

PERSONALITY PREDISPOSITIONS IN CHINESE ADOLESCENTS: THE RELATION BETWEEN SELF-CRITICISM, DEPENDENCY, AND PROSPECTIVE INTERNALIZING SYMPTOMS

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The present study examined the prospective relation between two personality predispositions, self-criticism and dependency, and internalizing symptoms. Specifically, it was examined whether self-criticism and dependency predicted symptoms of depression and social anxiety, and if a moderation (e.g. diathesis-stress) or mediation model best explained the relation between the personality predispositions and emotional distress in Chinese adolescents. Participants included 1,150 adolescents (597 females and 553 males) from mainland China. Participants completed self-report measures of self-criticism, dependency, and neuroticism at baseline, and self-report measures of negative events, depressive symptoms, and social anxiety symptoms once a month for six months. Findings showed that self-criticism predicted depressive symptoms, while dependency predicted social anxiety symptoms. In addition, support was found for a mediation model, as op-

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posed to a moderation model, with achievement stressors mediating the relation between self-criticism and depressive symptoms. Overall, these findings highlight new developmental pathways for the development of depression and social anxiety symptoms in mainland Chinese adolescents. Implications for cross-cultural developmental psychopathology research are discussed.

Similar to the United States (Avenevoli, Knight, Kessler, & Merikangas, 2008), adolescence has emerged as a sensitive period for the onset and maintenance of depressive symptoms in mainland China (Tepper et al., 2008). For example, a recent study showed that close to half (44.3%) of adolescents throughout China reported experiencing depressive symptoms within the past week (Sun, Tao, Hao, & Wan, 2010). However, despite this disturbing trend, a paucity of research exists on the underlying factors which may contribute to the development of psychopathology among this population (Bush, 2003). As convincing evidence for the existence of distinct, stable, and global personality characteristics in youth accumulates (Tackett, 2006; Wetter & Hankin, 2009), a promising area of exploration is to examine the effects of personality constructs in the development and maintenance of internalizing symptoms in mainland Chinese adolescents. This research may allow researchers to better understand which Chinese youth are most at-risk for developing emotional distress.

Two personality constructs that have gained increased attention as vulnerabilities to depressive symptoms in youth are dependency and self-criticism (Abela, Sakellaropoulo, & Taxel, 2007; Abela & Taylor, 2003; Adams, Abela, Auerbach, & Skitch, 2009; Shahar, Blatt, Zuroff, Kuperminc, & Leadbeater, 2004). According to Blatt and Zuroff (1992) the two personality predispositions explain why some individuals are more likely than others to develop depression. Specifically, individuals high in self-criticism are preoccupied with achievement goals, and are especially susceptible to depression when they feel they are unable to meet high standards set by themselves and/or others. On the other hand, individuals high in dependency are preoccupied with interpersonal goals, and are at heightened risk for depression following interpersonal conflict, loss, or social rejection. Blatt and Zuroff's (1992) theory of personality predispositions is similar to interpersonal (Areti & Bemporad, 1980) and cognitive (Beck, 1983) theories of depression which also have interpersonal and achievement personality constructs.

A majority of past research concerning dependency and self-criticism has focused on adult populations (Blaney & Kutcher, 1991; Santor & Patterson, 2004). However, because Blatt and Zuroff's (1992) theory postulates that self-criticism and dependency develop early in life (Blatt, 1974), a growing body of research has examined the theory in younger populations as well. For instance, Adams and colleagues (2009) found that both dependency and self-criticism represented vulnerabilities to prospective depressive symptoms in at-risk youth. The majority of studies, however, only found support for self-criticism as a vulnerability factor (Abela et al., 2007; Abela & Taylor, 2003; Shahar et al., 2004) suggesting that this personality predisposition may be especially problematic during adolescence. This is consistent with Nietzel and Harris's (1990) meta-analysis on the personality predispositions which also suggested that self-criticism represented a unique vulnerability to depression.

Despite an extensive corpus of research in North American populations, Blatt and Zuroff's (1992) theory has received little attention in Southeast Asia. Because past research suggests that self-critical processes may not be as deleterious in a Southeast Asian cultural group (Heine, Lehman, Markus, & Kitayama, 1999) and interdependence (feeling communion and affiliation; Markus & Kitayama, 1998) is a key feature of these cultural groups, there is reason to believe that findings concerning self-criticism and dependency may differ in this part of the world. To date, one study has examined these personality predispositions in a Southeast Asian sample. In a University sample in mainland China, Yao, Fang, Zhu, and Zuroff (2008) tested the presence of self-criticism and dependency and its association with depressive symptoms. Compared to a North American sample, similar levels of the personality predispositions were found and both correlated with depressive scores six months later.

The present study built upon this initial investigation (Yao et al., 2008) and examined the longitudinal association between the personality predispositions and internalizing symptoms in Chinese adolescents. We also extended the findings of Yao and colleagues (2008) by incorporating several suggestions and limitations noted in prior reviews of the personality predispositions literature (e.g., Coyne & Whiffen, 1995; Zuroff, Mongrain, & Santor, 2004). For instance, because of the moderate levels of correlation between self-criticism and dependency, both personality predispositions were assessed and examined simultaneously in the present study. In addition, as some have questioned whether the influence of self-criti-

cism and dependency can simply be explained by neuroticism (Ouiquette & Klein, 1993), we accounted for neuroticism in our study design and analyses to demonstrate etiological specificity.

The present study's use of a short-term prospective design, also allowed us to extend findings on the personality predispositions by testing competing hypotheses for how self-criticism and dependency may lead to emotional distress. Recent research emphasized the need for developmental psychopathologists to test both moderation and mediation models to better understand the mechanisms through which negative events exert an influence (Eberhart, Auerbach, Bigda-Peytwon, & Abela, 2011). The majority of past dependency and self-criticism studies examined a diathesis-stress (moderation) model in which dependency/self-criticism either interacted with a specific stressor (the specific vulnerability hypothesis; Abela & Taylor, 2003; Hammen & Goodman-Brown, 1990) or general negative events (the general vulnerability hypothesis; Abela, Webb, Ho, Wagner, & Adams, 2006; Adams et al., 2009; Shahar et al., 2004) to predict depressive symptoms in North American adolescent samples. Meanwhile, a smaller body of research has found that a mediation model may best explain the relation between the personality predispositions and emotional distress (Priel & Shahar, 2000; Shahar et al., 2004). Thus, as support has been found for both of these developmental models, it is important to test which one best explains the relation between the personality predispositions and emotional distress in Chinese adolescents.

Finally, the present study also sought to prospectively examine associations among self-criticism, dependency, and social anxiety symptoms. Past research has suggested that the personality predispositions, specifically self-criticism, may not be a unique predictor of depression alone. For instance, two cross-sectional examinations found elevated levels of self-criticism, but not dependency, in patients with social anxiety (Cox, Fleet, & Stein, 2004; Cox et al., 2000), and a third treatment study found that decreases in self-criticism were related to the attenuation of symptoms of social anxiety (Cox, Walker, Enns, & Karpinski, 2002). Thus, it seems that self-criticism may be implicated in the onset and maintenance of social anxiety symptoms as well as depression in North American samples.

However, past research has suggested that social anxiety may have different risk factors in Southeast Asian cultural groups compared to North American/Western European cultural groups. For instance, past research has suggested that *Taijin Kyofusho* may rep-

resent a “culture bound” form of social anxiety which is unique to Asian cultural groups where individuals have fears over offending others within their social networks (Kirmayer, 1991; Nakamura, Kitanishi, Miyake, Hashimoto, & Kubota, 2002). This is different from other cultural groups where the development of social anxiety is believed to be rooted in fears of outing oneself as a failure (Clark & Wells, 1995). Because of these culturally distinct cognitions, different risk factors may exist for the development of social anxiety.

The present research investigated how self-criticism and dependency related to internalizing symptoms in mainland Chinese adolescents. We hypothesized that consistent with North American adolescents (Abela et al., 2007; Abela & Taylor, 2003; Shahar et al., 2004) self-criticism would emerge as a vulnerability factor for depressive symptoms in the present study. On the contrary, dependency, as opposed to self-criticism, was predicted to be associated with prospective social anxiety symptoms in Chinese adolescents because in Asian cultural groups the disorder is associated with fears of letting others down (Nakamura et al., 2002).

METHODS

PARTICIPANTS

The participants in the current study were 558 adolescents (310 females and 248 males) from an urban school in Changsha, and 592 adolescents (287 females and 305 males) from a rural school in Liuyang, both in Hunan province located in mainland China. These cities were chosen as previous research found differences regarding internalizing symptoms between urban and rural sites in mainland China (Fan, Zhang, Yang, Mo, & Liu, 2011; Yip, Callanan, & Yuen, 2000). The final sample consisted of 1,150 adolescents ranging in age from 14 to 19 ($M = 16.26$) years. Lastly, the sample was 99.2% Han, the predominant ethnic group in China, and 0.8% ethnic minority. Schools were compensated for their participation.

PROCEDURE

The present study was part of a larger multi-site research project conducted in mainland China (see Abela et al., 2011; Cohen et al.,

2012, for further details concerning other assessments used in the study). Written consent was obtained from parents and adolescents prior to the start of the study. After consent forms were collected, researchers went to each school to meet with students. During the initial assessment, students completed the following questionnaires: (1) the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), (2) the Multidimensional Anxiety Scale for Children (March, 1997), (3) the Adolescent Life Event Questionnaire (ALEQ; Hankin & Abramson, 2002), (4) the Depressive Experiences Questionnaire for Adolescents (DEQ-A; Fichman, Koestner, & Zuroff, 1994), and (5) the Five Factor Inventory-Neuroticism Subscale (FFI-N; Costa & McCrae, 1992). The second phase of the study consisted of 6 follow-up assessments, occurring every month for the subsequent 6 months. At each follow-up, a research assistant returned to the school and administered the CES-D, MASC, and ALEQ to the adolescent. Following the adolescents' participation in the study, the participants were fully debriefed, but no compensation was given.

MEASURES

The Chinese version of measures were developed using the back-translation method (Brislin, 1986; Pena, 2007). First, the original English versions were translated into Chinese by a bilingual translator from Second Xiangya Hospital. Afterwards, the Chinese version was back-translated into English by another bilingual translator. When inconsistencies emerged in the back-translation, translators worked to make the appropriate corrections to the final Chinese versions. No items were removed or significantly altered during translation. Finally, all measures have been utilized in past studies which took place in China (Auerbach, Abela, Zhu, & Yao, 2007; Yang, Soong, Kuo, Chang, & Chen, 2004; Yao et al., 2008).

Center for Epidemiological Studies Depression Scale. The Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item measure designed to assess depressive symptoms in the general population. Each item consists of a symptom. Participants indicate on a scale of 0 (rarely) to 3 (most of the time) how often they experienced each symptom in the past week. Total scores range from 0–60, with higher scores indicating higher levels of depressive

symptoms. Example items from the CES-D are "I felt sad" and "I was bothered by things that don't usually bother me." The Chinese version of the CES-D exhibits a high degree of reliability and validity (Yang et al., 2004). In the current study, the Cronbach alphas at each time point ranged between 0.91 and 0.95, demonstrating a high level of internal reliability.

The Multidimensional Anxiety Scale for Children-Social Anxiety Subscale. The Multidimensional Anxiety Scale for Children-Social Anxiety Subscale (MASC-SA; March, 1997) is a 39-item scale that assesses a broad range of anxious symptoms. Participants rate on a four-point Likert scale ranging from 0 (never applies to me) to 3 (often applies to me) how much a statement applies to them. For the present study, only the social anxiety subscale was included (MASC-SA; 9 items). An example item from this subscale includes "I'm afraid other people will make fun of me." Possible scores range between 0 and 27 on this subscale. Past research demonstrated high levels of reliability and validity with the Chinese version of the social anxiety subscale of the MASC (Yao et al., 2007). For the present study Cronbach alphas for baseline and follow-up assessments ranged between 0.82 and 0.91.

Adolescent Life Event Questionnaire. The Adolescent Life Event Questionnaire (ALEQ; Hankin & Abramson, 2002) is a 57-item measure which was designed to assess a broad range of negative events which may occur in an adolescent's life. Examples of such stressors include school/achievement problems, friendship and romantic difficulties, and family problems. Participants were asked to indicate on a Likert scale ranging from A (Never) to E (Always) whether these events had occurred to them over the past 3 months. Example items from the ALEQ are "I got a bad report card" and "I had an argument with a close friend." Past research has found the ALEQ to be a reliable and valid measure when used with Chinese adolescents (Auerbach et al., 2007; Yao et al., 2008). In order to test the specific-stress vulnerability hypothesis (Blatt & Zuroff, 1992) the measure was split into achievement and interpersonal subscales (Hankin, Stone, & Wright, 2010). In total, there were 39 interpersonal items and 9 achievement items.

Five Factor Inventory-Neuroticism Subscale. The Five Factor Inventory-Neuroticism Subscale (FFI-N; Costa & McCrae, 1992) is a self-report measure that assesses neuroticism by rating each of the 12 items on a scale of 0-4. Total scores on this subscale range from 0 to

48 with higher scores reflecting higher levels of neuroticism. An example item from this scale is "I often feel helpless and want others to solve my problems." The present study found moderate internal reliability for the measure ($\alpha = .62$). Past research supports that the FFI-N is reliable across different cultural samples and item pools (Costa & McCrae, 1992), including mainland China (Auerbach et al., 2007).

Depressive Experiences Questionnaire for Adolescents. The Depressive Experiences Questionnaire for Adolescents (DEQ-A; Fichman et al., 1994) is a 20-item self-report questionnaire that taps into a broad array of beliefs about the self and others. The measure consists of selected items from the original 66-item DEQ measure (Blatt, D'Afflitti, & Quinlan, 1976) and worded for adolescents. The measure consists of both dependency and self-criticism subscales. An item from the dependency subscale is, "Often I feel I have disappointed others." Meanwhile, an example item from the self-criticism subscale is "I set goals at a very high level." Each item is rated on a Likert scale from 1 (strongly disagree) to 7 (strongly agree). Total scores on the measure range from 20 to 140, with higher scores representing higher levels of the personality predisposition. Past research has demonstrated that the DEQ-A has strong reliability and validity (Fichman et al., 1994). Although the shortened adolescent version has not previously been used in a Chinese sample, the full version has demonstrated similar reliability and validity to North American samples for the self-criticism and dependency subscales (Yao et al., 2008). The present study found moderate internal consistency for the self-criticism ($\alpha = 0.66$) and dependency subscales ($\alpha = 0.63$). These coefficient alphas are similar to what other studies have found among North American adolescent populations (Adams et al., 2009; Fichman et al., 1994).

DESCRIPTION OF DATA ANALYSIS

To test our hypotheses concerning personality predispositions, negative events, and internalizing symptoms we used multilevel modeling. Specifically, we used SAS (version 9.1) MIXED procedure and maximum likelihood with within-subject elevations in depressive symptoms (Depression; scores on the CES-D) and social anxiety symptoms (Social Anxiety; scores on the MASC-SA) dur-

ing the follow-up interval representing the dependent variable, and Dependency (scores on the DEQ-DEP), Self-Criticism (scores on the DEQ-SC), and negative events during the follow-up (scores on the ALEQ) as the predictor variables. For the general stress hypotheses, the negative event variable was comprised of all items on the ALEQ (General NE), while for the specific stress hypotheses the negative event construct was represented by two variables: interpersonal negative events (Interpersonal NE) and achievement negative events (Achievement NE). As Dependency and Self-Criticism were between-subject predictors, these scores were standardized prior to analyses to increase the interpretability of various parameters in our models (Muller, Judd, & Yzerbyt, 2005). However, because NE is a within-subject predictor, these scores were centered at each participant's mean before analyses. Therefore, NE reflects increases or decreases in one's own average level of negative events. In addition, all analyses included Neuroticism (scores on the FFIN) to examine whether findings were unique to Self-criticism and/or Dependency.¹ Finally, all analyses were run in a time-lagged fashion, such that we accounted for symptoms at time $n-1$ when predicting symptoms at time n . Likewise, for all mediation and moderation hypotheses we tested whether negative events at time $n-1$ predicted prospective changes in symptoms from time $n-1$ to time n across each successive wave of the multi-wave follow-up.

Because of the high rates of comorbidity between internalizing symptoms (Angold, Costello, & Erklani, 1999), it is important to account for anxiety symptoms when utilizing depressive symptoms as an outcome, and depressive symptoms when using anxiety symptoms as an outcome. At the same time, automatically controlling for comorbid symptoms may lead to misleading findings because the constructs are so highly related (Miller & Chapman, 2001). Therefore, models for depressive and anxiety symptoms were initially tested independently, and if significant, analyses were conducted that included the comorbid symptoms. As we believe controlling

1. Furthermore, the authors tested whether there was etiological specificity for dependency and self-criticism compared to other vulnerabilities for emotional distress which have previously been examined in this sample. Specifically, hopelessness and dysfunctional attitudes (Abela et al., 2011) and negative attachment cognitions (Cohen et al., 2012) were included in separate, supplementary analyses with self-criticism and dependency to provide a more rigorous test of our hypotheses. Of importance, a similar pattern of findings for both self-criticism and dependency reported below emerged when including these additional constructs. Please contact the first author for specific details of these analyses.

TABLE 1. Means and Standard Deviations for Baseline Measures

Measures	Mean	SD	N
CES-D	12.99	8.97	1133
MASC-SA	14.40	5.29	1142
Self-Criticism	38.95	6.56	1142
Dependency	44.73	8.33	1142
Neuroticism	33.95	7.64	1125
General NE	117.13	25.40	1134
Interpersonal NE	74.25	17.12	1134
Achievement NE	23.04	5.56	1134

Note: CES-D = Time 1 scores on the Center for Epidemiological Studies Depression Scale; MASC-SA = Time 1 scores on the MASC, social anxiety subscale; Self-Criticism = Time 1 scores on the Depression Experiences Questionnaire, self-criticism subscale; Dependency = Time 1 scores on the Depression Experiences Questionnaire, dependency subscale; Neuroticism = Time 1 scores on the Five Factor Inventory, neuroticism subscale; General NE = Time 1 scores on the Adolescent Life Events Questionnaire (ALEQ), total score; Interpersonal NE = Time 1 scores on the ALEQ, interpersonal subscale; Achievement NE = Time 1 scores on the ALEQ, achievement subscale.

for comorbid symptoms is the more stringent of the two models, all statistics reported in the manuscript accounted for comorbid symptoms.

Consistent with a model for analysis proposed by Molenberghs and Verbeke (2005), analyses included a random effect for intercept to account for individual variability in the average level of stress, and a random effect for slope to account for individual variability in the amount of symptoms one experiences in the presence of negative events. In addition, because of the large sample used for the present study, only findings with a p value equal to or less than .01 were considered significant.

RESULTS

DESCRIPTIVE STATISTICS

Means and standard deviations for all Time 1 measures are presented in Table 1, while intercorrelations between these measures are reported in Table 2. Additionally, means and standard deviations for the CES-D, MASC-SA, and ALEQ from the six follow-up assessments are presented in Table 3. Preliminary regression analyses found that girls experience more depressive symptoms, $t(1148) = -2.89, p < .01$, and social anxiety symptoms, $t(1148) = -7.10, p < .01$, compared to boys. Meanwhile, regression analyses showed that ur-

TABLE 2. Intercorrelations Between Baseline Measures

	1	2	3	4	5	6	7	8	9	10
1) CES-D	-									
2) MASC-SA	.55**	-								
3) Self-Criticism	.39**	.34**	-							
4) Dependency	.37**	.40**	.42**	-						
5) Neuroticism	.61**	.54**	.37**	.39**	-					
6) General NE	.43**	.35**	.28**	.28**	.48**	-				
7) Interpersonal NE	.39**	.33**	.23**	.26**	.44**	.96**	-			
8) Achievement NE	.41**	.32**	.26**	.24**	.43**	.74**	.57**	-		
9) Site	-.08**	.00	.01	-.07**	.04	.03	.03	-.08**	-	
10) Sex	-.06*	-.15**	.00	-.02	-.18**	.13**	.13**	.02	.08**	-

Note: CES-D = Time 1 scores on the Center for Epidemiological Studies Depression Scale; MASC-SA = Time 1 scores on the MASC, social anxiety subscale; Self-Criticism = Time 1 scores on the Depression Experiences Questionnaire, self-criticism subscale; Dependency = Time 1 scores on the Depression Experiences Questionnaire, dependency subscale; Neuroticism = Time 1 scores on the Five Factor Inventory, neuroticism subscale; General NE = Time 1 scores on the Adolescent Life Events Questionnaire (ALEQ), total score; Interpersonal NE = Time 1 scores on the ALEQ, interpersonal subscale; Achievement NE = Time 1 scores on the ALEQ, achievement subscale; Site = Participant's Location (0 = Urban, 1 = Rural); Sex = Participant's Sex (Girl = 0, Boy = 1).

ban youth experienced more depressive symptoms, $t(1148) = -3.45$, $p < .01$, and social anxiety symptoms, $t(1148) = 6.20$, $p < .01$, compared to rural youth. Therefore, both sex and site were entered as covariates for all analyses. Interactions between sex and site were also tested, but no significant findings emerged with regard to the personality predispositions and emotional distress.

It was next examined if data were missing at random to justify the use of data imputation methods for estimating missing values (Schafer & Graham, 2002). For the present study, 73.8% participants were present at Time 1 and all six follow-ups, while less than 10% (9.2%) of the sample missed more than one follow-up. Little's missing completely at random (MCAR) test, for which the null hypothesis is that the data are MCAR (Little & Rubin, 1987) was not significant $\chi(15,239) = 956.07$, $p = ns$. Thus, maximum likelihood estimates of missing data were created and used in all subsequent analyses (see Schafer & Graham, 2002 for further explanation).²

2. Analyses were also run without data imputation and the pattern of results remained identical.

TABLE 3. Means and Standard Deviations for All Follow-Up Measures

Measures	Mean	SD	N
CES-D			
FU1	13.18	9.31	1129
FU2	12.83	9.59	1103
FU3	12.45	9.77	1097
FU4	12.13	10.12	1043
FU5	11.81	9.56	1059
FU6	12.24	10.47	1031
MASC-SA			
FU1	13.10	5.48	1112
FU2	12.48	5.91	1102
FU3	11.73	6.11	1100
FU4	11.00	6.44	1045
FU5	11.30	6.43	1064
FU6	10.68	6.67	1036
General NE			
FU1	105.00	23.73	1130
FU2	99.78	25.13	1101
FU3	95.26	26.26	1096
FU4	92.22	26.18	1043
FU5	90.79	25.34	1059
FU6	89.79	25.73	1034
Interpersonal NE			
FU1	65.78	15.34	1130
FU2	62.32	16.16	1101
FU3	59.58	16.71	1096
FU4	57.46	16.05	1043
FU5	57.03	15.85	1058
FU6	56.59	16.14	1034
Achievement NE			
FU1	22.31	5.90	1130
FU2	21.64	6.53	1101
FU3	20.77	6.88	1093
FU4	20.03	7.36	1042
FU5	19.34	6.92	1059
FU6	19.22	7.26	1033

Note. CES-D = Follow-up interval scores on the Center for Epidemiological Studies Depression Scale; MASC-SA = Follow-up interval scores on the MASC, social anxiety subscale; General NE = Follow-up interval scores on the Adolescent Life Events Questionnaire (ALEQ), total score; Interpersonal NE = Follow-up interval scores on the ALEQ, interpersonal subscale; Achievement NE = Follow-up interval scores on the ALEQ, achievement subscale.

MODERATION HYPOTHESIS

For the general and specific stress hypotheses, two-way interactions (Self-Criticism \times General NE and Dependency \times General NE) were included in the model described above. Similarly, for the specific stress hypothesis, the following interaction terms were added to the model: Self-Criticism \times Achievement NE, Dependency \times Interpersonal NE. With regard to depressive symptoms, results demonstrated that neither the general-stress, $\beta = 0.01$; $SE = 0.01$; $t(5745) = 1.14$, *ns* for Self-Criticism; $\beta = 0.01$; $SE = 0.01$; $t(5745) = 1.07$, *ns* for Dependency, or specific-stress hypotheses, $\beta = 0.01$; $SE = 0.01$; $t(5744) = 1.06$, *ns* for Self-Criticism; $\beta = 0.01$; $SE = 0.01$; $t(5744) = 0.66$, *ns* for Dependency, predicted prospective elevations of depressive symptoms. However, significant findings were found for Self-Criticism as a main effect, $\beta = 0.06$; $SE = 0.02$; $t(1144) = 3.20$, $p < .01$, but not Dependency, $\beta = 0.00$; $SE = 0.01$; $t(1144) = 0.14$, *ns*. Next, models concerning Social Anxiety were tested. Similar to Depression no significant findings regarding the general stress hypothesis, $\beta = 0.00$; $SE = 0.01$; $t(5745) = 0.93$, *ns* for Self-Criticism; $\beta = -0.01$; $SE = 0.01$; $t(5745) = -1.95$, *ns* for Dependency, or the specific stress hypothesis, $\beta = -0.01$; $SE = 0.01$; $t(5744) = -2.12$, *ns* for Self-Criticism; $\beta = -0.01$; $SE = 0.01$; $t(5744) = -1.51$, *ns* for Dependency, were found for Social Anxiety. However, a main effect for Dependency, $\beta = 0.03$; $SE = 0.01$; $t(1144) = 3.50$, $p < .01$, but not Self-Criticism, $\beta = 0.01$; $SE = 0.01$; $t(1144) = 0.93$, *ns*, for predicting Social Anxiety was found.³

MEDIATION HYPOTHESIS

The present study utilized a nonparametric bootstrapping method with 5,000 resamples to derive the 99% confidence interval to test for the mediating effect of negative events. This approach is believed to be statistically superior to more traditional approaches (i.e., causal step approaches) which have been used in the social sciences to test mediation hypotheses (see Preacher & Hayes, 2008; Zhao, Lynch, & Chen, 2010 for explanation). For all mediation analyses we used the SAS Macro developed by Preacher and Hayes (2008) which allowed

3. It should be noted, that the analyses were rerun with the elimination of the nonsignificant interaction terms and the pattern of results once again remained identical.

us to control for gender, site, comorbid symptoms, symptoms at time $n-1$, Neuroticism, and Dependency when examining the role of Self-Criticism and Self-Criticism when examining the effect of Dependency.

As only Self-Criticism was found to predict Depression, and Dependency was only significant in predicting Social Anxiety, we only tested these two models. With regard to Self-Criticism, we found that the true estimate of the indirect effect for General NE (-0.01 to 0.04) and Interpersonal NE (-0.03 to 0.02) included 0, suggesting that these two variables were not significant mediators. However, we found that the true indirect effect of Achievement NE ranged between 0.01 to 0.06, indicating that Achievement NE mediated the relation between Self-Criticism and Depression. Meanwhile, for the relation between Dependency and Social Anxiety, we found that the true indirect estimates for General NE (0.00 to 0.00), Interpersonal NE (0.00 to 0.00), and Achievement NE (0.00 to 0.00) all included 0. Thus, neither specific nor general negative events mediated the relation between Dependency and Social Anxiety.⁴

DISCUSSION

Based on our findings, self-criticism and dependency each play an important role in understanding vulnerability to internalizing symptoms in Chinese adolescents. High levels of each personality predisposition specifically predicted prospective increases of particular forms of internalizing symptoms and in the case of self-criticism, did so through the mediating role of specific stressors. In particular, self-criticism predicted depressive, but not social anxiety symptoms, and this association was mediated through increases in achievement stressors. Furthermore, dependency predicted social anxiety, but not depressive, symptoms. Of note, results were consistent with past research which showed that the personality predispositions exerted an influence on emotional distress above and beyond neuroticism (Bareket-Bojmel & Shahar, 2011). Taken together, these findings highlight specific pathways to the development of

4. Findings concerning Achievement NE mediating the relation between Self-Criticism and Depression were consistent when tested with a traditional, casual-steps approach and an alternative bootstrapping approach developed by Bauer, Preacher, and Gil (2006), which clusters the Level 1 data, but was only able to converge on a simpler model with fewer covariates.

internalizing symptoms in Chinese adolescents. We discuss each of these findings as well as implications for cross-cultural developmental psychopathology research and translational work.

With regard to self-criticism, the present study is consistent with previous cross-sectional research in mainland China (Yao et al., 2008) and longitudinal research with North American adolescent samples (Abela et al., 2006; Adams et al., 2009; Shahar et al., 2004) by finding that self-criticism predicted prospective depressive symptoms. Also consistent with past longitudinal research (Abela et al., 2006; Shahar et al., 2004), the present study found no relation between dependency and prospective depressive symptoms. This lends support to the theory that dependency is only deleterious for individuals with at-risk social support systems (i.e., depressed mothers; Adams et al., 2009). Overall, the consistency between these findings adds to the growing body of research which demonstrates similar vulnerabilities for depression between American and Chinese adolescent populations (Abela et al., 2011; Auerbach et al., 2007; Hong et al., 2010; Starrs, Abela, Cohen, Yao, Zhu, 2010). In light of these findings, future research may want to investigate if past postulations that self-critical processes may not be as harmful in Southeast Asia are specific to Japanese culture or unique forms of self-criticism (Heine et al., 1999).

Although the present study demonstrated similar findings concerning self-criticism and depression, the reason self-criticism leads to depressive symptoms may be culturally distinct. Past research postulated that the interaction between self-criticism and achievement negative events produced strained interpersonal relations which contribute to the development and maintenance of mood disturbances (Aub'e & Whiffen, 1996; Fichman et al., 1994; Shahar & Priel, 2003; Shahar et al., 2004). For instance, a self-critical child may feel especially irritated after a bad grade, and may be more vigilant in responding to his or her parents about the grade. Within this example, we would (1) find a significant interaction between achievement negative events and self-criticism, and (2) that interpersonal negative events mediate the relation between the interaction and symptoms. However, in mainland China, we found neither of these statistical tests to be significant. Instead, we found that achievement stressors mediated the relation between self-criticism and prospective depressive symptoms. One possible reason for the different findings is that self-critical adolescents in China may be less likely to engage in conflict with parents following a negative event. In

Southeast Asian cultural groups there is believed to be a greater emphasis on maintaining harmony within relationships, compared to North American and Western European cultural groups (Markus & Lin, 1999). As a result, past research has found conflict between parents and adolescents to be more muted and ephemeral in Southeast Asian cultural groups (Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000), even when discussing academic stressors (Yau & Smetana, 2003). Therefore, academic stressors may be less likely to spill-over to family conflict in mainland China compared to North American or Western European cultural groups. Instead, in mainland China, self-critical individuals seem to generate academic stressors, which eventually lead to depressive symptoms.

The present study was the first to demonstrate significant findings concerning the personality predispositions and prospective social anxiety symptoms. The finding that dependency predicted social anxiety symptoms is consistent with past postulations by Mongrain and Zuroff (1994) and with research that demonstrated that cognitive correlates of dependency play an important role in the development of social anxiety (Bornstein, 1995; Darcey, Davila, & Beck, 2005; Overholser, 1997). Findings concerning social anxiety in Chinese adolescents are important, as few prospective studies have examined the relationship between different personality types and anxiety in Asian samples (Matsudaira & Kitamura, 2006). On the other hand, our finding that self-criticism did not relate to prospective social anxiety symptoms was contrary to past findings in North American samples concerning the personality predisposition (Cox et al., 2000; Cox et al., 2002; Cox et al., 2004).

The present study's findings suggest that unique developmental pathways for social anxiety may exist between cultures. Specifically, in North American and Western European cultural groups the ability to influence one's environment and achievement are vital to a positive self-view (Markus & Kitayama, 2004; Markus, Uchisa, Omoregie, Townsend, & Kitayama, 2006). Consequently, individuals may feel anxious in a social setting because they may feel that they will be exposed as a failure (Clark & Wells, 1995). Alternatively, past research has proposed that social anxiety may exist in more of an interpersonal context, and relate to more interpersonal cognitions in mainland China (Kirmayer, 1991; Nakamura et al., 2002). The present research was consistent with the theoretical tenants of *Taijin Kyofusho*, and with prior research involving Asian cultural groups which demonstrated that social anxiety was associated

with interpersonal, but not achievement, related factors (Hong & Woody, 2007). Future research should continue to examine whether achievement related vulnerabilities, such as self-criticism, which have found to predict emotional distress broadly in North America (Cox et al., 2004; Shahar et al., 2004), are only associated with depressive symptoms in mainland China.

The present study had many strengths including addressing past criticisms concerning research on self-criticism and dependency (Coyne & Whiffen, 1995), and utilizing a sample from mainland China, as opposed to smaller Chinese territories like Taiwan or Hong Kong which have been shown to have important psychosocial differences (Berndt, Cheung, Lau, Hau, & Lew, 1993). However, despite these strengths, the present study contains limitations. First, self-report measures were used to assess internalizing symptoms. Although both the MASC and CDI possess high levels of reliability and validity, clinical implications when using self-reported measures must be tempered (Ingram & Siegle, 2002). Second, self-report measures were used to assess negative events. Past research suggested that a contextual interview is needed to understand the impact and quality of these events (Hammen, 2005). Third, the present study utilized a theory of personality developed within an etic theoretical context. Although it is believed to be appropriate because it includes a measure related to interdependence, future research should examine how Blatt and Zuroff's (1992) model of personality predispositions relate to emic theories (e.g., Cheung et al., 2001) of personality developed in mainland China. Finally, a community sample was used in the present sample. Although this approach carries many advantages (Willett, Singer, & Martin, 1998), it does limit our ability to make clinical inferences.

In sum, the present study sheds light on important risk factors related to internalizing symptoms in mainland China. As rates of internalizing disorders in younger populations escalate in this part of the world (Lee et al., 2009), a greater focus on developmental factors for psychopathology is needed. The present study adds to a growing body of prospective research which has identified important cognitive (Abela et al., 2011; Hong et al., 2010) and interpersonal vulnerabilities (Greenberger, Chen, Talley, & Dong, 2000; Yang et al., 2010) to emotional distress in Chinese youth. With this knowledge, targeted prevention programs, which have been found to be more effective than universal programs (Garber, 2006), can begin to be developed specifically for mainland Chinese youth. To date, few

of these prevention programs exist for Chinese adolescents (Bush, 2003; see Yu & Seligman, 2002 as an example of such a program). Findings from the present study suggest that self-criticism and dependency may be important risk factors to examine in the development of these programs and for targeting at-risk youth.

REFERENCES

- Abela, J.R.Z., Sakellaropoulo, M., & Taxel, E. (2007). Integrating two subtypes of depression: Psychodynamic theory and its relation to hopelessness depression in schoolchildren. *Journal of Early Adolescence, 27*, 363–385.
- Abela, J.R.Z., Stolow, D., Mineka, S., Yao, S., Zhu, X. X., & Hankin, B. L. (2011). Cognitive vulnerability to depressive symptoms in urban and rural Hunan, China: A multi-wave longitudinal study. *Journal of Abnormal Psychology, 40*, 277–287.
- Abela, J.R.Z., & Taylor, G. (2003). Specific vulnerability to depressive mood reactions in schoolchildren: The moderating role of self-esteem. *Journal of Clinical Child and Adolescent Psychology, 32*, 408–418.
- Abela, J.R.Z., Webb, C. A., Ho, M., Wagner, C., & Adams, P. (2006). The role of self-criticism, dependency, and hassles in the course of depressive illness: A multi-wave longitudinal study of vulnerability and resiliency. *Personality and Social Psychology Bulletin, 32*, 328–338.
- Adams, P., Abela, J.R.Z., Auerbach, R. P., & Skitch, S. A. (2009). Self-criticism, dependency, and stress reactivity: An experience sampling approach to testing Blatt and Zuroff's (1992) theory of personality predispositions to depression in high-risk youth. *Personality and Social Psychology Bulletin, 35*, 1440–1451.
- Angold, A., Costello, J. E., & Erklani, A. (1999). Comorbidity. *Journal of Child Psychology and Psychiatry, 40*, 57–87.
- Arieti, S., & Bemporad, J. R. (1980). The psychological organization of depression. *American Journal of Psychiatry, 137*, 1360–1365.
- Aub'e, J., & Whiffen, V. E. (1996). Depressive styles and social acuity: Further evidence for distinct interpersonal correlates of dependency and self-criticism. *Communication Research, 23*, 407–424.
- Auerbach, R. P., Abela, J.R.Z., Zhu, X., & Yao, S. (2007). A diathesis-stress model of engagement in risky behaviors in Chinese adolescents. *Behavior Research and Therapy, 45*, 2850–2860.
- Avenevoli, S., Knight, E., Kessler, R. C., & Merikangas, K. R. (2008). Epidemiology of depression in children and adolescents. In J.R.Z. Abela & B. L. Hankin (Eds.) *Handbook of child and adolescent depression* (pp. 6–34). New York: The Guilford Press.
- Bareket-Bojmel, L., & Shahar, G. (2011). Emotional and interpersonal consequences of self-disclosure in a lived, online interaction. *Journal of Social & Clinical Psychology, 30*, 732–759.
- Bauer, D. J., Preacher, K. J., & Gil, K. M. (2006). Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods, 11*, 142–163.

- Beck, A. T. (1983). Cognitive therapy of depression: New perspectives. In P. J. Clayton & J. E. Barrett (Eds.), *Treatment of depression: Old controversies and new approaches* (pp. 265–290). New York: Raven.
- Berndt, T. J., Cheung, P. C., Lau, S., Hau, K., & Lew, W.J.F. (1993). Perceptions of parenting in mainland China, Taiwan, and Hong Kong: Sex differences and societal differences. *Developmental Psychology, 29*, 156–164.
- Blaney, P. H., & Kutcher, G. S. (1991). Measures of depressive dimensions: Are they interchangeable? *Journal of Personality Assessment, 56*, 502–512.
- Blatt, S. J. (1974). Levels of object representation in anaclitic and introjective depression. *Psychoanalytic Study of the Child, 29*, 107–157.
- Blatt, S. J., D’Afflitti, J. P., & Quinlan, D. M. (1976). Experiences of depression in normal young adults. *Journal of Abnormal Psychology, 95*, 383–389.
- Blatt, S. J., & Zuroff, D. C. (1992). Interpersonal relatedness and self-definition: Two prototypes for depression. *Clinical Psychology Review, 12*, 527–562.
- Bornstein, R. F. (1995). Comorbidity of dependent personality disorders and other psychological disorders: An integrative review. *Journal of Personality Disorders, 9*, 286–303.
- Brislin, R. W. (1986). The wording and translation of research instruments. Field methods in cross-cultural research. In W. J. Lonner & J. W. Berry (Eds.), *Field methods in cross cultural research: Volume 8* (pp. 137–164). Thousand Oaks, CA: Sage Publications.
- Bush, K. R. (2003). Commentary physical and mental health of contemporary Chinese children. *Journal of Family and Economic Issues, 24*, 397–401.
- Cheung, F. M., Leung, K., Zhang, J., Sun, H., Gan, Y., Song, W., & Xie, D. (2001). Indigenous Chinese personality constructs: Is the five-factor model complete? *Journal of Cross-Cultural Psychology, 32*, 407–433.
- Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. G. Heimberg, M. Liebowitz, D. A. Hope, & F. Schneier (Eds.), *Social phobia: Diagnosis, assessment and treatment* (pp. 69–93). New York: Guilford.
- Cohen, J. R., Hankin, B. L., Gibb, B. E., Hammen, C., Hazel, N. A., Ma, D. et al. (2012). Negative attachment cognitions and emotional distress in mainland Chinese adolescents. A prospective multiwave test of vulnerability-stress and stress generation models. *Journal of Clinical Child & Adolescent Psychology*, doi: 10.1080/15374416.2012.749787
- Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO personality inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Cox, B. J., Fleet, C., & Stein, M. B. (2004). Self-criticism and social phobia in the US national comorbidity survey. *Journal of Affective Disorders, 82*, 227–234.
- Cox, B. J., Rector, N. A., Bagby, R. M., Swinson, R. P., Levitt, A. J., & Joffe, R. T. (2000). Is self-criticism unique for depression? A comparison with social phobia. *Journal of Affective Disorders, 57*, 223–228.
- Cox, B. J., Walker, J. R., Enns, M. W., & Karpinski, D. C. (2002). Self-criticism in generalized social phobia and response to cognitive-behavioral. *Behavior Therapy, 33*, 479–491.
- Coyne, J. C., & Whiffen, V. E. (1995). Issues in personality as diathesis for depression: The case of sociotropy-dependency and autonomy-self-criticism. *Psychological Bulletin, 118*, 358–378.

- Darcey, K., Davila, J., & Beck, J. G. (2005). Is social anxiety associated with both interpersonal avoidance and interpersonal dependence? *Cognitive Therapy and Research, 29*, 171–186.
- Eberhart, N. K., Auerbach, R. P., Bigda-Peytwon, J., & Abela, J.R.Z. (2011). Maladaptive schemas and depression: Tests of stress generation and diathesis-stress models. *Journal of Social and Clinical Psychology, 30*, 75–104.
- Fan, F., Zhang, Y., Yang, Y., Mo, L., & Liu, X. (2011). Symptoms of posttraumatic stress disorder, depression, and anxiety among adolescents following the 2008 Wenchuan earthquake in China. *Journal of Traumatic Stress, 24*, 44–53.
- Fichman, L., Koestner, R., & Zuroff, D. C. (1994). Depressive styles in adolescence: Assessment, relation to social functioning, and developmental trends. *Journal of Youth and Adolescence, 23*, 315–330.
- Garber, J. (2006). Depression in children and adolescents: Linking risk research and prevention. *American Journal of Preventative Medicine, 31*, 104–125.
- Greenberger, E., Chen, C., Tally, S. R., & Dong, Q. (2000). Family, peer, and individual correlates of depressive symptomatology among U.S. and Chinese adolescents. *Journal of Consulting and Clinical Psychology, 68*, 209–219.
- Hammen, C. (2005). Stress and depression. *Annual Review of Clinical Psychology, 1*, 293–319.
- Hammen, C., & Goodman-Brown, T. (1990). Self-schemas and vulnerability to specific life stress in children at risk for depression. *Cognitive Therapy and Research, 14*, 215–227.
- Hankin, B. L. (2008). Cognitive vulnerability-stress model of depression during adolescence investigating depressive symptom specificity in a multi-wave prospective study. *Journal of Abnormal Child Psychology, 36*, 999–1014.
- Hankin, B. L., & Abramson, L. Y. (2002). Measuring cognitive vulnerability to depression in adolescence: reliability, validity, and gender differences. *Journal of Clinical Child and Adolescent Psychology, 31*, 491–504.
- Hankin, B. L., Stone, L., & Wright, P. A. (2010). Corumination, interpersonal stress generation, and internalizing symptoms: Accumulating effects and transactional influences in a multiwave study of adolescents. *Development and Psychopathology, 22*, 217–235.
- Heine, S. J., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review, 106*, 766–794.
- Hong, J. J., & Woody, S. R. (2007). Cultural mediators of self-reported social anxiety. *Behaviour Research and Therapy, 45*, 1779–1789.
- Hong, W., Abela, J.R.Z., Cohen, J. R., Sheshko, D. M., Shi, X. T., Van Hamel, A., & Starrs, C. (2010). Rumination as a vulnerability factor to depression in adolescents in mainland China: Lifetime history of clinically significant depressive episodes. *Journal of Clinical Child and Adolescent Psychology, 39*, 849–857.
- Ingram, R. E., & Siegle, G. J. (2002). Contemporary methodological issues in the study of depression: Not your father's Oldsmobile. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (pp. 86–114). New York: Guilford Press.
- Kirmayer, L. J. (1991). The place of culture in psychiatric nosology: Taijin Kyofusho and DSM III-R. *Journal of Nervous and Mental Disease, 179*, 19–28.
- Lee, S., Tsang, A., Huang, Y., He, Y., Liu, Z., & Kessler, R. C. (2009). The epidemiology of depression in metropolitan China. *Psychological Medicine, 39*, 735–747.

- Little, R.J.A., & Rubin, D. B. (1987). *Statistical analysis with missing data: Second Edition*. Hoboken, NJ: Wiley.
- March, J. S. (1997). *Manual for the multidimensional anxiety scale for children (MASC)*. Toronto: Multi-Health Systems.
- Markus, H. R., & Kitayama, S. (1998). The cultural psychology of personality. *Journal of Cross Cultural Psychology, 29*, 63–87.
- Markus, H. R., & Kitayama, S. (2004). Models of agency: Sociocultural diversity in the construction of action. In V. Murphy-Berman & J. Berman (Eds.), *The 49th annual Nebraska symposium for motivation. Cross-cultural differences in perspectives on self* (pp. 1–57). Lincoln: University of Nebraska Press.
- Markus, H. R., & Lin, L. R. (1999). Conflictways: Cultural diversity in the meanings and practices of conflict. In D. A. Prentice & D. T. Miller (Eds.), *Culture divides: Understanding and overcoming group conflict* (pp. 302–333). New York: Russell Sage Foundation.
- Markus, H. R., Uchisa, Y., Omoregie, H., Townsend, S.S.M., & Kitayama, S. (2006). Going for the gold: Models of agency in Japanese and American contexts. *Psychological Science, 17*, 103–112.
- Matsudaira, T., & Kitamura, T. (2006). Personality traits as risk factors of depression and anxiety among Japanese students. *Journal of Clinical Psychology, 62*, 97–110.
- Miller, G. A., & Chapman, J. P. (2001). Misunderstanding analysis of covariance. *Journal of Abnormal Psychology, 110*, 40–48.
- Molenberghs, G., & Verbeke, G. (2005). *Models for discrete longitudinal data*. New York: Springer.
- Mongrain, M., & Zuroff, D. C. (1994). Motivational and affective correlates of dependency and self-criticism. *Personality and Individual Differences, 18*, 347–354.
- Muller, D., Judd, C. M., & Yzerbyt, V. Y. (2005). When moderation is mediated and mediation is moderated. *Journal of Personality and Social Psychology, 89*, 852–863.
- Nakamura, K., Kitanishi, K., Miyake, Y., Hashimoto, K., & Kubota, M. (2002). The neurotic versus delusional subtype of taijin kyofusho: Their DSM diagnoses. *Psychiatry and Clinical Neurosciences, 56*, 595–601.
- Nietzel, M. T., & Harris, M. J. (1990). Relationship of dependency and achievement/autonomy to depression. *Clinical Psychology Review, 10*, 279–297.
- Ouimette, P. C., & Klein, D. N. (1993). Convergence of psychoanalytic and cognitive behavioral theories of depression: An empirical review and new data on Blatt's and Beck's models. In J. M. Masling & R. F. Bornstein (Eds.), *Psychoanalytic perspectives on psychopathology: Volume 4* (pp. 191–223). Washington DC: American Psychological Association.
- Overholser, J. C. (1997). Treatment of excessive interpersonal dependency: A cognitive behavioral model. *Journal of Contemporary Psychotherapy, 27*, 283–301.
- Pena, E. D. (2007). Lost in translation: Methodological considerations in cross-cultural research. *Child Development, 78*, 1255–1264.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879–891.
- Priel, B., & Shahar, G. (2000). Dependency, self-criticism, social context, and distress: Comparing moderating and mediating models. *Personality and Individual Differences, 28*, 515–525.

- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385–401.
- Rothbaum, F., Pott, M., Azuma, H., Miyake, K., & Weisz, J. (2000). The development of close relationships in Japan and the United States: Paths of symbiotic harmony and generative tension. *Child Development, 71*, 1121–1142.
- Santor, D. A., & Patterson, R. L. (2004). Frequency and duration of mood fluctuations: Effects of dependency, self-criticism, and negative events. *Personality and Individual Differences, 37*, 1667–1680.
- Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7*, 147–177.
- Shahar, G., Blatt, S. J., Zuroff, D. C., Kuperminc, G., & Leadbeater, B. J. (2004). Reciprocal relations between depressive symptoms and self-criticism (but not dependency) among early adolescent girls (but not boys). *Cognitive Therapy and Research, 28*, 85–103.
- Shahar, G., & Priel, B. (2003). Active vulnerability, adolescent distress, and the mediating/suppressing role of life events. *Personality and Individual Differences, 35*, 199–218.
- Starrs, C., Abela, J.R.Z., Cohen, J. R., Yao, S., & Zhu, X. Z. (2010). Cognitive and interpersonal vulnerability factors as predictors of stress generation in adolescents in Hunan, China. *International Journal of Cognitive Therapy, 3*, 345–357.
- Sun, Y., Tao, F., Hao, J., & Wan, Y. (2010). The mediating effects of stress and coping on depression among adolescents in China. *Journal of Child and Adolescent Psychiatric Nursing, 23*, 173–180.
- Tackett, J. L. (2006). Evaluating models of the personality-psychopathology relationship in children and adolescents. *Clinical Psychology Review, 26*, 584–599.
- Tepper, P., Liu, X., Guo, C., Zhai, J., Liu, T., & Li, C. (2008). Depressive symptoms in Chinese children and adolescents: Parent, teacher, and self reports. *Journal of Affective Disorders, 111*, 291–298.
- Wetter, E. K., & Hankin, B. L. (2009). Mediation pathways through which positive and negative emotionality contribute to anhedonic symptoms of depression: A prospective study of adolescents. *Journal of Abnormal Child Psychology, 37*, 507–520.
- Willett, J. B., Singer, J. B., & Martin, N. C. (1998). The design and analysis of longitudinal studies of development and psychopathology in context: Statistical models and methodological recommendations. *Development and Psychopathology, 10*, 395–426.
- Yang, H., Soong, W., Kuo, P., Chang, H., & Chen, W. J. (2004). Using the CES-D in a two-phase survey for depressive disorders among nonreferred adolescents in Taipei: A stratum-specific likelihood ratio analysis. *Journal of Affective Disorders, 82*, 419–430.
- Yang, J., Yao, S., Zhu, X., Zhang, C., Ling, Y., Abela, J.R.Z. et al. (2010). The impacts of stress on depressive symptoms is moderated by social support in Chinese adolescents with subthreshold depression: A multi-wave longitudinal study. *Journal of Affective Disorders, 127*, 113–121.
- Yao, S., Fang, J., Zhu, X., & Zuroff, D. C. (2008). The depressive experiences questionnaire: Construct validity and prediction of depressive symptoms in a sample of Chinese undergraduates. *Depression and Anxiety, 26*, 930–937.

- Yao, S., Zou, T., Zhu, X., Abela, J.R.Z., Auerbach, R. P., & Tong, X. (2007). Reliability and validity of the Chinese version of the multidimensional anxiety scale for children among Chinese secondary students. *Child Psychiatry & Human Development, 38*, 1–16.
- Yau, J., & Smetana, J. G. (2003). Conceptions of moral, social-conventional, and personal events among Chinese preschoolers in Hong Kong. *Child Development, 74*, 647–658.
- Yip, P.S.F., Callanan, C., & Yuen, H. P. (2000). Urban/rural and gender differentials in suicide rates: East and West. *Journal of Affective Disorders, 57*, 99–106.
- Yu, D. L., & Seligman, M.E.P. (2002). Preventing depressive symptoms in Chinese children. *Prevention & Treatment, 5*, doi: 10.1037/1522-3736.5.1.59a.
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research, 37*, 197–206.
- Zuroff, D. C., Mongrain, M., & Santor, D. A. (2004). Conceptualizing and measuring personality vulnerability to depression: Comment on Coyne and Whiffen (1995). *Psychological Bulletin, 130*, 489–511.

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