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Shorter communication

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?

Edward C. Chang [a,*], Lawrence J. Sanna [b], Rita Chang [a], Marguerite R. Bodem [a]

[a] Department of Psychology, University of Michigan, 530 Church Street, Ann Arbor, MI 48109, USA
[b] Department of Psychology, University of North Carolina at Chapel Hill, USA

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ABSTRACT

An integrative model involving perfectionism [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] and loneliness as predictors of depressive and anxious symptoms was proposed and tested in 383 college students. Beyond the expected additive influences of the two predictors in the prediction of symptoms, loneliness was also hypothesized to moderate the link between perfectionism and symptoms. Results indicated that other-oriented perfectionism predicted anxious symptoms, whereas socially prescribed perfectionism predicted both depressive and anxious symptoms. Loneliness was found to add incremental validity to these predictions. Moreover, the Perfectionism × Loneliness interaction was found to further augment the prediction of depressive and anxious symptoms. These findings are taken to offer support for a more contextual model of perfectionism. Some implications of the present findings are discussed.

In recent decades, perfectionism has become an important individual-differences variable that has received considerable attention in research (Hewitt & Flett, 2002). Although different models of perfectionism exist, one of the most popular and studied models of perfectionism has been the one proposed by Hewitt and Flett (1991). According to Hewitt and Flett (1991), perfectionism is defined as a multidimensional phenomenon composed of self-oriented, other-oriented, and socially prescribed perfectionism. *Self-oriented perfectionism* refers to the tendency for an individual to set and seek high self-standards of performance. *Other-oriented perfectionism* refers to the tendency for an individual to expect that others should or will be perfect in their performance. *Socially prescribed perfectionism* refers to the tendency for an individual to believe that others expect perfection from him or her. Some of these dimensions of perfectionism have been found to be particularly associated with poor psychological adjustment (Hewitt & Flett, 1991, 1993).

Although a few studies have found that elevations on each of the three perfectionism dimensions may be associated with greater maladjustment, there is still much conflicting evidence regarding the adaptiveness or maladaptiveness of the different dimensions. Whereas socially prescribed perfectionism is generally believed to be involved in the manifestation of depressive and anxious symptoms, self-oriented perfectionism has not been consistently linked to negative outcomes in

* Corresponding author. Tel.: +1 734 647 3876; fax: +1 734 615 0573.
E-mail address: changec@umich.edu (E.C. Chang).

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research. Still, Hewitt and Flett (1991) have argued that the feelings of worthlessness and harsh self-criticism often associated with not measuring up to one's ideal expectations are likely to lead to negative emotional states or conditions such as depression or anxiety. Similar emotional consequences are expected to occur when an individual fails to measure up to the high expectations of others. Indeed, findings from recent studies have tended to support the view that elevations in socially prescribed perfectionism and, to a lesser extent, in self-oriented perfectionism are associated with greater depressive and anxious symptoms in both clinical and non-clinical populations (Shafran & Mansell, 2001). Furthermore, some studies have shown that elevations on other-oriented perfectionism may at times be associated with greater paranoia and phobic symptoms (Hewitt & Flett, 1991). Hence, expressions of self-oriented, other-oriented, and socially prescribed perfectionism have come to represent important predictors associated with maladjustment. Yet, efforts to test integrative diathesis models involving perfectionism and other theoretically important variables have only recently begun (e.g., Chang, 2002).

Is loneliness as a moderator of the link between perfectionism and psychological symptoms? Situating perfectionism in a social context

For more than half a century, researchers have been interested in studying the correlates and consequences of loneliness (Heinrich & Gullone, 2006; Weiss, 1973). Although there have been a number of different models and measures of loneliness, most researchers agree that loneliness represents a distressing situation in which one has limited social relationships and holds the perception of being isolated from others (Peplau & Perlman, 1982b). Consistent with this definition, studies have shown that loneliness is strongly associated with psychological maladjustment, including depressive symptoms (Heinrich & Gullone, 2006). For example, studies using the revised UCLA (R-UCLA) Loneliness Scale (Russell, Peplau, & Cutrona, 1980) have found loneliness to be strongly associated with greater depressive symptoms in college student populations (e.g., Jackson & Cochran, 1991; Russell et al., 1980; Wilbert & Rupert, 1986). A similar, but weaker, pattern has been found linking loneliness to greater anxious symptoms (e.g., Jackson & Cochran, 1991; Russell et al., 1980), indicating that loneliness may be a stronger predictor of depressive than anxious symptoms. Overall, similar to findings for perfectionism, loneliness appears to be an important predictor of psychological symptoms in young adults.

There is some evidence that perfectionism and loneliness commonly co-occur (Clark, Steer, Beck, & Ross, 1995; Flett, Hewitt, & De Rosa, 1996). Though the reasons for that are not yet clear, it may be that some individuals with high levels of perfectionism are so focused on achieving high standards in their goal pursuits that they may not want or cannot maintain interpersonal relationships. Thus, beyond the effect of loneliness on depressive and anxious symptoms, loneliness may have the additional effect of intensifying psychological symptoms among individuals with high scores on measures of perfectionism. That is, individuals with high levels of perfectionism and loneliness may be more likely to experience depressive and anxious symptoms compared with individuals with high levels of perfectionism but low levels of loneliness. There are a number of possible reasons for this. First, in the absence of regular social interactions with others, individuals with perfectionistic qualities who also experience a lot of loneliness may lack useful feedback regarding their potentially unrealistic aspirations. In turn, this may lead them to continue to pursue goals that are highly unrealistic and unattainable. When such individuals do not reach their goal pursuits, feelings of distress, disappointment, and depression are likely to set in (Hewitt & Flett, 1991). Second, others may perceive people with high levels of perfectionism and loneliness as reclusive or socially awkward. Consistent with an interpersonal model of depression (Coyne, 1976; Joiner, Coyne, & Blalock, 1999), it is possible that such negative perceptions by others may in turn activate a cycle of social rejection and further isolation that leaves individuals with perfectionistic qualities and high levels loneliness at risk of greater psychological maladjustment than individuals with low levels of loneliness. Third, because loneliness has also been associated with perceptions of personal powerlessness, including perceptions that people are untrustworthy (Jones, Rose, & Russell, 1990), some dimensions of perfectionism such as other-oriented perfectionism may be particularly affected by loneliness. For example, people who hold others to high standards of achievement while simultaneously not trusting them might be theoretically more likely than those who trust others to experience worry and apprehension. Finally, insofar as loneliness represents a generally undesirable situation, the mere presence of loneliness may itself generate considerable distress among most individuals with high levels of perfectionism (Peplau & Perlman, 1982a). Accordingly, beyond the value of main effects models of psychological symptoms involving perfectionism or loneliness, an integrative model which encompasses their additive as well as interactive effects may offer a more powerful framework for understanding the development of psychological symptoms. Moreover, because depression and anxiety represent separate constructs (though they are related and frequently comorbid), it may also be useful to look at separate prediction models for depressive and anxious symptoms. To date, an examination of how perfectionism and loneliness may predict depressive and anxious symptoms has yet to be examined.

Purpose of the present study

Given these concerns and possibilities, we conducted the present study to: (a) examine the relations between perfectionism, loneliness, and depressive and anxious symptoms; (b) determine if loneliness would add any incremental validity to the prediction of psychological symptoms beyond perfectionism; and (c) determine if the Perfectionism × Lone-

liness interaction would add further incremental validity to these predictions beyond main effects of perfectionism and loneliness. Consistent with previous findings looking at a measure related to perfectionism, namely, self-criticism (Besser, Flett, & Davis, 2003), we predicted that perfectionism and loneliness would be positively related to each other. Also, consistent with our expectation for additive effects, we predicted that loneliness would add significant incremental validity beyond what is accounted for by perfectionism, particularly socially prescribed perfectionism (Shafran & Mansell, 2001), in the prediction of psychological symptoms.

Lastly, we expected to find evidence for a significant Perfectionism × Loneliness interaction. In general, given that socially prescribed perfectionism has been the one dimension most consistently linked to psychological symptoms (Shafran & Mansell, 2001), we expected an interaction involving socially prescribed perfectionism and loneliness to emerge in the prediction of both depressive and anxious symptoms. However, as indicated earlier, there is some reason to also expect an interaction involving some of the other perfectionism dimensions (e.g., an interaction involving other-oriented perfectionism and loneliness in predicting anxious symptoms). Consistent with seeking evidence for moderator effects, we expected to find that loneliness will moderate the relation between perfectionism and psychological symptoms, such that the relation will be stronger at higher than at lower levels of loneliness.

Method

Participants

Three hundred and ninety-eight college students from a large public university located in the Midwest participated in the present study. All student participants were enrolled in an upper division psychology course and earned extra credit for participating. Of this initial sample, 383 (117 men and 266 women) participants completed all measures. For this subsample, ages ranged from 18 to 30 years, with a mean age of 19.65 (SD = 1.25) years. The majority of the participants were White (66.9%).

Measures

Perfectionism

The Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991) is a 45-item measure of perfectionism consisting of three theoretically distinct scales. The Self-Oriented Perfectionism (MPS-Self) scale measures for high achievement expectations and striving for perfection (e.g., "One of my goals is to be perfect in everything I do"). The Other-Oriented Perfectionism (MPS-Other) scale measures expectations of perfection from others (e.g., "If I ask someone to do something, I expect it to be done flawlessly"). Lastly, the Socially Prescribed Perfectionism (MPS-Social) scale measures concern over meeting the expectations of others (e.g., "The people around me expect me to succeed at everything I do"). Respondents are asked to rate their agreement to statements based on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores on each of the scales reflect greater levels of perfectionism. Research has shown the MPS to reflect three empirically distinguishable dimensions, have good test–retest reliabilities over a 3-month period (.88, .85, and .75 for MPS-Self, MPS-Other, and MPS-Social scales, respectively), and have construct validity with other measures of perfectionism (see Hewitt & Flett, 1991).

Loneliness

Loneliness was assessed by the revised UCLA Loneliness Scale (R-UCLA; Russell et al., 1980). The scale consists of 20 items, half of which describe non-lonely thoughts (e.g., "There are people I feel close to"), while the other half characterizes feelings of loneliness (e.g., "I feel isolated from others"). Participants rate the statements on the frequency with which they experience these feelings using a 4-point Likert-type scale, ranging from 1 (*never*) to 4 (*often*). Higher overall scores on the scale typically indicate greater levels of loneliness. Research has shown the UCLA scale to have good test–retest reliability over a 12-month period (.73), and have construct validity with other measures of loneliness (see Russell, 1996).

Depressive symptoms

Depressive symptoms were assessed by the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The BDI is a commonly used 21-item self-report measure of depressive symptomatology. Respondents are asked to rate the extent to which they have experienced specific depressive symptoms in the past week, across a 4-point Likert-type scale (for example, "0 = *I do not feel sad*" to "3 = *I am so sad or unhappy that I can't stand it*"). Higher scores generally indicate more severe levels of depressive symptomatology or dysphoria in non-clinical samples. Research has shown the BDI to have good test–retest reliability over a 4-month period (.62) and have construct validity with other measures of depressive symptoms (see Beck, Steer, & Garbin, 1988).

Anxious symptoms

Anxious symptoms were assessed by the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988). The BAI is a 21-item self-report measure consisting of common symptoms of anxiety (e.g., "Fear of the worst happening"). Participants

rate the extent to which they have experienced each symptom over the past week using a 4-point Likert-type scale ranging from 0 (*not at all*) to 3 (*severely*). Higher scores generally indicate more severe levels of anxious symptomatology. Research has shown the BAI to have good test–retest reliability over a 1-week period (.75) and have construct validity with other measures of anxious symptoms (see Beck et al., 1988).

Procedure

Participants completed all measures during a large mass testing session. Participants were not made aware of the purpose of the study until after they had completed all measures. All participants signed separate consent forms that indicated that all test data would be kept strictly confidential.

Results

Results of a multivariate analysis of variance indicated that there were no significant multivariate sex differences between men and women on the present study measures, Λ (6, 377) = .98. Therefore, all analyses are based on collapsing across sex.

Relations between perfectionism, loneliness, and depressive and anxious symptoms

Correlations, means, standard deviations, and internal consistencies for all study measures are presented in Table 1. As seen in the table, scores on the three MPS scales were significantly and positively intercorrelated with each other. However, only scores on the MPS-Social scale were positively correlated with R-UCLA, BDI, and BAI scores. Additionally, although scores on the MPS-Other scale were not associated with greater R-UCLA and BDI scores, they were positively correlated with BAI scores. Furthermore, R-UCLA scores were positively correlated with BDI and BAI scores. As expected, the association between R-UCLA and BDI scores ($r = .59$) was significantly greater than the association between R-UCLA and BAI scores ($r = .36$), $t(380) = 6.76$, $p < .01$. Finally, although BDI and BAI scores were positively correlated ($r = .66$), the magnitude of the association indicated that they shared less than 44% of common variance.

Perfectionism and loneliness as predictors of depressive and anxious symptoms

To first examine the predictive utility of each of the dimensions of perfectionism (as measured by the MPS scales) and loneliness (as measured by the R-UCLA) in accounting for variance in depressive symptoms, we conducted a series of hierarchical regression analyses. For each of three equations, scores from one of the MPS scales were entered as the first step, followed by R-UCLA scores in the second step. Finally, to test for a Perfectionism × Loneliness interaction consistent with our model, the multiplicative term was entered in the final step of the equation. Results of these analyses for predicting unique variance in depressive symptoms are presented in Table 2. As this table shows, scores only on MPS-Social were found to account for a significant 7% of the variance in depressive symptoms. Moreover, even after partialing out the variance accounted for by socially prescribed perfectionism, loneliness was found to account for a large and significant amount of additional variance in depressive symptoms ($\Delta R^2 = 28\%$). Finally, it is worth noting that the interaction terms involving MPS-Self × R-UCLA and MPS-Social × R-UCLA were both found to add significant incremental validity in predicting depressive symptoms ($\Delta R^2 = 1\%$ and 3%, respectively).

To visually inspect the manner in which perfectionism and loneliness interacted with each other in predicting depressive symptoms, we plotted the regression of depressive symptoms on each dimension of perfectionism at low and high levels (1 SD below and above the mean, respectively) of loneliness based on our initial regression results. Results of

Table 1
Correlations between measures of perfectionism, loneliness, and depressive and anxious symptoms

Measures	1	2	3	4	5	6
1. Self-oriented perfectionism	–					
2. Other-oriented perfectionism	.43*	–				
3. Socially prescribed perfectionism	.49*	.34*	–			
4. Loneliness	−.01	.00	.31*	–		
5. Depressive symptoms	.05	.04	.27*	.59*	–	
6. Anxious symptoms	.09	.19*	.27*	.36*	.66*	–
M	74.96	60.37	55.20	34.47	4.44	7.64
SD	14.34	10.21	10.86	11.18	6.20	8.83
α	.82	.74	.88	.92	.91	.89

* $p < .001$.

Table 2
Hierarchical regression analyses showing amount of variance accounted for in depressive symptoms by perfectionism, loneliness, and the Perfectionism × Loneliness interaction

Adjustment	*B*	*β*	R^2	ΔR^2	*F*(1, 381)
Depressive symptoms					
Step 1					
MPS-Self	.02	.05	.00	–	.96
Step 2					
UCLA-R	.33	.59**	.35	.34	199.60**
Step 3					
MPS-self × UCLA-R	.01	.60*	.36	.01	7.26*
Step 1					
MPS-Other	.02	.04	.00	–	.52
Step 2					
UCLA-R	.32	.59**	.34	.34	198.81**
Step 3					
MPS-Other × UCLA-R	.00	.16	.35	.00	.29
Step 1					
MPS-Social	.15	.27**	.07	—	29.21**
Step 2					
UCLA-R	.31	.56**	.35	.28	163.97**
Step 3					
MPS-Social × UCLA-R	.01	1.15**	.38	.03	16.87**

Notes: MPS-Self = Multidimensional Perfectionism Scale—Self-Oriented Scale; MPS-Other = Multidimensional Perfectionism Scale—Other-Oriented Scale; MPS-Social = Multidimensional Perfectionism Scale—Socially Prescribed Scale; R-UCLA = Revised UCLA Loneliness Scale.
* $p < .01$.
** $p < .001$.

Fig. 1. Relationship of self-oriented perfectionism with depressive symptoms at high and low levels of loneliness ($n = 383$).

plotting these interactions were consistent with our hypotheses. Specifically, the presence of high compared to low loneliness appeared to increase the positive association present between self-oriented perfectionism and depressive symptoms (Fig. 1). Similarly, the presence of high compared to low loneliness again appeared to increase the positive association present between socially prescribed perfectionism and depressive symptoms (Fig. 2).

Next, to examine the predictive utility of each of the dimensions of perfectionism and loneliness in accounting for variance in anxious symptoms, we conducted another series of hierarchical regression analyses. Results of these analyses for predicting unique variance in anxious symptoms are presented in Table 3. As this table shows, scores on both MPS-Other and MPS-Social were found to account for a significant 4% and 7% of the variance, respectively, in anxious symptoms. Moreover, even after partialing out the variance accounted for by other-oriented and socially prescribed perfectionism, loneliness was found to account for a large and significant amount of additional variance in anxious symptoms ($\Delta R^2 = 13\%$ and 8%, respectively). Finally, it is worth noting that the interaction terms involving MPS-Other × R-UCLA and MPS-Social × R-UCLA were both found to add significant incremental validity in predicting anxious symptoms ($\Delta R^2 = 1\%$ and 2%, respectively).

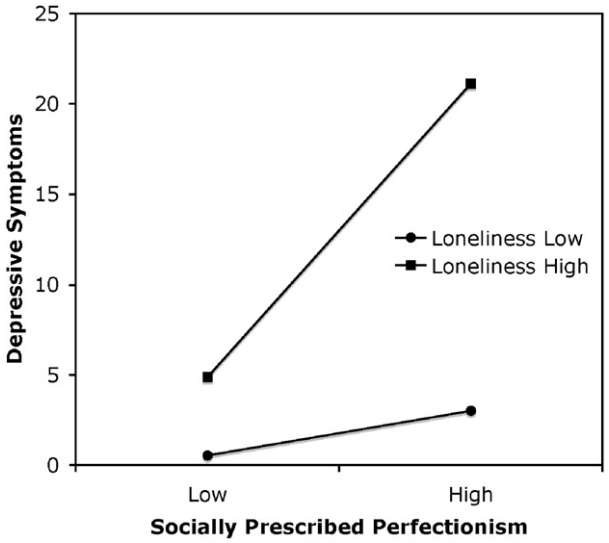

Fig. 2. Relationship of socially prescribed perfectionism with depressive symptoms at high and low levels of loneliness ($n = 383$).

Table 3
Hierarchical regression analyses showing amount of variance accounted for in anxious symptoms by perfectionism, loneliness, and the Perfectionism × Loneliness interaction

Adjustment	*B*	*β*	R^2	ΔR^2	$F(1, 381)$
Anxious symptoms					
Step 1					
MPS-Self	.06	.09	.01	–	3.12
Step 2					
UCLA-R	.28	.36**	.14	.13	56.39***
Step 3					
MPS-Self × UCLA-R	.00	.04	.14	.00	.02
Step 1					
MPS-Other	.17	.19**	.04	–	14.78***
Step 2					
UCLA-R	.28	.36**	.16	.13	57.89***
Step 3					
MPS-Other × UCLA-R	.01	.79**	.18	.01	5.80*
Step 1					
MPS-Social	.22	.27**	.07	–	29.03***
Step 2					
UCLA-R	.24	.30**	.15	.08	37.59***
Step 3					
MPS-Social × UCLA-R	.01	1.03**	.17	.02	10.12**

Notes: MPS-Self = Multidimensional Perfectionism Scale–Self-Oriented Scale; MPS-Other = Multidimensional Perfectionism Scale–Other-Oriented Scale; MPS-Social = Multidimensional Perfectionism Scale–Socially Prescribed Scale; R-UCLA = Revised UCLA Loneliness Scale.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

Again, to visually inspect the manner in which perfectionism and loneliness interacted with each other in predicting anxious symptoms, we plotted the regression of anxious symptoms on each dimension of perfectionism at low and high levels of loneliness. Results of plotting these interactions were again consistent with our hypotheses. Specifically, the presence of high compared to low loneliness appeared to increase the positive association present between other-oriented perfectionism and anxious symptoms (Fig. 3). Similarly, the presence of high compared to low loneliness again appeared to increase the positive association present between socially prescribed perfectionism and anxious symptoms (Fig. 4).

Discussion

The purpose of the present study was to examine the value of an integrative model that included perfectionism and loneliness as predictors of depressive and anxious symptoms. Consistent with previous findings looking at other variables

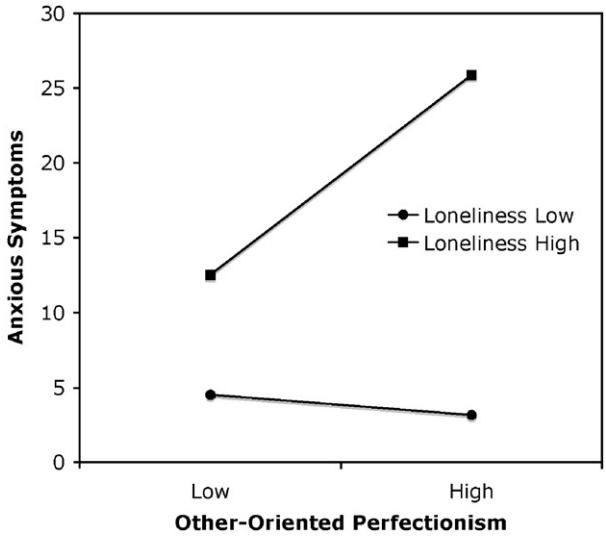

Fig. 3. Relationship of other-oriented perfectionism with anxious symptoms at high and low levels of loneliness ($n = 383$).

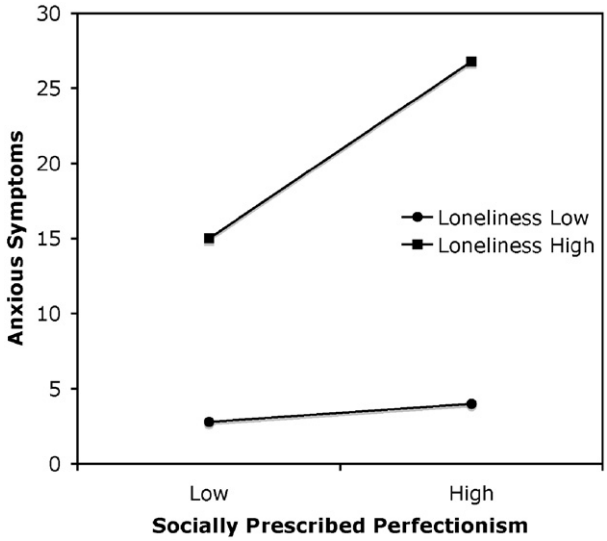

Fig. 4. Relationship of socially prescribed perfectionism with anxious symptoms at high and low levels of loneliness ($n = 383$).

associated with perfectionism, namely, self-criticism (Besser et al., 2003), the present correlational results indicated that perfectionism, specifically socially prescribed perfectionism, was significantly related to greater loneliness. Although it is not clear why only this dimension of perfectionism was found to be related to loneliness, it is worth recalling that it is this specific dimension (as measured by the MPS) that has most consistently emerged as a correlate of maladjustment and dysfunction in past research (Shafran & Mansell, 2001). With regard to additive effects, we again found support for the role of specific dimensions of perfectionism in predicting variance in depressive and anxious symptoms. Specifically, other-oriented perfectionism was found to predict a significant amount of variance in anxious symptoms. Only socially prescribed perfectionism was found to predict a significant amount of variance in both depressive and anxious symptoms. In contrast, loneliness was found to augment each of the prediction models. As expected, loneliness was found to be a stronger predictor of depressive symptoms than anxious symptoms (Russell et al., 1980). Specifically, loneliness was found to account for a significant 28–34% of additional variance in depressive symptoms, and for a significant 8–13% of additional variance in anxious symptoms.

Importantly, consistent with the present framework of situating perfectionism in a social context, we found evidence for interaction effects. Specifically, after controlling for the variance accounted for by both perfectionism and loneliness, the Perfectionism × Loneliness term was found to account for a significant 1–3% of additional variance in depressive symptoms, and for a significant 1–2% of additional variance in anxious symptoms. In predicting depressive symptoms, self-oriented and socially prescribed perfectionism were found to interact with loneliness, whereas other-oriented and socially

prescribed perfectionism were found to interact in predicting anxious symptoms. That is, for both self-oriented and socially prescribed perfectionism, high compared with low loneliness had a stronger positive association with those perfectionism dimensions and depressive symptoms. Likewise, for both other-oriented and socially prescribed perfectionism, high compared with low loneliness had a stronger positive association with those perfectionism dimensions and anxious symptoms. Taken together, the findings point to the potential value of considering the interplay between perfectionism, especially socially prescribed perfectionism, and loneliness in formulating prediction models of depressive and anxious symptoms.

An interpersonal model of socially prescribed perfectionism and psychological symptoms: some implications for research and practice

Given the present findings, it appears that although different dimensions of perfectionism may involve significant positive associations with depressive and anxious symptoms, the presence (vs. absence) of loneliness functions to strengthen these maladaptive associations. This pattern was found to be particularly true for socially prescribed perfection. Accordingly, we focus our discussion on socially prescribed perfectionism.

In keeping with our earlier discussion, we believe that loneliness may moderate the link between socially prescribed perfectionism and psychological symptoms in a number of different ways. First, individuals with high scores on both loneliness and socially prescribed perfectionism may lack feedback from others to help them determine whether or not their pursuit of goals based on the perceived high expectations of others is realistic or unrealistic. As a result, they may engage in unproductive goal pursuits that generate greater distress and dysfunction. Second, those individuals may be viewed by demanding others as reclusive or socially awkward. In turn, this may cause others to treat those individuals with less flexibility and tolerance for mistakes, and also make them easier targets for negative performance feedback. Third, individuals with high scores on loneliness and socially prescribed perfectionism may become distressed by the perception that they remain interpersonally isolated despite their best efforts to meet the high expectations of others. This, in turn, may lead those individuals to begin and engage in a self-critical ruminative process that leads to the development and maintenance of depression and other negative affective conditions (Nolen-Hoeksema, 2000).

Other possibilities involve social anxiety and social competence. First, it is possible that loneliness and socially prescribed perfectionism are related because individuals who have high levels of socially prescribed perfectionism experience a great deal of social anxiety, which leads to feelings of loneliness. Such individuals may feel anxious in social situations or avoid them altogether because they think that others will reject them should they fail to meet certain high standards. As a result, they have trouble forming relationships and experience loneliness. Consistent with that theory, some researchers have shown that social anxiety predicts loneliness (Johnson, LaVoie, Mahoney, 2001; London, Downey, Bonica, & Paltin, 2007; Stednitz & Epkins, 2006). Alternatively, individuals who experience a lot of loneliness may believe that achieving ‘‘perfection’’ will make them more desirable to others and accordingly perceive perfectionistic standards as a societal demand. Finally, individuals who have less developed social skills may misinterpret others’ requests as demands for perfection, and the misinterpretation may lead to avoidance behavior that then leads to loneliness. Given those possibilities, it would be important in future studies to identify the specific process by which the presence of loneliness leads to greater psychological symptoms among people high on socially prescribed perfectionism.

The present preliminary findings also point to the potential value for practitioners working with clients with perfectionistic qualities to not only consider activities that modify perfectionistic tendencies (Ferguson & Rodway, 1994), but perhaps more importantly to consider interventions that specifically assess for and target perceptions of loneliness. In that regard, cognitive-behavioral techniques have been shown to be effective in the treatment of both anxiety and depression (Dobson, 2001). For example, cognitive restructuring techniques may involve using clients to appreciate some of the benefits of being alone (vs. being lonely; Suedfeld, 1982). In addition, behavioral interventions, including social skills training, may focus on helping lonely clients learn specific strategies to increase the frequency of experiencing positive social events in their lives (Rook & Peplau, 1982). In that regard, social problem-solving training (D’Zurilla & Nezu, 1999) may be particularly promising in that the presence of high compared to low social problem-solving ability has been found to buffer the negative influence of perfectionism on psychological adjustment in adults (Chang, 2002).

Limitations of this study

Although the present findings provide promising empirical support for our integrative model involving perfectionism and loneliness as additive and interactive factors, several important limitations to the present study must be noted. First, given the cross-section nature of the present study, cause and effect cannot be determined. It is possible that psychological symptoms may lead to the development of loneliness, maladaptive perfectionism, or both. For example, a depressed individual may cause negative perceptions and reactions in others, which lead to lesser social support and greater loneliness for the individual (Coyne, 1976). Second, it would be helpful to evaluate the usefulness of this model in a clinical sample. Although we would generally hold the same or similar set of predictions for determining depressive and anxious

symptoms in a clinical sample, the strength of the additive and interactive effects of perfectionism and loneliness on depressive and anxious symptoms may be quite different from what was found in the present sample. Third, given that the present sample was predominantly Caucasian and that, for example, Asians have been found to report greater perfectionistic tendencies than Caucasians (Chang, 1998), it would be important to determine the extent to which ethnic or racial differences may further moderate the strength and influence of perfectionism (and loneliness) on depressive and anxious symptoms. Lastly, given that other popular measures of maladaptive perfectionism exist (viz., Frost MPS; Frost, Marten, Lahart, & Rosenblate, 1990) and that recent studies have even provided some evidence for models and measures that assess both adaptive and maladaptive dimensions of perfectionism (e.g., Chang, 2006; Slaney, Rice, Mobley, & Trippi, 2001; Terry-Short, Owens, Slade, & Dewey, 1995), it would be important in future studies to determine the generalizability of the present findings when other models and measures of perfectionism are considered. For example, findings from some studies seem to suggest that the association between socially prescribed perfectionism and maladjustment disappears after controlling for the Frost MPS or self-criticism. Future studies can determine whether socially prescribed perfectionism is a useful predictor in itself or whether it is confounded by other factors.

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