h), which is consistent with our once-a-day measurement schedule. Research suggests conflict, derogation, and perfectionistic discrepancies change meaningfully over short periods, supporting our use of short-term timeframes for these measures (Mushquash & Sherry, 2012). Reliability of daily measures is reported in Section 3.3.4.1.

Daily conflict was measured using Murray, Griffin, Rose, and Bellavia's (2003) negative interpersonal behaviors scale (NIBS). The original NIBS items assessed conflict with a romantic partner (e.g., "I yelled at my partner"). We reworded the original NIBS items so they applied to others in general (e.g., "I yelled at somebody"). This rewording was made in other studies (Mushquash & Sherry, 2012). The 8-item modified NIBS was rated on a 9-point scale from 1 (*strongly disagree*) to 9 (*strongly agree*). Research supports the reliability and validity of this modified scale. Nealis and Sherry (2015)[2] found the modified NIBS was negatively correlated with Benet-Martínez and John's (1998) Agreeableness subscale of the Big Five Inventory ($r = -.32$) and positively correlated with scores on Buss and Perry's (1992) Aggression Questionnaire ($r = .43$).

Daily derogation was measured using Snyder, Crowson, Houston, Kurylo, and Poirier's (1997) Derogation of Others subscale of the Hostile Automatic Thoughts Scale (HATS-DOO). We used an abbreviated version of the original 10-item HATS-DOO to reduce participant burden and to increase response rates. Based on factor analytic evidence (see Snyder et al., 1997, p. 482), we selected the four HATS-DOO items with the highest loadings on the Derogation of Others factor. This approach is consistent with earlier daily diary studies (Sherry & Hall, 2009). The 4-item HATS-DOO (e.g., "This person is a loser!") was rated on a 5-point scale from 1 (*not at all*) to 5 (*all the time*). Evidence supports the reliability and validity of this 4-item scale. Nealis and Sherry (2015) found the 4-item HATS-DOO correlated negatively with Benet-Martínez and John's (1998) Agreeableness subscale of the Big Five Inventory ($r = -.36$) and positively with the total scale score of Buss and Perry's (1992) Aggression Questionnaire ($r = .46$).

Socially prescribed discrepancies were measured using a 3-item (e.g., "I was unable to meet others' standards for performance") short form of the Reconstructed Depressive Experiences Questionnaire (DEQ-R; Bagby et al., 1994; Mushquash & Sherry, 2012). We used an abbreviated version of this scale to reduce participant burden and increase response rates. Items were rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Research supports the validity and reliability of this scale, including convergent validity with the full scale DEQ-R ($r = .57$) and with Slaney, Rice, Mobley, Trippi, and Ashby's (2001) discrepancies subscale of the Almost Perfect Scale, Revised ($r = .56$; Mushquash & Sherry, 2012).

Other-oriented discrepancies were also measured using this 3-item scale, but items were reworded to reflect disappointment regarding performance of others (e.g., "People were unable to meet my standards for performance"). Less is known about this scale, but preliminary evidence supports its reliability and validity. For example, when aggregated across 28 days in Study 2, our other-oriented discrepancies measure was correlated ($r = .43$) with the five-item short form of Hewitt and Flett's (1991) Other-Oriented Perfectionism subscale (Hewitt et al., 2008).

3.2.3. Procedure

Dalhousie's Research Ethics Board approved Study 2. Participants were recruited over a 4-month period using methods identical to Study 1. Study 2 had two parts. In Part 1, participants visited our lab, gave informed consent, and completed a questionnaire package including study measures and demographics. They also learned how to complete the online daily diary. In Part 2, participants completed an online daily diary using a once-a-day,

[2] A cross-sectional, supplementary psychometric study examining our daily measures of conflict (the modified NIBS) and derogation (the HATS-DOO) was conducted. Participants were recruited using methods identical to Study 1. A sample of 102 undergraduates (80 women) at Dalhousie University participated. Participants averaged 20.08 years of age ($SD = 2.01$) and reported living in Canada for an average of 18.33 years ($SD = 4.95$); 79.4% of participants were Caucasian. This study is referenced as Nealis and Sherry (2015) in the text of the main studies.

end-of-the-day measurement schedule where they reported on conflict, derogation, other-oriented discrepancies, and socially prescribed discrepancies over the past 24 h. Participants were asked to complete online daily diary questionnaires for 28 consecutive days. Each day, participants were reminded via email to complete online daily diary questionnaires. When finished, participants returned to our lab, were debriefed, and given either (a) a 3% bonus for a psychology course and $30 or (b) $45.

3.2.4. Data analytic plan and power considerations

As in Study 1 (see Section 2.2.4), we tested our measurement model of narcissistic and self-critical perfectionism using CFA. Hypotheses about mediation were tested with multilevel path analysis. The hypothesized model, including within-person and between-person components, is in Fig. 2. Indirect effects were tested via a Monte Carlo procedure (Selig & Preacher, 2008).

Power analyses for CFA were conducted consistent with Study 1 (see Section 2.3.5). These analyses indicated 66% power to detect a well-fitting measurement model using RMSEA values. This calculation assumes an alpha of .05, 18 degrees of freedom, and $N = 155$.

A Monte Carlo simulation with Mplus 7.11 and 10,000 resamples was used in power analyses for multilevel path analysis (Muthén & Muthén, 2013). Based upon past research (Mackinnon et al., 2012; Nealis & Sherry, 2015), we used medium effect sizes for paths, large effect sizes for correlations, and small effect sizes for indirect effects. A sufficiently powerful model has parameter and standard error biases <5.0%, confidence interval coverage between 91.0% and 98.0%, and power >.80 (Muthén & Muthén, 2002). A sample of 3000 observations (at the daily level) exceeds all these requirements. Thus, our sample of 3905 observations (see Section 3.3.1) exceeded these power requirements for multilevel analyses and multilevel indirect effects.

3.3. Results

3.3.1. Missing data and protocol compliance

Overall, 0.10% of our data was missing in Part 1 of Study 2. Analyses (Little, 1988) indicated these missing data were missing completely at random, $\chi^2(248, N = 155) = 252.75$, $p > .05$. Imputation of missing data was conducted consistent with Study 1 (see Section 2.3.1).

In the daily diary protocol (Part 2 of Study 2), 3.8% of our data was missing. Missing data is common in daily diary studies. We used robust maximum likelihood estimation in Mplus to handle missing diary data. This method is less biased than alternative methods for handling missing data (e.g., listwise deletion and mean substitution), even when data are multivariate non-normal, not missing completely at random, and observations are non-independent (Acock, 2005). For this reason, all participants who provided at least one daily report were retained for analyses.

All 155 participants who completed Part 1 completed at least one daily report. A total of 3905 daily reports were provided; 147 reports (3.8%) were missing a substantial amount of data and were removed from analysis. Other reports were dropped as they did not fall within a 7:00 p.m. to 5:00 a.m. timeframe ($n = 392$; 10.0%), they were redundant with other entries ($n = 26$; 0.7%), or they contained no usable data ($n = 25$; 0.6%). In total, 85.5% (3338 of 3905) of daily reports were included in final analyses. The number of daily reports provided by each participant ranged from 2 to 28. On average, participants completed 21.55 (of a possible 28) daily reports (SD = 5.19). Response rates ranged from a high of 83.2% on day 26 to a low of 67.7% on day 18. Most daily reports were completed roughly 24 h apart; 43.1% of daily reports were completed within 1 h of the previous day's submission, 68.3% of daily reports were completed within 2 h of the previous day's submission, and 82.9% of daily reports were completed within 3 h of the previous day's submission.

Table 3
Means, standard deviations, and ranges for manifest indicators in Study 2.

Manifest indicator	*M*	*SD*	Range	
			Potential	Actual
Narcissistic perfectionism				
Narcissistic grandiosity (DD-N)	22.33	6.87	4–36	4.0–36.0
Narcissistic entitlement (PES)	26.08	10.06	9–63	9.0–58.0
High standards for others (PI-HSFO)	16.92	6.21	7–35	7.0–34.0
Other-oriented perfectionism (HF-OOP)	13.73	5.57	8–40	8.0–35.0
Self-critical perfectionism				
Socially prescribed perfectionism (HFMPS-SPP)	18.43	6.78	5–35	5.0–32.0
Concern over mistakes (FMPS-COM)	11.14	4.70	5–25	5.0–23.0
Doubts about actions (FMPS-DAA)	10.37	4.03	4–20	4.0–20.0
Self-criticism (RDEQ-SC)	32.55	10.97	9–63	11.0–60.0
Other-oriented discrepancies	5.87	3.12	3–21	3.0–21.0
Socially prescribed discrepancies	6.33	3.54	3–21	3.0–21.0
Conflict (NIBS)	16.50	7.67	8–72	8.0–42.0
Derogation (HATS-DOO)	6.10	1.94	4–20	4.0–13.0

Note. DD-N = Jonason and Webster's (2010) Narcissism subscale of the Dirty Dozen; PES = Campbell et al.'s (2004) Psychological Entitlement Scale (PES); PI-HSFO = Hill et al.'s (2004) High Standards for Others subscale of the Perfectionism Inventory; HF-OOP = Hewitt and Flett's (1990) Other-Oriented Perfectionism subscale; HFMPS-SPP = a short form of Hewitt and Flett's (1991) Socially Prescribed Perfectionism subscale of the Multidimensional Personality Inventory; FMPS-COM = short form of Frost et al.'s (1990) Concern Over Mistakes subscale of the Multidimensional Perfectionism Scale; FMPS-DAA = Frost et al.'s (1990) Doubts About Actions subscale of the Multidimensional Perfectionism Scale; RDEQ-SC = Bagby et al.'s (1994) Self-Criticism subscale of the Reconstructed Depressive Experiences Questionnaire; NIBS = Murray et al.'s (2003) negative interpersonal behaviors scale; HATS-DOO = Snyder et al.'s (1997) Derogation of Others subscale of the Hostile Automatic Thoughts Scale.

3.3.2. Descriptive statistics

Table 3 includes means, standard deviations, and ranges for manifest indicators of latent constructs (Part 1 of Study 2) and aggregated daily measures of conflict, derogation, socially prescribed discrepancies, and other-oriented discrepancies (Part 2 of Study 2). Means for daily measures are based on daily reports aggregated over 28 days. Means of manifest indicators from Part 1 of Study 2 fell within one standard deviation of means from past studies of undergraduates (e.g., Campbell et al., 2004; Graham et al., 2010; Hill et al., 2004; Mushquash & Sherry, 2012; Nealis & Sherry, 2015). Means for daily measures also fell within one standard deviation of means from previous research using undergraduate samples (Mushquash & Sherry, 2012). This suggests our means are generally congruent with Study 1 and with past research using comparable samples.

3.3.3. Measurement model

Bivariate correlations showed a pattern where manifest indicators of narcissistic perfectionism were more strongly related to each other than to manifest indicators of self-critical perfectionism. Likewise, indicators of self-critical perfectionism were more strongly related to each other than to indicators of

Table 4
Bivariate correlations and Cronbach's alphas for manifest indicators and composite measures in Part 1 of Study 2.

Manifest indicator	1	2	3	4	5	6	7	8	9	10
1. Narcissistic grandiosity	.78	.43***	.45***	.44***	.39***	.36***	.24**	.38***	.74***	.45***
2. Psychological entitlement		.85	.39***	.59***	.37***	.22**	.12	.15	.77***	.28***
3. High standards for others			.86	.59***	.42***	.38***	.14	.28***	.78***	.40***
4. Other-oriented perfectionism				.86	.48***	.38***	.16*	.34***	.84***	.45***
5. Socially prescribed perfectionism					.79	.47***	.33***	.48***	.53***	.74***
6. Concern over mistakes						.82	.42***	.49***	.43***	.78***
7. Doubts about actions							.80	.50***	.21**	.73***
8. Self-criticism								.84	.37***	.81***
9. Narcissistic perfectionism									.90	.50***
10. Self-critical perfectionism										.90

Note. A bivariate correlation in the range of .10 signifies a small effect size; a bivariate correlation in the range of .30 signifies a medium effect size; a bivariate correlation in the range of .50 signifies a large effect size. Cronbach's alphas are indicated on the diagonal.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

narcissistic perfectionism. Effect sizes for these patterns of association were consistent across Study 1 and Part 1 of Study 2 (see Table 4).

CFA tested the measurement model from Fig. 1 with the sample from Part 1 of Study 2 using analyses identical to Study 1 (see Section 2.3.3). Consistent with Study 1, the one-factor model (i.e., where all manifest indicators for narcissistic and self-critical perfectionism were loaded on a single factor) showed poor fit, $\chi^2(19, N = 155) = 64.34$, $p < .001$; CFI = .87; TLI = .81; RMSEA = .12. As hypothesized, our two-factor measurement model for narcissistic and self-critical perfectionism (see Fig. 1) had moderate to excellent fit, $\chi^2(18, N = 155) = 33.34$, $p = .02$; CFI = .96; TLI = .93; RMSEA = .07,[3] with substantial (>.46) and significant ($p < .001$) standardized factor loadings for manifest indicators of latent variables. The correlated error between doubts about actions and self-criticism was significant ($r = .30$, $p < .01$). A chi-square difference test, $\Delta\chi^2(1, N = 155) = 31.00$, $p < .001$, and ΔCFI (.09) both indicated significantly improved fit for our hypothesized two-factor model compared to the alternative one-factor model.

As hypothesized, the latent correlation between narcissistic perfectionism and self-critical perfectionism was strong (.71) and significant ($p < .001$). Consistent with Section 2.3.4, we tested whether narcissistic and self-critical perfectionism were best seen as distinct vs. identical. Our two-factor model was compared to an identical model wherein the latent correlation between narcissistic and self-critical perfectionism was constrained to equality. The constrained model showed poor to moderate fit, and model comparison favored our two-factor measurement model, $\Delta\chi^2(1, N = 155) = 44.15$, $p < .001$, ΔCFI = .12. These results are consistent with Study 1 and suggest these two constructs are best understood as distinct (vs. identical).

3.3.4. Mediation model

Data in Part 2 of Study 2 are multilevel, with participants completing measures across days. We used multilevel path analysis to test hypotheses of mediation and the uniqueness of narcissistic perfectionism. Path analysis allows testing of multiple pathways simultaneously, and the multilevel adaptation of this analysis allows between-person and within-person path models to be tested using a single statistical model.

The between-person component of multilevel path analysis tests predictive relationships between personality and trait-like components of daily measures. Between-person components do not change across the study period. In contrast, the within-person component of multilevel path analysis tests the state-like component of daily variables that fluctuate over time. Between-person variables do not predict within-person change or vice versa (Preacher, Zyphur, & Zhang, 2010). Predictive relations at the between-person level answer the question "Does the trait-like component of X predict the trait-like component of Y?" whereas predictive relations at the within-person level answer the question "Do changes in X predict changes in Y?".

3.3.4.1. Intra-class correlations (ICCs) and internal consistency. ICCs and measures of internal consistency were calculated for daily measures. ICCs range from 0 to 1.0 and indicate the proportion of variance explained at the between-person level. Values greater than .05 indicate suitability for multilevel analysis (Preacher et al., 2010). Table 5 shows ICCs for daily measures ranged from .39 to .52. This indicates substantial variability at the between- and the within-person level. Our data are thus suited for multilevel path analysis.

Daily measures were assessed to ensure adequate reliability at between- and within-person level. Calculation of internal consistency of daily diary data followed Cranford et al. (2006) and involved three estimates of reliability per scale. The first reliability estimate (R_{1F}) describes the between-person reliability on a single fixed day for all participants, and represents the average Cronbach's alpha of a measure during the daily diary period. The second reliability estimate (R_{KF}) describes the between-person

Table 5
Between-person and within-person bivariate correlations, intra-class correlations for daily measures, and reliability estimates for daily measures in Study 2.

Variable	1	2	3	4	5	6
1. Narcissistic perfectionism	–	.50	.49	.36	.36	.41
2. Self-critical perfectionism	–	–	.40	.60	.43	.39
3. Other-oriented discrepancies	–	–	–	.78	.73	.64
4. Socially prescribed discrepancies	–	–	.31	–	.70	.58
5. Conflict	–	–	.40	.28	–	.72
6. Derogation	–	–	.29	.16	.54	–
Intra-class correlation (ICC)	–	–	.44	.52	.43	.39
Cronbach's alpha (R_{1F})	–	–	.94	.93	.92	.93
Between-person reliability (R_{KF})	–	–	.99	.99	.99	.99
Within-person reliability (R_C)	–	–	.95	.92	.99	.98

Note. Between-person correlations are above the diagonal, and within-person correlations are below the diagonal. Narcissistic and self-critical perfectionism represent composite measures, with manifest variables standardized and summed. Between-person estimates of daily measures represent an aggregation of scores across 28 days. A bivariate correlation in the range of .10 signifies a small effect size; a bivariate correlation in the range of .30 signifies a medium effect size; a bivariate correlation in the range of .50 signifies a large effect size. All correlations are significant at $p < .001$.

[3] In Study 2, this measurement model without a correlated error term showed moderate fit: $\chi^2(19, N = 155) = 42.74$, $p < .01$; CFI = .93; TLI = .90; RMSEA = .09.

reliability of a measure across the entire study period. The third estimate (R_C) describes the within-person reliability of a measure, or the reliability of the measure when estimating change over time. Reliability estimates for each daily measure are reported in Table 5. All daily measures showed excellent between- and within-person reliability.

3.3.4.2. Bivariate correlations. Table 5 shows correlations at between-person and within-person levels in Part 2 of Study 2. Narcissistic perfectionism and self-critical perfectionism are between-person variables only and were calculated as composite scores (see Section 3.3.1). Conflict, derogation, other-oriented discrepancies, and socially prescribed discrepancies are included as both between-person variables (aggregated values across 28 days) and within-person variables (daily values).

At the between-person level, the correlation between narcissistic and self-critical perfectionism indicated a large effect size, and both forms of perfectionism had a correlation of medium effect size with conflict and derogation. Narcissistic perfectionism had a correlation of large effect size with other-oriented discrepancies and a correlation of medium effect size with socially prescribed discrepancies. Self-critical perfectionism had a correlation of medium effect size with other-oriented discrepancies and a correlation of large effect size with socially prescribed discrepancies. Other-oriented and socially prescribed discrepancies were correlated with a large effect size, and both forms of discrepancies were correlated with derogation and conflict with large effect sizes. Conflict and derogation were correlated with a large effect size.

At the within-person level, other-oriented discrepancies and socially prescribed discrepancies were correlated with a medium effect size. While other-oriented discrepancies showed correlations of medium effect size with conflict and derogation, socially prescribed discrepancies showed a correlation of medium effect size with conflict but a correlation of small effect size with derogation. At a daily level, conflict and derogation showed an intercorrelation of large effect size. Overall, the pattern of correlation at the between- and within-person levels suggests merit in testing the hypothesized multilevel path analysis in Fig. 2.

3.3.4.3. Multilevel path analysis. Multilevel path analysis (see Fig. 2) was conducted in Mplus 5.0. An initial model was tested where both the between- and within-person components of the model were saturated (see Fig. 2A). In the within-person model, all pathways were significant and left unchanged. In the between-person model, several direct and indirect paths were not significant and were trimmed from the model in a stepwise fashion.[4] First, direct pathways were removed and the model was retested. Any non-significant indirect pathways that remained were also removed. Model trimming in multilevel path analysis was consistent with Hox (2010). Consistent with the CFA in Section 3.3.2, excellent model fit is indicated by a χ^2/df around 2.00, a comparative fit index (CFI) and Tucker–Lewis Index (TLI) around .95, a root-mean-square error of approximation (RMSEA) around .06 (Hu & Bentler, 1999), and a standardized root mean square residual (SRMR) around .08 (Kline, 2011).

As hypothesized, the final model in Fig. 2B showed excellent fit with the data: $\chi^2(6, N = 155) = 7.89$, $p = .25$, CFI = .99, TLI = .99, RMSEA = .01, $SRMR_{within} = .00$, $SRMR_{between} = .05$. All estimated paths at the within-person level were positive and significant. On a daily level, other-oriented and socially prescribed discrepancies overlapped. Conflict and derogation also overlapped, but with a greater magnitude of association. Consistent with hypotheses, other-oriented discrepancies predicted both conflict and derogation. While socially prescribed discrepancies also predicted conflict and derogation, these paths showed smaller effect sizes.

All paths in Fig. 2B at the between-person level were positive and significant. Narcissistic and self-critical perfectionism showed a high correlation with each other. Trait levels of other-oriented and socially prescribed discrepancies were also highly correlated. A strong correlation between trait levels of conflict and derogation was also observed. Self-critical perfectionism predicted socially prescribed discrepancies and other-oriented discrepancies, although the magnitude of association was much lower for other-oriented discrepancies than for socially prescribed discrepancies. As hypothesized, narcissistic perfectionism predicted unique variance in trait levels of other-oriented discrepancies, but not socially prescribed discrepancies. This significant association was observed even while accounting for the association between self-critical perfectionism and other-oriented discrepancies. Consistent with hypotheses, trait levels of other-oriented discrepancies predicted both trait conflict and trait derogation. Trait levels of socially prescribed discrepancies predicted trait conflict only.

3.3.4.4. Indirect effects. Monte Carlo estimation provides comparable estimates to other methods of testing indirect effects in mediation (e.g., bias-corrected bootstrapping) and is preferable for situations where other approaches may be difficult to implement, such as with multilevel designs (Preacher & Selig, 2012). In using this approach, unstandardized path estimates were used to calculate 95% confidence intervals of the indirect effects (see Table 6). All indirect effects shown in the final model (Fig. 2B) were significant. Consistent with hypotheses, the strongest indirect effects were noted for narcissistic perfectionism predicting conflict through other-oriented discrepancies and for self-critical perfectionism predicting conflict through socially prescribed discrepancies. The indirect effect of self-critical perfectionism on conflict through other-oriented discrepancies showed an indirect effect of similar magnitude. The indirect effects of narcissistic perfectionism and self-critical perfectionism on derogation through other-oriented discrepancies were similar in magnitude, although noticeably smaller than the other indirect effects.

3.4. Discussion

In Study 2, we replicated our model of narcissistic perfectionism in a second sample while also testing the uniqueness and predictive utility of narcissistic perfectionism beyond self-critical perfectionism in a 28-day daily diary study. As hypothesized, our measurement model for narcissistic perfectionism was replicated in Study 2, showing that this constellation of traits coheres together in a relatively stable way. Interestingly, the latent correlation between narcissistic and self-critical perfectionism was substantially higher in Study 2 compared to Study 1. There are several potential explanations. First, given methodological research suggesting correlations do not stabilize until $N \geqslant 250$ (Schönbrodt & Perugini, 2013), the latent correlation in Study 2 ($N = 155$) may not reflect a stable correlation consistent with the larger sample in Study 1 ($N = 323$). Second, the latent correlation between narcissistic and self-critical perfectionism may vary across time or samples, perhaps due to a moderating variable. For example, undergraduates may be susceptible to time-of-year effects, where grandiosity and self-criticism are especially intense as academic year progresses and less-than-perfect grades deflate grandiosity and intensify self-criticism. These possibilities are speculative, however, and remain to be tested.

In our 28-day study, we found support for the uniqueness and non-redundancy of narcissistic perfectionism in our mediation model. At the within-person level, daily discrepancies predicted

[4] Paths were trimmed in a stepwise fashion to account for the possible masking effects of direct effects. If all non-significant paths were removed in a single step, the path from socially prescribed discrepancies to conflict would have also been removed.

Table 6
Unstandardized path coefficients, standard errors, and 95% confidence intervals of indirect effects at the between-person level of the final multilevel path model.

Predictor	Mediator	Outcome	Path A		Path B		95% CI	
			Estimate	*S.E.*	Estimate	*S.E.*	Lower	Upper
Narcissistic perfectionism	Other-oriented discrepancies	Conflict	1.01	0.18	1.31	0.25	0.71	2.04
		Derogation	1.01	0.18	0.40	0.06	0.24	0.59
Self-critical perfectionism	Other-oriented discrepancies	Conflict	0.73	0.24	1.31	0.25	0.33	1.74
		Derogation	0.73	0.24	0.40	0.06	0.10	0.51
	Socially prescribed discrepancies	Conflict	2.07	0.27	0.53	0.22	0.18	2.07

Note. Path A represents the path between the predictor and mediator, and Path B represents the path between the mediator and the outcome. Path estimates represent unstandardized regression paths. The 95% confidence interval represents the estimated indirect effect of the predictor on the outcome via the mediator. *S.E.* = standard error of the estimate; CI = confidence interval of the indirect effects.

both daily conflict and daily derogation, with other-oriented discrepancies showing the strongest relationship with these outcomes. Thus, perceiving others as having failed to live up to one's expectations is a potent contributor to conflictual behavior toward others and disparaging thoughts about others; however, perceiving oneself as unable to live up to others' expectations also leads people to lash out. Results suggest these two forms of discrepancies often co-occur, resulting in a "double hit" that may be particularly potent in precipitating toxic social interactions.

As hypothesized at the between-person level, narcissistic perfectionism and self-critical perfectionism were both associated with a tendency to experience conflict and derogation on a daily basis, although these two personality constructs acted indirectly through different pathways. While both forms of discrepancies predicted increased conflict with others over the 28-day period, other-oriented discrepancies were unique in also predicting a pattern of harsh derogation of others during this time. Consistent with hypotheses, narcissistic perfectionism uniquely predicted a tendency to experience other-oriented discrepancies, but not socially prescribed discrepancies, and resulted in conflict and derogation exclusively through this pathway. In partial support of hypotheses, self-critical perfectionism predicted a tendency to experience socially prescribed discrepancies and, to a lesser degree, other-oriented discrepancies. Thus, self-critical perfectionism resulted in conflict and derogation through both pathways.

Though narcissistic and self-critical perfectionism were both associated with conflict and derogation, our results suggest they act through different pathways. Narcissistic perfectionists seem to engage in conflict and derogation as a result of others not meeting their expectations. In contrast, self-critical perfectionists are more likely to feel that their own performance is not meeting the expectations of others and may react in a conflictual way in response to feeling unfairly pressured to be perfect (Dunkley, Blankstein, Zuroff, Lecce, & Hui, 2006). This is suggested by the presence of conflict with others, but without the harsh derogation experienced when others fail to meet expectations. Although less frequent, self-critical perfectionists also appear to hold others to the high standards that they themselves feel subjected to. When they see others not meeting their standards, the self-critical perfectionist can respond similarly to the narcissistic perfectionist in terms of conflict and derogation. It should be noted, however, that narcissistic perfectionism shows unique prediction of these outcomes beyond self-critical perfectionism. Thus, our results show narcissistic perfectionism adds incrementally to our understanding of perfectionism and the ways it contributes to socially aversive behavior.

The present study also extends research on interpersonal problems in self-critical perfectionists (e.g., Dunkley, Berg, & Zuroff, 2012). Bivariate correlations indicated self-critical perfectionism is related to conflict and to derogation. Multilevel path analyses suggest self-critical perfectionists become conflictual and lash out in response to perceived unfair treatment; however, they may also become conflictual and derogate others as a result of holding others to the same high standards they feel bound by. Taken together, these results suggest self-critical perfectionists tend to act and to think in a conflictual, derogatory way.

4. General discussion

Allport (1937) described personality as both being something and doing something. Our research provided a description of what a narcissistic perfectionist is, and what such a person does. Results regarding the factorial validity of narcissistic perfectionism offered insight into what this construct is: namely, a personality style characterized by an outwardly directed need for perfection marked by hyper-criticism, grandiose self-image, interpersonal entitlement, and lofty expectations for others. Research suggests narcissists see little separation between their actual and ideal self (Emmons, 1984; Raskin & Terry, 1988). As such, narcissistic perfectionists may view themselves as perfect, superior to others, and justified in holding others to their unrealistic expectations. Our model of narcissistic perfectionism captures theoretical descriptions of this personality style while overcoming gaps in existing models of narcissism and perfectionism.

While we view narcissistic perfectionism as a novel combination of perfectionistic and narcissistic traits, we also recognize alternative explanations are plausible. For example, our research could indicate other-oriented perfectionism should be added to existing models of grandiose narcissism. Although this is an important question worthy of empirical tests, existing research suggests this approach may also have notable limitations. Research has shown other-oriented perfectionism is most closely related to grandiose narcissism and socially prescribed perfectionism is most closely related to vulnerable narcissism (Flett et al., 2014; Stoeber et al., 2015), but these perfectionism constructs do not clearly and cleanly map onto subtypes of pathological narcissism (Stoeber, 2014). For example, other-oriented perfectionism is also uniquely related to some features of vulnerable narcissism (Stoeber et al., 2015), which suggests a more nuanced interpretation of the role of perfectionism in pathological narcissism. Further research will help clarify if narcissistic perfectionism is best conceptualized as a distinct trait constellation or can be subsumed under existing models of narcissism.

Another key distinction is between narcissistic and self-critical perfectionism. Consistent with Ronningstam (2010, 2011), our results suggested these constructs are related but distinct. Correlations showed the traits making-up narcissistic and self-critical perfectionism are not independent, and yet our results indicate these trait constellations are best understood as distinct (vs. identical). These results support our conceptualization of narcissistic perfectionism as a unique trait constellation that is neither captured by nor redundant with self-critical perfectionism.

While our factorial validity results clarified what narcissistic perfectionism is (and is not), our incremental predictive validity results offered some insight into narcissistic perfectionists' characteristic behaviors. Consistent with theory (e.g., Kohut, 1972), these results indicated narcissistic perfectionists' lofty, entitled, and grandiose expectations of others are linked with a conflictual interpersonal style and harshly critical thoughts, especially when others fall short of the narcissistic perfectionist's expectations. Considering how conflict was operationalized in our study (e.g., embarrassing, insulting, and yelling at others), narcissistic perfectionists appear potentially abusive, a suggestion that fits well with Dutton and Golant's (1995) description of violent spouses as perfectionistic, critical, and domineering. Our results involving derogation also join a wider literature suggesting that both perfectionists and narcissists engage in unconstructive forms of social cognition (e.g., Sherry & Hall, 2009).

4.1. Limitations and future directions

Our study used two separate samples and a 28-day daily diary design, but still relied on a single source (self-report) and single method (questionnaires). Narcissistic perfectionists may be prone to misconstruing themselves and their experiences (Schriber & Robins, 2012). As such, important corroborating information could be gained from informants or trained observers. Likewise, experimental methods would yield valuable information about how narcissistic perfectionists function in a social environment and would allow testing of causality, which is not possible with questionnaire data alone. For example, the use of implicit association tasks may shed light on cognitive biases in narcissistic perfectionism (e.g., perceiving others' failures more readily than one's own). Future research should use a multi-method, multi-source design to better capture the attributes and experiences of narcissistic perfectionists while minimizing bias.

While the measurement model for narcissistic perfectionism was supported, a fuller understanding of its reliability, validity, and generalizability is needed. This model should be tested in diverse populations. Our samples included mostly young, Caucasian, and advantaged women. Such characteristics are common in undergraduates, but may limit the representativeness of the sample and generalizability of the findings. As narcissistic traits appear to diminish with age (Foster, Campbell, & Twenge, 2003), our results may be attenuated in older participants. Further validation of the measurement model should also include more men. Future work may also be warranted to develop a dedicated scale for narcissistic perfectionism. This would allow more empirical validation of this emerging construct and support future research in this area.

Although brief measures are common and necessary in daily diary research, much less is known about the psychometric properties of our daily scales. Additional work may be warranted to better understand these abbreviated scales, particularly our other-oriented discrepancies measure, which was developed specifically for this study.

Our study provided a preliminary picture of the narcissistic perfectionist, but more research is needed to provide a higher-resolution picture of who these people are and what they do. Future work is warranted to more clearly orient narcissistic perfectionism amidst existing measures of perfectionism and narcissism. For example, perfectionistic strivings are largely unrelated to interpersonal problems such as conflict and derogation (Sherry et al., 2007); however, research is still needed to situate the narcissistic perfectionism construct amid other perfectionism dimensions (e.g., perfectionistic strivings). Likewise, models of narcissism abound and research is needed to clearly establish patterns of convergence and divergence with these models. Specifically, research is needed to test whether our model of narcissistic perfectionism is unique and useful beyond existing models of grandiose and vulnerable narcissism (e.g., the Pathological Narcissism Inventory; Pincus et al., 2009) when testing interpersonal outcomes such as conflict and derogation. Alternate models of narcissistic perfectionism may also exist, such as combining Pincus et al.'s (2009) grandiose narcissism with Hewitt and Flett's (1991) other-oriented perfectionism. Direct comparisons are needed between our model of narcissistic perfectionism and these alternative models.

Another possibility that warrants further study is if narcissistic and self-critical perfectionism are related via dynamic intrapersonal processes. Some authors (e.g., Ronningstam, 2010) describe narcissistic and self-critical traits as linked, with narcissistic injuries leading to intense self-criticism. This suggests deflated grandiosity may modify personality processes from narcissistic to self-critical in a dynamic manner. Given Morf and Rhodewalt's (2001) work on narcissism as a method of self-esteem maintenance, research comparing the intrapsychic processes underlying self-critical perfectionism, narcissistic perfectionism, and pathological narcissism remains an exciting and important area for future inquiry.

4.2. Concluding remarks

Theoretical accounts and case histories suggest perfectionism and narcissism overlap (e.g., Sorotzkin, 1985), but an empirically tested model of narcissistic perfectionism was lacking. Our study synthesizes work in this area into a coherent empirical model that clarifies our understanding of narcissistic perfectionists. These demanding, hyper-critical, entitled, and grandiose individuals impose their need for perfection onto others, become disappointed when these expectations are unmet, and respond with conflict and derogation. Although single-trait conceptualizations of other-directed perfectionism are clearly important (e.g., other-oriented perfectionism), studying other-directed forms of perfectionism alone may miss co-occurring traits (e.g., entitlement) that are vital to describing this personality style and predicting interpersonal problems. Our study provides a model to revitalize narcissistic perfectionism and support further inquiry into this emerging construct.

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