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Article *in* Journal of Social and Clinical Psychology · August 2021

DOI: 10.1521/jscp.2021.40.4.277

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Journal of Social and Clinical Psychology, Vol. 40, No. 4, 2021, pp. 277–303

EXAMINING THE LINK BETWEEN MULTIDIMENSIONAL PERFECTIONISM AND DEPRESSION: A LONGITUDINAL STUDY OF THE INTERVENING EFFECTS OF SOCIAL DISCONNECTION

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Introduction: The Perfectionism Social Disconnection Model (PSDM) posits that perfectionism confers risk for depression by promoting social disconnection. However, the specific indirect effect of social disconnection on the prospective relation of perfectionism dimensions with depression severity is not well understood. The aim of the current study was to provide the first comprehensive examination of the PSDM. **Methods:** A diverse community sample of 447 completed measures of trait perfectionism, perfectionistic self-presentation styles, and depressive symptoms at baseline. Six months later, participants completed measures of perfectionistic self-presentation styles, social disconnection, and depressive symptoms. Indirect effects models were analyzed to examine the impact of each facet of perfectionism on social disconnection and subsequent depression severity. **Results:** Consistent with the PSDM, all perfectionism traits and self-presentation styles resulted in greater depression severity via one or more facets of social disconnection, with social hopelessness and loneliness demonstrating

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Supplemental material is available online at https://daslab-psych.sites.olt.ubc.ca/?p=1646.

This research was supported by a grant from the Social Sciences and Humanities Research Council of Canada (SSHRC; 435-2015-0412) awarded to Paul L. Hewitt, an Institute of Mental Health Marshall Fellowship, a Women's Health Research Institute Fellowship, and a Killam Fellowship awarded to Katerina Rnic, and a Michael Smith Foundation for Health Research Scholar Award awarded to Joelle LeMoult. We have no conflicts of interest to disclose.

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the most widespread effects. Furthermore, perfectionistic self-presentation styles and social disconnection demonstrated sequential indirect effects on the relation of self-oriented and socially prescribed perfectionism with depressive symptoms at follow-up. **Discussion:** This study is the first to demonstrate the depressogenic effects of all perfectionism dimensions. Findings delineate the interpersonal mechanisms underlying the perfectionism-depression link.

Keywords: depression, perfectionism, perfectionistic self-presentation, social disconnection

Depression is widespread and debilitating. Despite the availability of evidence-based treatments, depression remains highly recurrent even among treatment responders (Vittengl et al., 2010), suggesting that pathogenic mechanisms that underlie this disorder are still not well understood. Given epidemiological findings indicating that the prevalence of depression is increasing (Hidaka, 2012), further elucidating etiological pathways is a timely concern.

A recent meta-analysis found that perfectionism is one factor that prospectively predicts depression severity (Smith et al., 2016), and perfectionism may be an increasingly important risk factor given evidence that it is on the rise (Curran & Hill, 2019). Increases in perfectionism dovetail with concurrent increases in depression, highlighting perfectionism as a compelling construct for better characterizing mechanisms underlying depression.

PERFECTIONISM

Perfectionism is a multidimensional and multilevel personality style. The Comprehensive Model of Perfectionistic Behavior (CMPB; Hewitt et al., 2017) posits that trait perfectionism consists of other-oriented, self-oriented, and socially prescribed dimensions. Other-oriented perfectionism is defined as requiring perfection from others and imposing unrealistic standards on them. Self-oriented perfectionism involves demanding perfectionism of oneself and engaging in stringent self-evaluation. Finally, socially prescribed perfectionism is the perception that others require perfection of oneself and that one must be perfect to secure approval.

The CMPB postulates that perfectionism is composed of not only a trait component, but also of a three-faceted interpersonal

component that arises from trait perfectionism, referred to as perfectionistic self-presentation (Hewitt et al., 2003, 2017). Whereas the trait component of perfectionism represents the stable content of personality, the interpersonal component is the dynamic, process component of personality that represents the style(s) in which perfectionism traits are expressed to others. The first facet, perfectionistic self-promotion, is the active promotion of one's supposed flawlessness. Individuals high in perfectionistic self-promotion proclaim and display their abilities to gain others' approval. The other two facets of perfectionistic self-presentation involve a passive and defensive stance aimed at concealing imperfection. Nondisplay of imperfections involves the need to refrain from overt behaviors that would reveal shortcomings, whereas nondisclosure of imperfections encompasses the avoidance of verbally revealing information that others could perceive negatively (e.g., information about their vulnerable feelings and imperfections). While perfectionistic self-presentation is comprised of strategies for securing the esteem of others, these behaviors ultimately backfire. Individuals with high levels of these interpersonal styles are experienced as distant or unlikable. Their avoidance of revealing vulnerability, and of social situations more generally, reduces opportunities to form meaningful bonds, resulting in a profound sense of social disconnection (e.g., Chen et al., 2012).

The Perfectionism Social Disconnection Model (PSDM; Hewitt et al., 2006, 2017) posits that high trait perfectionism and perfectionistic self-presentation cause depressive symptoms by promoting experiences of social disconnection. Whereas several etiological theories of depression emphasize and have found empirical evidence for interpersonal mechanisms of depression pathogenesis (e.g., interpersonal theory of depression, Coyne, 1976; stress generation theory, Hammen, 1991), they have not explicitly incorporated the effects of personality. The PSDM provides an integrative framework for examining the perfectionism-depression link, and while it has received empirical support (see Hewitt et al., 2017; Sherry et al., 2016), past research has examined only a single or limited subset of perfectionism dimensions while adopting narrow definitions of social disconnection. To date, researchers have not elucidated the unique mechanisms through which each dimension of perfectionism promotes subsequent depressive symptoms.

KEY MARKERS OF SOCIAL DISCONNECTION

There are several interpersonal constructs that collectively encompass a more complete picture of social disconnection, including social hopelessness, loneliness, need for social assurance, and low reassurance of worth. When assessed together, these interpersonal challenges may help to better delineate the mechanisms underlying the perfectionism-depression link.

Social hopelessness is an interpersonal dimension of hopelessness that is comprised of future-oriented negative beliefs and expectations about relationships (Flett et al., 2003). Social hopelessness has been associated with socially prescribed perfectionism, perfectionistic self-presentation styles (Roxborough et al., 2012), and with depressive symptoms (Hewitt et al., 1998). Moreover, consistent with the PSDM, Smith and colleagues (2018) found that social hopelessness mediated the relation of socially prescribed perfectionism with later depressive symptoms.

Loneliness refers to the experience of a qualitative or quantitative deficiency in one's social network and is another facet of social disconnection that is associated with both perfectionism (socially prescribed perfectionism and perfectionistic self-presentation style) and depression severity (Chang et al., 2008; Flett et al., 1996). Moreover, loneliness has been found to mediate the association of perfectionistic self-presentation with depression, consistent with the PSDM (Goya Arce & Polo, 2017).

Another indicator of social disconnection is need for social assurance, which is defined as a need for reassurance from others to feel a sense of social belongingness (Lee & Robbins, 1995). Only one study has examined the association of need for assurance with perfectionism, and no differences were found between individuals classified as having high or low perfectionism (Ward & Ashby, 2008). However, this study did not examine more interpersonally focused types of perfectionism (e.g., socially prescribed perfectionism, perfectionistic self-presentation) that may be more likely to predict an other-dependent sense of belonging. Furthermore, despite clear implications of holding an other-dependent sense of belonging for experiencing increased distress, no research thus far has examined the relation between need for social assurance and depression.

Finally, reassurance of worth is defined as acknowledgement by others of one's skills and abilities, which, at low levels, is a marker of social disconnection. Although past research has not examined the specific association of reassurance of worth with perfectionism, low levels of reassurance of worth are associated with depression severity (e.g., Pynnönen et al., 2018). Individuals with high perfectionism may be particularly susceptible to low reassurance of worth given beliefs that they do not measure up to others' standards or due to avoidance of sharing their abilities for fear of revealing their limitations.

THE PRESENT STUDY

The current longitudinal study represents the first comprehensive examination of the PSDM by including all trait and self-presentation facets included in the CMPB and by examining a more nuanced range of markers of social disconnection. Moreover, to capture the full range of symptoms of low mood, we assessed depression as a continuous variable. This is keeping with taxometric studies indicating that depression is best conceptualized as a continuous construct (e.g., Hankin et al., 2005; Liu, 2016).

Given the broad emphasis individuals with socially prescribed perfectionism or any of the three facets of perfectionistic self-presentation place on the judgments of others, we expected that all social disconnection markers would evince indirect effects on the association of these perfectionism dimensions with subsequent increases in depression severity. In contrast, we expected other-oriented and self-oriented perfectionism to show greater specificity. In particular, those high in other- and self-oriented perfectionism traits may have smaller, more distant social networks, similar to other forms of perfectionism. Thus, we expected other- and self-oriented perfectionism to be associated with greater loneliness, which in turn, would be associated with greater depression severity.

A comprehensive assessment of the PSDM that includes core components of the CMPD requires that the indirect effects of the more proximal self-presentation styles be examined alongside the more distal traits. We hypothesized that in this full model, there would be a sequential indirect effect of self-presentation

styles, followed by markers of social disconnection, on the association of self-oriented and socially prescribed perfectionism with depression severity. Given that other-oriented perfectionism focuses on others' perfection rather than on one's own perfection, the relation of this trait with perfectionistic self-presentation is unclear. Therefore, potential sequential indirect effects of self-presentation styles and social disconnection on the association of other-oriented perfectionism with depression were assessed in an exploratory manner.

METHOD

PARTICIPANTS

We recruited a community sample of 487 adults via advertisements for the University of British Columbia Perfectionism and Suicide Project (Hewitt et al., 2020). Individuals were eligible to participate if they were at least 35 years old and had completed grade 8. An a priori power analysis indicated that with $\alpha = .05$, and power = 0.80, this sample size was adequate to detect moderate effects ($d = 0.5$) and is well above sample size thresholds recommended for path analysis. A final sample of 447 individuals completed the follow-up, representing a retention rate of 92%. Participant characteristics are reported in Table 1.

MATERIALS

Alpha reliabilities are reported in Table 2. All measures demonstrated good internal consistency.

Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991). The MPS is a measure of trait perfectionism that is comprised of three subscales that assess other-oriented, self-oriented, and socially prescribed perfectionism. The MPS has excellent reliability and validity in clinical and community samples (Flett & Hewitt, 2015).

Perfectionistic Self-Presentation Scale (PSPS; Hewitt et al., 2003). The PSPS is comprised of three subscales that assess perfectionistic

TABLE 1. Demographic and Clinical Characteristics

Characteristics	Descriptive Statistics (*n* = 447)
Gender: Female, *n* (%)	290 (64.9%)
Age range, *M* (*SD*)	35–90, 58.65 (11.57)
Ethnicity, *n* (%)	
Asian	38 (8.5)
East Indian	2 (0.4)
First Nations	6 (1.3)
Hispanic	1 (0.2)
White	384 (85.9)
Other	11 (2.5)
Unknown	5 (1.1)
Marital Status, *n* (%)	
Single	81 (18.1)
Engaged/Married/Common-law	213 (47.6)
Separated/Divorced	110 (24.6)
Widowed	40 (8.9)
Unknown	3 (0.7)
Annual Income, *n* (%)	
<$25,000	112 (25.1)
$25,000-50,000	152 (34.0)
$50,000-100,000	136 (30.4)
>$100,000	36 (8.1)
Unknown	11 (2.5)
Education, *n* (%)	
Did not complete high school	13 (3.1)
Completed grade 12	123 (27.5)
Completed technical school or college	99 (22.1)
Undergraduate degree	130 (29.1)
Attended graduate school	75 (16.8)
Baseline BDI, range, *M* (*SD*)	0–46, 12.01 (10.44)
Follow-up BDI, range, *M* (*SD*)	0–49, 10.80 (9.98)

Note. BDI = Beck Depression Inventory.

TABLE 2. Bivariate Correlations, Means, and Standard Deviations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age	—																
2. Gen. Health T1	.12*	—															
3. Depression T1	−.29***	−.55***	—														
4. SOP T1	−.14**	−.07	.30***	—													
5. OOP T1	−.14**	−.04	.19***	.59***	—												
6. SPP T1	−.19***	−.27***	.47***	.60***	.40***	—											
7. Self-Pro. T1	−.20***	−.16**	.41***	.70***	.48***	.65***	—										
8. Nondisp. T1	−.33***	−.27***	.49***	.52***	.36***	.62***	.74***	—									
9. Nondisc. T1	−.17**	−.27***	.49***	.45***	.31***	.59***	.67***	.69***	—								
10. Self-Pro. T2	−.21***	−.11*	.34***	.60***	.44***	.54***	.77***	.63***	.56***	—							
11. Nondisp. T2	−.31***	−.16**	.37***	.40***	.29***	.48***	.60***	.78***	.52***	.73***	—						
12. Nondisc. T2	−.19***	−.23***	.42***	.39***	.27***	.51***	.55***	.59***	.73***	.64***	.64***	—					
13. S. Hopeless. T2	−.28***	−.43***	.62***	.24***	.17***	.48***	.36***	.53***	.46***	.35***	.51***	.47***	—				
14. Loneliness T2	−.30***	−.40***	.60***	.20***	.23***	.44***	.34***	.43***	.44***	.32***	.39***	.46***	.68***	—			
15. S. Assurance T2	.08	.14**	−.14**	−.18***	−.17***	−.26***	−.25***	−.23***	−.18***	−.19***	−.18***	−.14**	−.22***	−.25***	—		
16. Reass. Worth T2	.24***	.39***	−.53***	−.10*	−.09†	−.40***	−.28***	−.36***	−.40***	−.28***	−.33***	−.42***	−.57***	−.66***	.22***	—	
17. Depression T2	−.27***	−.53***	.83***	.21***	.14**	.41***	.33***	.42***	.40***	.31***	.39***	.43***	.65***	.65***	−.14**	−.57***	—
Alpha reliabilities	—	.85	.93	.91	.82	.89	.89	.89	.81	.91	.89	.84	.93	.91	.85	.80	.93
Mean	58.65	65.17	12.01	64.32	54.51	49.42	38.48	40.41	23.17	38.35	40.47	22.75	53.39	27.86	35.15	13.05	10.80
Standard Deviation	11.57	23.49	10.44	18.14	13.00	16.31	12.78	12.94	8.26	13.28	12.76	8.46	17.72	10.43	8.05	2.50	9.98

Notes. $n = 447$. T1 = Time 1 (baseline); T2 = Time 2 (follow-up). Gen Health = General Health; SOP = Self-oriented perfectionism; OOP = Other-oriented perfectionism; SPP = Socially prescribed perfectionism; Self-Pro. = Perfectionistic self-promotion; Nondisp.= Nondisplay of imperfections; Nondisc. = Nondisclosure of imperfections; S. Hopeless. = Social Hopelessness; S. Assurance = Social Assurance; Reass. Worth = Reassurance of worth.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.

self-promotion, nondisplay of imperfection, and nondisclosure of imperfection. The PSPS has strong psychometric properties in clinical and community samples (Flett & Hewitt, 2015). Hewitt and colleagues (2003) found that perfectionistic self-presentation is associated with trait perfectionism but is a unique construct distinct from other facets of personality.

De Jong Gierveld Loneliness Scale (DLS; de Jong Gierveld & Kamphuis, 1985). The DLS assesses the severity of feelings of loneliness. Studies have found that the DLS has good internal reliability as well as good convergent validity (de Jong Gierveld et al., 2016).

Social Hopelessness Questionnaire (SHQ; Flett et al., 2003). The SHQ measures social hopelessness. Past research has found that the SHQ has strong psychometric properties (Heisel et al., 2003).

Social Assurance Scale (SAS; Lee & Robbins, 1995). This questionnaire assesses need for reassurance from others for a sense of belongingness. Higher scores reflect more confidence and assurance in social situations. The SAS has demonstrated strong psychometric properties (Lee & Robbins, 1995).

Social Provisions Scale (SPS; Cutrona & Russell, 1987). Reassurance of worth was assessed using the SPS. Higher scores on the reassurance of worth subscale indicate greater recognition by others of one's abilities. The SPS has demonstrated good internal consistency and construct validity (Cutrona & Russell, 1987).

Beck Depression Inventory (BDI; Beck & Steer, 1987). The BDI assesses the presence and severity of depressive symptoms. It is recognized for its strong psychometric properties (Beck et al., 1988).

COVARIATES

Gender, age, and general health were included as covariates given that all have been robustly associated with depression (see Gotlib & Hammen, 2014). General health was measured via the general health subscale of the Short Form Health Survery-36 (SF-36; Ware & Sherbourne, 1992).

PROCEDURE

This study was approved by the UBC Behavioural Research Ethics Board. Participants were mailed the questionnaires at baseline and 6-month follow-up, and were asked to provide written informed consent and to mail back the completed questionnaires.

STATISTICAL ANALYSES

Analyses were conducted using path analysis in Mplus Version 8.3 (Muthén & Muthén, 1998–2020), which accounts for missing data using maximum likelihood estimation. First, six multiple indirect effects models were conducted to examine the impact of each dimension of perfectionism at baseline on subsequent social disconnection and depression severity without covarying out the influence of other perfectionism dimensions, which can result in suppression effects. Next, a full model assessing both sequential and multiple indirect effects across all six facets of perfectionism was conducted. This model allows for sequential pathways of trait perfectionism leading to perfectionistic self-presentation to be examined, as well as for an investigation of what outcomes the unique variance assigned to each dimension of perfectionism predicts.

Importantly, all analyses controlled for the covariates gender, age, general health, and depressive symptoms at baseline. Bias-corrected bootstrapping with 5,000 resamples was used to test the significance of indirect effects as this approach makes no assumptions of normality of the sampling distribution and better controls for Type I error (MacKinnon et al., 2004).

RESULTS

Bivariate correlations and descriptive statistics are reported in Table 2. Participants reported depressive symptoms ranging from minimal to severe at baseline (0–47) and follow-up (0–49). All models were just-identified (i.e., $df = 0$). Thus, fit indices are not reported.

SINGLE PREDICTOR MODELS

In Table 3 we present results from the single predictor models conducted to examine potential indirect effects of social disconnection on the relation between each facet of perfectionism at baseline and depressive symptoms at follow up. Social hopelessness, loneliness, social assurance, and reassurance of worth were entered as intervening variables in each model.

Indirect effects emerged in all three models examining the relation of trait perfectionism with depression severity. Consistent with hypotheses, other-oriented perfectionism was associated with greater loneliness, which in turn was associated with depression. In the analysis for self-oriented perfectionism, only reassurance of worth evinced an indirect effect. Unexpectedly, self-oriented perfectionism was associated with greater reassurance of worth, which in turn was associated with lower depressive symptoms at follow-up. Finally, as predicted, socially prescribed perfectionism was associated with a range of social disconnection indices (i.e., greater social hopelessness, greater loneliness, and lower reassurance of worth), which in turn, were associated greater depressive symptoms at follow-up.

There was also evidence for indirect effects of social disconnection on the association of each of the perfectionistic self-presentation styles with depression severity. Perfectionistic self-promotion was associated with greater social hopelessness and loneliness, which subsequently were associated with greater depression symptoms. In addition, nondisplay of imperfections and nondisclosure of imperfections were associated with several social disconnection indices (i.e., greater social hopelessness, greater loneliness, and lower reassurance of worth), which were associated with greater depression severity at follow-up.

FULL MODEL

The full model is presented in Figure 1 (see the online supplement for all path coefficients). Indirect effects are reported in Table 4. As hypothesized, and consistent with the independent model, other-oriented perfectionism evinced an indirect path; other-oriented perfectionism predicted greater loneliness, which

TABLE 3. Path Coefficients, Indirect Effects, and Bias-Corrected 95% Confidence Intervals from Single Predictor Mediation Models

	Other-Oriented Perfectionism T1			Self-Oriented Perfectionism T1		
Path	**Coeff.**	***SE***	***p***	**Coeff.**	***SE***	***p***
Total effect (c)	−.005	.030	.880	−.031	.029	.283
Direct effect (c′)	−.017	.030	.562	−.027	.027	.311
a1 (X→ Social Hopelessness)	.046	.036	.210	.055	.039	.154
a2 (X→ Loneliness)	**.106**	**.036**	**.003**	.008	.041	.838
a3 (X→ Need for Social Assurance)	**−.149**	**.052**	**.004**	**−.154**	**.049**	**.002**
a4 (X→ Reassurance of worth)	.026	.041	.530	**.008**	**.043**	**.039**
b1 (Social hopelessness→Y)	**.125**	**.038**	**.001**	**.128**	**.038**	**.001**
b2 (Loneliness→Y)	**.127**	**.039**	**.001**	**.124**	**.039**	**.001**
b3 (Need for Social Assurance→Y)	.027	.027	.317	.026	.026	.334
b4 (Reassurance of Worth→Y)	**−.095**	**.039**	**.014**	**−.093**	**.038**	**.015**
Indirect effects	**Estimate**	**SE**	**95% CI**	**Estimate**	**SE**	**95% CI**
a1b1 (X → Social Hopelessness→Y)	.006	.005	[−.002–.019]	.007	.006	[−.001–.023]
a2b2 (X→ Loneliness→Y)	**.013**	**.007**	**[.004–.030]**	.001	.005	[−.009–.013]
a3b3 (X→ Social Assurance→Y)	−.004	.005	[−.017–.003]	−.004	.005	[−.016–.003]
a4b4 (X→ Reassurance of Worth→Y)	−.002	.004	[−.014–.004]	**−.008**	**.006**	**[−.024– −.001]**
Total indirect effect	.013	.012	[−.011–.037]	−.004	.013	[−.031–.022]
	Socially Prescribed Perfectionism T1			**Perfectionistic Self-Promotion T1**		
Path	**Coeff.**	***SE***	***p***	**Coeff.**	***SE***	***p***
Total effect (c)	.021	.034	.544	.003	.032	.932
Direct effect (c′)	−.042	.035	.219	−.027	.031	.373
a1 (X→ Social Hopelessness)	**.224**	**.039**	**<.001**	**.126**	**.039**	**.001**
a2 (X→ Loneliness)	**.172**	**.041**	**<.001**	**.103**	**.041**	**.013**
a3 (X→ Social Assurance)	**−.231**	**.058**	**<.001**	**−.229**	**.049**	**<.001**
a4 (X→ Reassurance of worth)	**−.166**	**.049**	**.001**	-.068	.045	.130
b1 (Social hopelessness→Y)	.134	**.039**	**.001**	**.129**	.039	**.001**
b2 (Loneliness→Y)	.126	**.039**	**.001**	**.124**	.039	**.002**
b3 (Social Assurance→Y)	.023	.028	.396	.024	.028	.395
b4 (Reassurance of Worth→Y)	**−.100**	**.039**	**.009**	**−.096**	**.039**	**.014**
Indirect effects	**Estimate**	***SE***	**95% CI**	**Estimate**	***SE***	**95% CI**
a1b1 (X → Social Hopelessness→Y)	**.030**	**.011**	**[.013–.056]**	**.016**	**.007**	**[.006–.035]**
a2b2 (X→ Loneliness→Y)	**.022**	**.009**	**[.008–.043]**	**.013**	**.007**	**[.003–.030]**
a3b3 (X→ Social Assurance→Y)	-.005	.007	[−.021–.007]	−.005	.007	[−.019–.007]
a4b4 (X→ Reassurance of Worth→Y)	**.017**	**.008**	**[.004–.038]**	.007	.005	[−.001–.020]
Total indirect effect	**.063**	**.017**	**[.033–.099]**	**.030**	**.014**	**[.005–.059]**

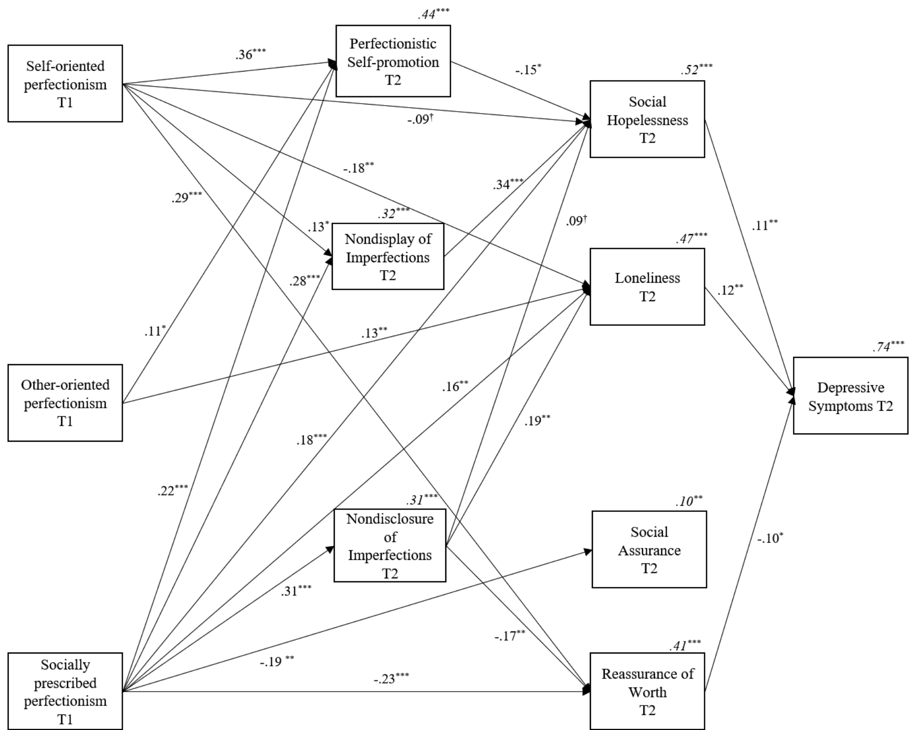
(*continued*)

TABLE 3. ***Continued***

	Nondisplay of Imperfections T1			Nondisclosure of Imperfections T1		
Path	**Coeff.**	***SE***	***p***	**Coeff.**	***SE***	***p***
Total effect (c)	.022	.030	.465	–.015	.033	.648
Direct effect (c′)	–.032	.025	.199	**–.076**	**.033**	**.021**
a1 (X→ Social Hopelessness)	**.387**	**.056**	**<.001**	**.196**	**.041**	**<.001**
a2 (X→ Loneliness)	**.117**	**.036**	**.001**	**.165**	**.046**	**<.001**
a3 (X→ Social Assurance)	**–.129**	**.035**	**<.001**	**–.120**	**.059**	**.043**
a4 (X→ Reassurance of worth)	**–.022**	**.009**	**.021**	**–.154**	**.050**	**.002**
b1 (Social hopelessness→Y)	**.078**	**.023**	**.001**	**.138**	**.040**	**<.001**
b2 (Loneliness→Y)	**.119**	**.037**	**.001**	**.129**	**.039**	**.001**
b3 (Social Assurance→Y)	.029	.035	.407	.024	.027	.372
b4 (Reassurance of Worth→Y)	**–.387**	**.157**	**.014**	**–.102**	**.039**	**.009**
Indirect effects	**Estimate**	***SE***	**95% CI**	**Estimate**	***SE***	**95% CI**
a1b1 (X→ Social Hopelessness→Y)	**.039**	**.013**	**[.018–.068]**	**.027**	**.009**	**[.013–.050]**
a2b2 (X→ Loneliness→Y)	**.018**	**.008**	**[.006–.038]**	**.021**	**.009**	**[.007–.043]**
a3b3 (X→ Social Assurance→Y)	–.005	.006	[–.020–.005]	-.003	.004	[–.015–.002]
a4b4 (X→ Reassurance of Worth→Y)	**.011**	**.007**	**[.002–.029]**	**.016**	**.008**	**[.004–.037]**
Total indirect effect	**.063**	**.017**	**[.032–.100]**	**.061**	**.016**	**[.033–.097]**

Note. All models controlled for the covariates gender, age, general health, and depressive symptoms at baseline.

was associated with greater depressive symptoms. Self-oriented perfectionism predicted depression severity via a number of indirect pathways. Unexpectedly, self-oriented perfectionism was associated with decreases in depression severity via lower loneliness. There was also an unanticipated indirect effect of reassurance of worth, whereby, consistent with the independent model, self-oriented perfectionism predicted greater reassurance of worth, which was in turn associated with lower depressive symptoms. Furthermore, there was evidence of sequential indirect effects. The association of self-oriented perfectionism with depressive symptoms at follow-up was via greater perfectionistic self-promotion, which was associated with lower social hopelessness, and finally, lower depression severity. In addition, the association of self-oriented perfectionism with greater depressive symptoms at follow-up was via greater nondisplay of imperfections followed by greater social hopelessness.



Note. Nonsignificant pathways are not shown. Gender, age, general health, and depressive symptoms at baseline were entered as covariates, but are not shown for simplicity of presentation. Correlations among exogenous variables and among each set of mediators were estimated but are not depicted. Italicized numbers above endogenous variables represent the amount of variance explained by that variable. Standardized estimates are shown. †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.

FIGURE 1. Path Diagram Depicting Associations among Perfectionism, Social Disconnection, and Depressive Symptoms

As predicted, socially prescribed perfectionism predicted subsequent increases in depression severity through multiple indirect pathways. Consistent with findings in the separate model, there were indirect effects whereby greater social hopelessness, greater loneliness, and lower reassurance of worth were associated with greater depressive symptoms. Furthermore, there were a number of significant sequential indirect effects involving perfectionistic self-presentation styles. Greater nondisplay of imperfections followed by greater social hopelessness, greater

TABLE 4. Indirect Effects and Bias-Corrected 95% Confidence Intervals from Full Model

Indirect effects	Other-Oriented Perfectionism T1			Self-Oriented Perfectionism T1			Socially Prescribed Perfectionism T1		
	Estimate	*SE*	95% CI	Estimate	*SE*	95% CI	Estimate	*SE*	95% CI
X→ Self-Pro.→Y	–.003	.006	[–.023–.005]	–.011	.018	[–.050–.022]	–.007	.011	[–.032–.013]
X→ Nondisp.→Y	.003	.004	[–.002–.016]	.007	.006	[–.002–.024]	.014	.012	[–.006–.041]
X→ Nondisc.→Y	.001	.003	[–.002–.013]	.003	.004	[–.002–.017]	.011	.011	[–.010–.034]
X→ S. Hopeless.→Y	.000	.005	[–.009–.010]	–.010	.007	[–.028–.000]	**.021**	**.010**	**[.007–.045]**
X→ Loneliness→Y	**.016**	**.008**	**[.005–.038]**	**–.022**	**.010**	**[–.048– –.007]**	**.020**	**.009**	**[.006–.043]**
X→ Reass. Worth→Y	.000	.005	[–.009–.012]	**–.028**	**.013**	**[–.060 –.006]**	**.023**	**.011**	**[.005–.049]**
X→ S. Assurance→Y	–.002	.003	[–.013–.002]	.000	.003	[–.003–.009]	–.004	.006	[–.019–.006]
X→ Self-Pro.→ S. Hopeless.→Y	–.002	.002	[–.007–.000]	**–.006**	.004	**[–.017– –.001]**	**–.004**	**.002**	**[–.012– –.001]**
X→ Nondisp.→ S. Hopeless.→Y	.002	.002	[–.001–.009]	**.005**	**.003**	**[.001–.014]**	**.011**	**.005**	**[.004–.023]**
X→ Nondisc. → S. Hopeless.→Y	.000	.001	[.000–.003]	.001	.001	[.000–.004]	.003	.002	[.000–.010]
X→ Self-Pro.→ Loneliness→Y	–.001	.001	[–.005–.000]	–.003	.003	[–.013–.002]	–.002	.002	[–.008–.001]
X→ Nondisp.→ Loneliness→Y	.000	.001	[.000–.004]	.001	.001	[.000–.006]	.003	.002	[.000–.009]
X→ Nondisc.→ Loneliness→Y	.001	.002	[–.002–.005]	.002	.002	[.000–.008]	**.007**	**.004**	**[.002–.017]**
X→ Self-Pro.→ Reass. Worth→Y	.001	.001	[.000–.004]	.002	.003	[–.001–.011]	.001	.002	[–.001–.007]
X→ Nondisp.→ Reass. Worth→Y	.000	.000	[–.001–.002]	.000	.001	[–.001–.002]	.000	.002	[–.003–.004]
X→ Nondisc.→ Reass.Worth→Y	.001	.001	[–.001–.004]	.002	.001	[.000–.006]	**.005**	**.003**	**[.001–.014]**
X→ Self-Pro.→ S. Assurance→ Y	.000	.000	[–.002–.000]	.000	.001	[–.005–.001]	.000	.708	[–.003–.000]
X→ Nondisp.→ S.Assurance→Y	.000	.000	[–.002–.000]	.000	.001	[–.003–.000]	–.001	.001	[–.004–.001]
X→ Nondisc.→ S. Assurance→Y	.000	.000	[.000–.002]	.000	.000	[.000–.002]	.001	.001	[–.001–.005]
Total indirect effect	.018	.015	[–.011–.049]	**–.057**	**.025**	**[–.114– –.012]**	**.102**	**.021**	**[.064–.147]**

(continued)

TABLE 4. ***Continued***

Indirect effects	Perfectionistic Self-Promotion T2			Nondisplay of Imperfections T2			Nondisclosure of Imperfections T2		
	Estimate	**SE**	**95% CI**	**Estimate**	**SE**	**95% CI**	**Estimate**	***SE***	**95% CI**
X → S. Hopeless. → Y	**−.017**	**.010**	**[−.047– −.003]**	**.038**	**.016**	**[.014–.076]**	**.010**	**.007**	**[.001–.027]**
X → Loneliness → Y	−.009	.009	[−.034–.004]	.009	.008	[−.002–.031]	**.023**	**.001**	**[.007–.049]**
X → Reass. Worth → Y	.007	.008	[−.004–.028]	.001	.006	[−.011–.014]	**.017**	**.009**	**[.003–.041]**
X → S. Assurance → Y	−.001	.003	[−.013–.002]	−.002	.004	[−.014–.002]	.002	.004	[−.002–.014]
Total indirect effect	−.021	.020	[−.063–.016]	**.047**	**.021**	**[.011–.093]**	**.051**	**.017**	**[.022–.089]**

Notes. T1 = Time 1 (baseline); T2 = Time 2 (follow-up). Self-Pro. = Perfectionistic self-promotion; Nondisp.= Nondisplay of imperfections; Nondisc. = Nondisclosure of imperfections; S. Hopeless. = Social Hopelessness; S. Assurance = Social Assurance; Reass. Worth = Reassurance of worth. Gender, age, general health, and depressive symptoms at baseline were entered as covariates.

nondisclosure of imperfections followed by greater loneliness, and greater nondisclosure of imperfections followed by lower reassurance of worth were each indirect paths through which socially prescribed perfectionism was associated with greater depressive symptoms at follow-up. Unexpectedly, the association of socially prescribed perfectionism with lower depressive symptoms at follow-up was through sequential associations with greater perfectionistic self-promotion followed by lower social hopelessness.

As hypothesized, a number of significant indirect effects of the relation of perfectionistic self-presentation with depression severity emerged in the full model. There was one indirect effect for the association of perfectionistic self-promotion and depression severity, whereby self-promotion was associated with lower social hopelessness, which in turn was related to lower depressive symptoms. There was also a single significant indirect effect for the relation of nondisplay of imperfections with depression severity. Similar to the single predictor model, nondisplay of imperfections was associated with greater social hopelessness, which was associated with greater depressive symptoms. Finally, several significant indirect pathways emerged for the relation of nondisclosure of imperfections with depression. Similar to the single predictor model, nondisclosure of imperfections was associated with a range of social disconnection indices (i.e., greater hopelessness, greater loneliness, and lower reassurance of worth), which were associated with greater depressive severity at follow-up.

DISCUSSION

The PSDM (Hewitt et al., 2006, 2017) provides a conceptual framework for examining pathways through which dimensions of perfectionism confer vulnerability to depressive symptoms by promoting social disconnection. The current study conducted the first comprehensive assessment of the PSDM by examining all three trait dimensions of perfectionism and all three perfectionistic self-presentation styles. Moreover, we examined the intervening role of social disconnection, as proposed by the PSDM, using a range of indicators. This allowed for a nuanced

investigation of pathways through which perfectionism leads to depression severity over time.

The current findings have critical implications for our understanding of depression and highlight the importance of including perfectionism in models of the disorder. Results highlight the specificity of mechanistic pathways through which each form of perfectionism, including both traits and self-presentation styles, are associated with depression severity. Notably, all perfectionism traits and self-presentation styles evinced indirect pathways through social disconnection to depressive symptoms, underscoring the role that all forms of perfectionism, including less patently socially relevant forms, play in increasing social disconnection and depression severity. Unexpectedly, some pathways also predicted lower depression severity, highlighting the nuanced influence perfectionism dimensions have on interpersonal outcomes and mood. Critically, by identifying potential mechanisms through which perfectionism dimensions may be reinforced, these findings begin to unravel a central paradox of perfectionism — that individuals high in perfectionism pursue perfection despite this goal being necessarily and repeatedly thwarted by the realities of imperfection (Hewitt et al., 2017).

Furthermore, this study was the first to examine self-presentation styles as intervening variables on the relation of perfectionism traits with depression severity. This approach provided novel insights into the manner in which self-presentation styles manifest in individuals with trait perfectionism, and subsequently contribute to a milieu of social disconnection and depression. This study also elucidates which forms of social disconnection are most critical to the perfectionism-depression link. Whereas hopelessness and loneliness are core indices of social disconnection that linked the relation of multiple dimensions of perfectionism with later depression severity, reassurance of worth was less ubiquitous in its effects and need for social assurance did not demonstrate indirect effects for any forms of perfectionism. This indicates that in our data, social assurance was not a facet of social disconnection that undergirded the depressogenic effects of perfectionism. Importantly, need for assurance is conceptually similar to anxious attachment — an internal working model of interpersonal relationships characterized by excessive

need for approval. Given that past research has documented that perfectionism mediates the association between attachment and depression (Wei et al., 2004), need for assurance may represent a precursor to perfectionism rather than an outcome. Future research is needed to test this possibility.

Consistent with hypotheses, other-oriented perfectionism predicted depression severity via loneliness. Individuals high in other-oriented perfectionism tend to be demanding and hostile toward others, which may preclude the development and maintenance of close relationships, resulting in a sense of isolation and, thus, greater depressive symptoms. This finding makes an important contribution to the literature as a paucity of research has examined other-oriented perfectionism as an antecedent to social disconnection and depression, instead focusing on more palpably interpersonal or self-related forms of perfectionism.

Contrary to hypotheses, reassurance of worth linked the association of self-oriented perfectionism with depression severity six months later, such that self-oriented perfectionism predicted greater reassurance of worth, which was associated with lower depression symptoms. While unexpected, this finding is consistent with theoretical and empirical accounts of self-oriented perfectionism — individuals with self-oriented perfectionism present as highly driven and achievement-oriented, a stance that may be reinforced and admired by others (Hewitt et al., 2017), leading self-oriented perfectionists to feel reassured of their worth. Similar patterns of reinforcement have been demonstrated among individuals with high Type A personality. These competitive, achievement-striving individuals are reinforced by enhanced success and achievement, higher salary, and more rapid promotion at work (Kuiper & Martin, 1989), all factors that promote social status. Furthermore, loneliness linked the association of self-oriented perfectionism with depression severity in the full model, such that self-oriented perfectionists reported lower levels of loneliness, which was associated with fewer depressive symptoms at follow-up. Self-oriented perfectionists are internally focused on their achievement, and as a result, tend to de-emphasize goals related to communion with others (Sherry et al., 2016). This may engender lower feelings of loneliness and, thus, lower levels of depression. This explanation is supported by Chua and Koestner's (2008) finding that, in

line with self-determination theory, autonomously choosing to engage in solitary activities is associated with lower loneliness.

As hypothesized, socially prescribed perfectionism conferred vulnerability for depression via a range of social disconnection markers. Consistent with predictions, socially prescribed perfectionism predicted greater subsequent depression severity via hopelessness, greater loneliness, and lower reassurance of worth. Socially prescribed perfectionists believe that the approval and acceptance of others is contingent on them meeting unattainable expectations (Hewitt et al., 2017), which may lead to the perception that their actual talents and abilities are not valued (low reassurance of worth), that they will never have supportive relationships that are free of contingencies on their perfection (social hopelessness), and that they do not have close others that they can be vulnerable with (loneliness). Because socially prescribed perfectionism promotes numerous forms of social disconnection, this creates multiple pathways to depression, likely accounting for the large prospective association of this form of trait perfectionism with subsequent depression. Some of these pathways may be further entrenched by maladaptive interpersonal behaviors, particularly excessive reassurance seeking (ERS). Given the focus that individuals high in socially prescribed perfectionism place on the perceptions and approval of others, it is likely that they engage in ERS in an attempt to secure assurance of their worth and belongingness and to stave off feelings of social hopelessness, loneliness, and deep feelings of defectiveness. ERS backfires by increasing interpersonal stress and rejection, ultimately promoting depression (Joiner & Metalsky, 2001). Therefore, future research is needed to integrate the PSDM with this well-established interpersonal risk factor for depression.

Baseline perfectionistic self-promotion resulted in greater depression severity at follow-up via indirect effects of greater social hopelessness and loneliness in the single predictor model. A self-promoting presentation style may reinforce socially hopeless thoughts that one will never be accepted for their genuine self (Chen et al., 2012). Furthermore, the showcasing of their supposed perfection may alienate others, thereby stimulating a sense of loneliness (see Hewitt et al., 2017). In direct contrast, the full model indicated that perfectionistic self-promotion was associated with lower levels of hopelessness, which was

associated with fewer depressive symptoms at follow-up. Controlling for other forms of perfectionism, the remaining variance likely consisted of the narcissistic elements of perfectionistic self-promotion, and it is this grandiose quality that may underlie a belief that one will not have problems forging supportive connections with others (see Baumeister et al., 2003 for a discussion of narcissism and interpersonal functioning). This possibility represents an important avenue for future research.

Consistent with predictions, the prospective associations of nondisplay and nondisclosure of imperfections with greater depressive symptoms at follow-up was linked by a number of indicators of social disconnection in the single-predictor models, including high social hopelessness, high loneliness, and low reassurance of worth. Avoiding displays or disclosures of faults may backfire by inciting socially hopeless beliefs that one will not be accepted. For example, nondisplay and nondisclosure of imperfections can be likened to safety behaviors used in the context of social anxiety — which is itself a precursor of depression (Stein et al., 2001). Safety behaviors reinforce negative beliefs and social fears by eliciting negative evaluations from others (Alden & Bieling, 1998) and by preventing exposure to disconfirming evidence (Hofmann, 2007). Consistent with this idea, nondisplay and nondisclosure of imperfections may reduce opportunities to connect meaningfully with others (leading to loneliness) and to receive their support and acknowledgement (evidenced by less reassurance of worth). Similar findings have been documented in the emotion regulation literature, whereby suppression of outward emotional expression, a similar construct to nondisplay of imperfections, is associated with greater loneliness in the context of social anxiety (O'Day et al., 2019). Social hopelessness, loneliness, and low reassurance of worth all in turn were associated with greater depression severity.

Results for nondisplay and nondisclosure of imperfections align with a large body of research indicating that various characterological, cognitive, and behavioral forms of interpersonal insecurity (e.g., dependency, sociotropy, insecure attachment, rejection sensitivity, ERS, negative feedback seeking; see Hammen & Shih, 2013) are robustly linked to depression. For example, individuals with avoidant attachment minimize the expression of emotions and avoid intimacy, behaviors that distance them from others and make them more vulnerable to depression (Moran et al., 2008).

Lastly, in the full model, nondisplay of imperfections predicted depressive symptoms via hopelessness, whereas nondisclosure of imperfections predicted depression severity via hopelessness, loneliness, and low reassurance of worth. Loneliness and low reassurance of worth may be more relevant to nondisclosure than to nondisplay of imperfections when assessed together because individuals who withhold verbal acknowledgment of vulnerability may be particularly detached from others (Chen et al., 2012). This finding also aligns with research in the adult attachment literature, which has found that low verbal self-disclosure, a construct similar to nondisclosure of imperfections, mediates the association of avoidant attachment with later depression.

Finally, the comprehensive model allowed for an assessment of sequential indirect effects on the relation of perfectionism traits at baseline with depressive symptoms at follow-up by perfectionistic self-presentation styles followed by facets of social disconnection. Other-oriented perfectionism did not predict self-presentation strategies, likely because individuals with this trait focus on others' perfection rather than their own perfection. Findings revealed that self-oriented perfectionism predicted greater perfectionistic self-promotion, which, as described above, was associated with lower levels of hopelessness and, ultimately, with fewer depressive symptoms. Individuals with high self-oriented perfectionism are motivated to actively showcase their alleged perfection to others. As noted earlier, when other forms of perfectionism are controlled for, the remaining unique component of perfectionistic self-promotion may correspond to a self-aggrandizing factor that is associated with less hopeless predictions of future social experiences (Hewitt et al., 2017). The prospective self-oriented perfectionism — depression association was also sequentially linked via greater nondisplay of imperfections followed by greater social hopelessness. This finding indicates that self-oriented perfectionists tend to engage in an interpersonal style that conceals imperfection from others, but that is costly due to its association with greater social hopelessness and depressive symptoms.

Socially prescribed perfectionism evinced patterns of sequential indirect effects with all self-presentation styles leading to indices of social disconnection. Socially prescribed perfectionism resulted in greater perfectionistic self-promotion, followed by lower social hopelessness and lower depression severity.

Individuals high in socially prescribed perfectionism may attempt to meet perceived expectations of others by actively proclaiming their supposed perfection, which, as described earlier, is associated with lower social hopelessness and lower depressive symptoms. Furthermore, socially prescribed perfectionism predicted greater nondisplay of imperfections, which was related to greater social hopelessness. Socially prescribed perfectionism also predicted greater nondisclosure of imperfections, which was associated with greater loneliness and lower reassurance of worth. Social hopelessness, loneliness, and low reassurance of worth were, in turn, associated with greater depression severity. Individuals with elevated socially prescribed perfectionism are likely motivated to hide any potential signs of imperfection because they believe that others hold them to an unrealistic standard of perfection (Hewitt & Flett, 1991). This finding parallels the social anxiety literature, whereby individuals with social anxiety, similar to individuals with socially prescribed perfectionism, fear being perceived by others as deficient. This results in their engagement in safety behaviors characterized by efforts to conceal self-attributes, not unlike nondisplay and nondisclosure of imperfections (Moscovitch, 2009).

The current findings have key clinical implications. While interpersonal impairment is frequently assessed in the context of depression and is often a focus of treatment, clinicians may not routinely assess perfectionism. Although intervening at the interpersonal level may improve functioning and decrease depressive symptoms, if these social problems are driven by perfectionism, perfectionism will need to be incorporated into the case conceptualization and may require more direct and in-depth intervention to obtain lasting change (see Hewitt et al., 2017 for a description of treatment for perfectionism).

Results of the present study should be interpreted in the context of its strengths and limitations. The generalizability of findings are bolstered by its large, diverse community sample, longitudinal design, and comprehensive assessment of both perfectionism and social disconnection. The current study examined independent models for each dimension of perfectionism, as well as a full, comprehensive model that simultaneously analyzed the effects of all perfectionism dimensions. The full model allows for an assessment of the role of both perfectionism traits and self-presentation styles, and for an examination of the indirect effects

of self-presentation styles. This model also enables an assessment of the unique role each variable plays while taking others into account. However, this approach can result in suppression effects, as the unique variance remaining for a given factor when controlling for other variables in the model may not be generalizable to how individuals present in the real world. Dimensions of perfectionism are independent constructs, but they frequently present as comorbid, overlapping problems (Hewitt et al., 2017). Therefore, independent models that examine each type of perfectionism on its own may provide more generalizable findings that are important to consider alongside findings from the more comprehensive analysis. Furthermore, while the longitudinal study design represents an important improvement on the majority of past studies examining the PSDM, future research should use longer intervals between baseline and follow-up as well as additional time points to assess each component of the model longitudinally. Future research would also benefit from the use of expert-rated reports of depressive symptoms to provide a multi-method assessment of individuals' experiences.

The current study conducted the most robust longitudinal test of the PSDM to date. It was the first to demonstrate that all forms of trait perfectionism and perfectionistic self-presentation predict greater depression severity via one or more facets of social disconnection, with social hopelessness and loneliness demonstrating the most widespread effects. Results suggest that all forms of perfectionism are important targets for interventions aimed at disrupting the sequence of social disconnection that ultimately leads to depression.

REFERENCES

Alden, L. E., & Bieling, P. (1998). Interpersonal consequences of the pursuit of safety. *Behaviour Research and Therapy*, *36*, 53–64.

Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, *4*, 1–44.

Beck, A. T., & Steer, R. A. (1987). *Manual for the Beck Depression Inventory*. The Psychological Corporation.

Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*, *8*, 77–100.

Chang, E. C., Sanna, L. J., Chang, R., & Bodem, M. R. (2008). A preliminary look at loneliness as a moderator of the link between perfectionism and depressive and anxious symptoms in college students: Does being lonely make perfectionistic strivings more distressing? *Behaviour Research and Therapy*, *46*, 877–886.

Chen, C., Hewitt, P. L., Flett, G. L., Cassels, T. G., Birch, S., & Blasberg, J. S. (2012). Insecure attachment, perfectionistic self-presentation, and social disconnection in adolescents. *Personality and Individual Differences*, *52*, 936–941.

Chua, S. N., & Koestner, R. (2008). A self-determination theory perspective on the role of autonomy in solitary behavior. *The Journal of Social Psychology*, *148*, 645–648.

Coyne, J. C. (1976). Depression and the response of others. *Journal of Abnormal Psychology*, *85*, 186–193.

Curran, T., & Hill, A. P. (2019). Perfectionism is increasing over time: A meta-analysis of birth cohort differences from 1989 to 2016. *Psychological Bulletin*, *145*, 410–429.

Cutrona, C. E., & Russell, D. W. (1987). The provisions of social relationships and adaptation to stress. *Advances in Personal Relationships*, *1*, 37–67.

de Jong Gierveld, J., & Kamphuis, F. (1985). The development of a Rasch-type loneliness scale. *Applied Psychological Measurement*, *9*, 289–299.

de Jong Gierveld, J., van Tilburg, T. G., & Dykstra, P. A. (2016). Loneliness and social isolation. In A. Vangelisti & D. Perlman (Eds.), *The Cambridge Handbook of Personal Relationship* (2nd ed., pp. 485–500). Cambridge University Press.

Flett, G. L., & Hewitt, P. L. (2015). Measures of perfectionism. In G. J. Boyle, D. H. Saklofske, & G. Matthews (Eds.), *Measures of personality and social psychological constructs* (pp. 595–618). Academic Press.

Flett, G. L., Hewitt, P. L., & De Rosa, T. (1996). Dimensions of perfectionism, psychosocial adjustment, and social skills. *Personality and Individual Differences*, *20*, 143–150.

Flett, G. L., Hewitt, P. L., Heisel, M. J., Davidson, L., & Gayle, B. (2003). *The Social Hopelessness questionnaire: Development of a domain specific measure.* Unpublished Manuscript.

Gotlib, I. H., & Hammen, C. L. (Eds.). (2014). *Handbook of depression* (3rd Ed.) Guilford Press.

Goya Arce, A. B., & Polo, A. J. (2017). A test of the Perfectionism Social Disconnection Model among ethnic minority youth. *Journal of Abnormal Child Psychology*, *45*, 1181–1193.

Hammen, C. (1991). Generation of stress in the course of unipolar depression. *Journal of Abnormal Psychology*, *100*, 555–561.

Hammen, C. L., & Shih, J. (2014). Depression and interpersonal processes. In I. H. Gotlib & C. L. Hammen (Eds.). *Handbook of depression* (3rd ed., pp 277–295). Guilford Press.

Hankin, B. L., Fraley, R. C., Lahey, B. B., & Waldman, I. D. (2005). Is depression best viewed as a continuum or discrete category? A taxometric analysis of childhood and adolescent depression in a population-based sample. *Journal of Abnormal Psychology*, *114*, 96–110.

Heisel, M. J., Flett, G. L., & Hewitt, P. L. (2003). Social hopelessness and college student suicide ideation. *Archives of Suicide Research*, *7*, 221–235.

Hewitt, P. L., Chen, C., Flett, G. L., & Smith, M. M. (2021). *The UBC Perfectionism and Suicide Project: Perfectionism and suicide across the adult span*. Paper in preparation.

Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology*, *60*, 456–470.

Hewitt, P. L., Flett, G. L., & Mikail, S. F. (2017). *Perfectionism: A relational approach to conceptualization, assessment, and treatment*. Guilford Press.

Hewitt, P. L., Flett, G. L., Sherry, S. B., & Caelian, C. (2006). Trait perfectionism and suicide behavior. In T. Ellis (Ed.), *Cognition and suicide: Theory, research, and practice.* American Psychological Association.

Hewitt, P. L., Flett, G. L., Sherry, S. B., Habke, M., Parkin, M., Lam, R. W., McMurtry, B., Ediger, E,. Fairlie, P., & Stein, M. B. (2003). The interpersonal expression of perfection: Perfectionistic self-presentation and psychological distress. *Journal of Personality and Social Psychology*, *84*, 1303–1325.

Hewitt, P. L., Norton, G. R., Flett, G. L., Callander, L., & Cowan, T. (1998). Dimensions of perfectionism, hopelessness, and attempted suicide in a sample of alcoholics. *Suicide and Life-Threatening Behavior*, *28*, 395–406.

Hidaka, B. H. (2012). Depression as a disease of modernity: Explanations for increasing prevalence. *Journal of Affective Disorders*, *140*, 205–214.

Hofmann, S. G. (2007). Cognitive factors that maintain social anxiety disorder: A comprehensive model and its treatment implications. *Cognitive behaviour therapy*, *36*, 193–209.

Joiner, T. E., Jr., & Metalsky, G. I. (2001). Excessive reassurance seeking: Delineating a risk factor involved in the development of depressive symptoms. *Psychological Science*, *12*, 371–378.

Kuiper, N. A., & Martin, R. A. (1989). Type A behavior: A social cognition motivational perspective. *Psychology of Learning and Motivation*, *24*, 311–341.

Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The social connectedness and the social assurance scales. *Journal of Counseling Psychology*, *42*, 232–241.

Liu, R. T. (2016). Taxometric evidence of a dimensional latent structure for depression in an epidemiological sample of children and adolescents. *Psychological Medicine*, *46*, 1265–1275.

MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, *39*, 99–128.

Moran, G., Bailey, H. N., & DeOliveira, C. A. (2008). The roots of depression in early attachment experiences. In K. S. Dobson & D.J.A. Dozois (Eds.), *Risk factors in depression* (pp. 289–316). Elsevier/Academic Press.

Moscovitch, D. A. (2009). What is the core fear in social phobia? A new model to facilitate individualized case conceptualization and treatment. *Cognitive and Behavioral Practice*, *16*, 123–134.

O'Day, E. B., Morrison, A. S., Goldin, P. R., Gross, J. J., & Heimberg, R. G. (2019). Social anxiety, loneliness, and the moderating role of emotion regulation. *Journal of Social and Clinical Psychology*, *38*, 751–773.

Pynnönen, K., Rantanen, T., Kokko, K., Tiikkainen, P., Kallinen, M., & Törmäkangas, T. (2018). Associations between the dimensions of perceived togetherness,

loneliness, and depressive symptoms among older Finnish people. *Aging and Mental Health*, *22*, 1329–1337.

Roxborough, H. M., Hewitt, P. L., Kaldas, J., Flett, G. L., Caelian, C. M., Sherry, S., & Sherry, D. L. (2012). Perfectionistic self-presentation, socially prescribed perfectionism, and suicide in youth: A test of the Perfectionism Social Disconnection Model. *Suicide and Life-Threatening Behavior*, *42*, 217–233.

Sherry, S. B., Mackinnon, S. P., & Gautreau, C. M. (2016). Perfectionists do not play nicely with others: Expanding the Social Disconnection Model. In F. M Sirois & D. S. Molnar (Eds.), *Perfectionism, health, and well-being* (pp. 225–243). Springer.

Smith, M. M., Sherry, S. B., McLarnon, M. E., Flett, G. L., Hewitt, P. L., Saklofske, D. H., & Etherson, M. E. (2018). Why does socially prescribed perfectionism place people at risk for depression? A five-month, two-wave longitudinal study of the Perfectionism Social Disconnection Model. *Personality and Individual Differences*, *134*, 49–54.

Smith, M. M., Sherry, S. B., Rnic, K., Saklofske, D. H., Enns, M., & Gralnick, T. (2016). Are perfectionism dimensions vulnerability factors for depressive symptoms after controlling for neuroticism? A meta-analysis of 10 longitudinal studies. *European Journal of Personality*, *30*, 201–212.

Stein, M. B., Fuetsch, M., Müller, N., Höfler, M., Lieb, R., & Wittchen, H. U. (2001). Social anxiety disorder and the risk of depression: A prospective community study of adolescents and young adults. *Archives of General Psychiatry*, *58*, 251–256.

Vittengl, J. R., Clark, L. A., & Jarrett, R. B. (2010). Moderators of continuation phase cognitive therapy's effects on relapse, recurrence, remission, and recovery from depression. *Behavior Research and Therapy, 48*, 449–458.

Ward, A. M., & Ashby, J. S. (2008). Multidimensional perfectionism and the self. *Journal of College Student Psychotherapy*, *22*, 51–65.

Ware, J. E., & Sherbourne, C. D. (1992). The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. *Medical Care*, *30*, 473–483.

Wei, M., Mallinckrodt, B., Russell, D. W., & Abraham, W. T. (2004). Maladaptive perfectionism as a mediator and moderator between adult attachment and depressive mood. *Journal of Counseling Psychology*, *51*, 201–212.