

## The Tripartite Model of Anxiety and Depression: Function and Utility in a Youth Community Sample

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The current study examined the application of Clark & Watson's (1991) tripartite model of the internalizing disorders (i.e., anxiety and depression) in non-clinical youth as research is lacking on its functionality in youth compared to adult populations. We attempted to replicate the tripartite constructs (Negative Affect, Positive Affect, and Somatic Problems as an approximation of Physiological Hyperarousal) in a community sample of youth aged between 6 and 17 years. Consistent with the tripartite model, the results showed that NA was highly correlated with anxiety and depression symptoms, while low positive affect was related to depression but not anxiety. Somatic problems were found to be correlated with both anxiety and depression, which corroborates recent trends in the adult literature indicating that physiological hyperarousal does not uniquely distinguish depression from anxiety. Implications and limitations of the current study are discussed.

Depressive and anxious disorders affect both adult and youth populations. Twelve-month prevalence of major depressive disorder (MDD) in adults is approximately 6.7%, and lifetime prevalence of MDD in children and adolescents is as high as 11.2–13.0% (National Institute of Mental Health [NIMH], 2011). For anxiety disorders, 12-month prevalence in adults is 18.2%, and lifetime prevalence in youth is 15% (NIMH, 2011). Many people suffer from both disorders and the intercorrelations between self-report measures of anxiety and depression are particularly high in youth populations (Stark & Laurent, 2001). This points to a considerable degree of symptom overlap between anxiety and depressive disorders, and there are indeed notable similarities in the way the two are manifested.

According to the Diagnostic and Statistical Manual of Mental Disorders (4th ed., text rev; DSM-IV-TR; American Psychiatric Association, 2000) anxiety and depression are both characterized by high subjective distress, poor concentration, and somatic symptoms. Instead of separating anxiety and depression into conceptually distinct disorders, Clark and Watson (1991) proposed a tripartite model to account for both the unique and shared variances of anxiety and depressive symptoms. The tripartite model has found support in adult populations. However, research on its utility in youth samples is scarce (Anderson & Hope, 2008). The current investigation extended this line of research by

examining the relevance of the tripartite model in explaining anxiety and depression symptoms in a community sample of non-clinical youths.

### **Anxiety and Depression: Overview**

Past research has demonstrated the considerable overlap between self-report measures of anxiety and depressive symptoms in youth (for a detailed review, see Brady & Kendall, 1992). This high overlap in symptomatology and poor discriminant validity of measures is problematic, as anxiety and depression have traditionally been categorized as distinct diagnostic classes and theoretical constructs (Akiskal, 1985). High symptom overlap in self-report measures has made it difficult to identify pure groups of depressed and anxious youth and to compare them to non-clinical youth in a valid way (Laurent & Ettelson, 2001). Rates of comorbid anxiety and depression diagnoses are approximately 28% to 62% in clinically-diagnosed samples (Brady & Kendall, 1992). In fact, the highest comorbidity rates between anxiety and depression exist not among adults, but among adolescents (Ollendick, Shortt, & Sander, 2005). Comorbid anxiety and depression has also been associated with increased rates of suicidal ideation, suicide attempts, and completed suicide among clinical and community samples (Mineka, Watson, & Clark, 1998). This increased risk denotes the augmented severity of comorbid cases, and calls for further research into the causes of such high rates of diagnostic overlap.

It remains unclear whether depressive and anxious disorders should be conceptualized as distinct. Further, research is needed to determine how different disorder conceptualizations might affect treatment strategies. Clearly, there are both theoretical and clinical implications for enhancing our understanding of the dimensional versus discrete nature of anxiety and depression.

There is some evidence suggesting that anxiety disorders in fact may lead to the onset of concurrent depression

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(Anderson & Hope, 2008; Brady & Kendall, 1992; Chorpita & Daleiden, 2002; Finch, Lipovsky, & Casat, 1989). It is unclear whether this co-occurrence reflects the fact that anxiety and depression are distinct constructs yet strongly inter-related, or rather are different manifestations of the same disorder represented by a single underlying dimension (Feldman, 1993).

Recent research has shown that subfactors of internalizing symptoms were not differentiated in middle childhood, but that personality factors may distinguish anxiety/fear from depression/distress symptoms, suggesting some differentiation within childhood psychopathology (Kushner, Tackett, & Bagby, 2011). The seminal tripartite model proposed by Clark and Watson (1991) has formed the basis for subsequent dimensional models of anxiety and depression, which can better explain the disorders' underlying nature.

### **Clark & Watson's Tripartite Model**

Clark and Watson (1991) developed a tripartite model to explain both the similarity and distinctiveness of depressive and anxiety disorders. The tripartite model is a dimensional approach which posits that there are both shared components of the two disorders, as well as distinguishing factors that can separate comorbid diagnoses. Clark and Watson (1991) examined mood as well as anxious symptoms in both clinical and non-clinical adult samples, and suggested that a nonspecific distress factor, Negative Affect (NA), forms the core component of both syndromes (Clark & Watson, 1991). NA refers to the extent to which a person feels unpleasantly engaged or upset, and includes negative mood states such as "angry," "guilty," "sad," "disgusted," and "worried." Absence of NA is characterized by "calm" and "peaceful" mood states.

In contrast, Positive Affect (PA) is best defined by the degree to which a person feels enthusiasm, pleasurable engagement, and energy. This positive affectivity is captured by descriptors such as "active," "delighted," "proud," and "enthusiastic." A deficiency in PA is also characterized by somatic terms, such as "sluggish" (Clark & Watson, 1991). Positive Affect and NA are not opposites and function independently of each other: PA is related to measures of social activity and pleasant events, while NA is correlated with health complaints, stress, and unpleasant events. Clark and Watson (1991) also cite Tellegen's (1985) factor analysis of self-report measures of PA, NA, anxiety, and depression, which demonstrated that anxiety was more highly associated with NA, while low PA best characterized depression.

The third construct in the tripartite model is Physiological Hyperarousal (PH). This construct reflects somatic symptoms and autonomic arousal, such as muscle tension, shortness of breath, dizziness, lightheadedness, and indigestion (Clark & Watson, 1991). Clark and Watson (1991) found that the items on the Hamilton Rating Scale of Anxiety (Hamilton, 1959) that best differentiated depressed patients from those with panic attacks were physiologically based. These items included measures of cardiovascular, autonomic, and respiratory symptoms. They noted that the

physiological hyperarousal associated with generalized anxiety disorder (GAD) and panic attacks seemed to be specific to anxiety. Overall, Clark and Watson (1991) concluded that high levels of NA persist in both anxious and depressed patients and act as an indicator of these disorders, yet they offer little in the way of discerning between the two. Positive Affect and PH may play a pivotal role as factors distinguishing between depressive and anxious disorders.

Though substantial empirical support has been found for PA as relatively unique to youth depression and NA as a shared component, (for a detailed review, see Anderson & Hope, 2008), results from research on PH has been rather mixed in terms of whether it is unique to anxious or to depressive symptoms (Chorpita & Daleiden, 2002; Jacques & Mash, 2004; Laurent et al., 2004). Due to the model's origins in clinical adult populations, further research on the tripartite constructs in youth is necessary to determine its applicability with a younger population.

### **Applicability of the Tripartite Model in Youth Populations**

Research so far on the tripartite model has supported its utility in differentiating between anxiety and depression in a variety of populations (Anderson & Hope, 2008). In a non-clinical sample of undergraduate students, factor analyses showed that anxiety and depression symptoms were best separated using a three-factor solution including PA, NA, and PH (Joiner, 1996). In otherwise non-clinical substance abusers, symptoms of anxiety and depression were better discriminated by measures of PA and PH, consistent with the tripartite model (Watson et al., 1995). The application of the tripartite model to community samples demonstrates its efficacy at discerning between anxious and depressive symptoms, even when these symptoms do not reach clinical levels.

Though the model was originally developed to account for adult populations, a number of studies with child and adolescent samples have since demonstrated its application in differentiating anxiety and depression symptoms among youths. Lonigan and colleagues (1994) showed that low PA distinguished children with depressive disorders from those with anxiety disorders in a clinical sample, as measured by the Children's Depression Inventory (CDI; Kovacs, 1980, 1981) and the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985). Research with non-clinical children and adolescents has also established the utility of a three-factor model for children in grades three, six, and nine, as measured by items selected from the CDI and RCMAS (Turner & Barrett, 2003). Overall, there is support for the tripartite constructs in youth populations despite the fact that considerably less research has thus far been conducted with children and adolescents in comparison to that with adult populations (Anderson & Hope, 2008).

On the other hand, there have been debates over whether there is a developmental change in the differentiation between anxious and depressive disorders. Cole et al. (1997) found that a single factor model (anxiety-depression) fit data from

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third-grade students equally as well as a two-factor model (anxiety and depression), but that a two-factor model was a better fit for data from sixth graders. However, in a separate study, Turner and Barrett (2003) found no differences in terms of model fit between the grade 3, 6, and 9 groups, with a three-factor model best characterizing the data for all groups. Researchers also concluded that within a combined sample of general population and clinically-referred 8-14 year olds, there is a dual-construct distinction between anxiety and depression across the whole age range (De Bolle, Decuyper, De Clercq, & De Fruyt, 2010). Cannon and Weems' (2006) study also found no support for gradual developmental differentiation, and found that a three-factor model was the best fit for both groups of 6-11 year olds and 12-17 year olds. They did, however, note that there may be differences in the predominance of anxious versus depressive symptoms across development, as opposed to the separation of a single syndrome (Cannon & Weems, 2006).

Unlike the affective factors (i.e., PA and NA) of the tripartite model which have received ample support, the somatic factor, (PH) has not been given adequate empirical attention (Anderson & Hope, 2008). Three-factor structures consistent with the tripartite model seem to operate in child and adolescent samples as originally outlined in adult samples (Chorpita & Daleiden, 2002). It has also been suggested that PH may not be evenly related to all anxiety disorders. For instance, studies of adult outpatients suggest that PH is positively related to symptoms of panic disorder, but not to other anxiety disorders (Brown, Chorpita & Barlow, 1998). This observation is contrary to the tripartite model's supposition that PH is common to various anxiety disorders.

Empirical results of the discriminatory power of PH have been mixed: One study showed that although PH was correlated with depression, it had no incremental predictive value for depressive symptoms after accounting for the effect of PA and NA in a non-clinical youth sample (Laurent, Catanzaro, & Joiner, 2004). In addition, PH scales were found to be negatively correlated with PA scales in both parent- and child-reports suggesting the two factors may not be independent as proposed by the tripartite model (Clark & Watson, 1991). On the other hand, a study of outpatient adolescents showed that the relationship between PH and anxiety is stronger than the relationship between low PA and depression, suggesting that PH may indeed be a better construct for differentiating anxiety and depression (Dia, Harrington, & Silverman, 2010).

### **The Current Investigation**

The current study aimed to expand the literature on the applicability of the tripartite model in youth populations (Anderson & Hope, 2008). We examined the relationships between the tripartite model constructs and depression/anxiety symptoms, in a community sample of children and adolescents. Further, we also examined whether the constructs function differently in children (6-11 years old) versus adolescents (11-17 years old). The comparison of younger versus older youth would help explore whether

anxiety and depression differentiate from a unitary construct over time (e.g., Cole, 1997; Turner & Barrett, 2003). Further validation of the tripartite model in youth populations would support a shift toward a dimensional approach to child and adolescent psychopathology similar to the shift in conceptualizations of adult pathology, especially with the advent of the DSM-5.

Several studies have also found that there are discrepancies between child and parent reports in the correlations of depression, anxiety and the tripartite factors. For example, Chorpita and Daleiden (2002) found that children reported more concurrent anxiety and depression symptoms than observed by their parents. There is also evidence that parent reports of anxiety and depression in their children were often not associated with the children's own endorsements of NA (Philips, Lonigan, Driscoll, & Hooe, 2002). Explanations for convergence and discrepancies in cross-informant reports of PH remain unclear. If children do not vocalize particular somatic complaints such as headaches, the measures of PH would be likely lower in parent reports than those in child report. Such differences could account for discrepancies in parent and child ratings of PH levels in relation to the child's anxious/depressive symptoms. In the current study, both self- and parent-reports were obtained about the same individual, in order to obtain a better understanding of the nature of the tripartite factors.

We used trait measures of PA and NA instead of generally used state measures, such as the Positive and Negative Affect Scale for Children (PANAS-C; Laurent et al., 1999). We believed that trait measurement scales would serve a better instrument in capturing affective functioning in non-clinical samples such as the one used in the current study.

We also focused on PH, which has consistently shown associations with anxiety, depression, and the other tripartite factors that are relatively contrary to the original model. Somatic Problems (SP) scales were used as a measure of PH (see Measures for details). Overall, the elucidation of these relationships through the current study can advance our understanding of the syndromes in general, as well as reduce the risk of artificial diagnostic 'splitting' when assessing patient populations so that the comorbidity, or possible unitary nature of anxiety and depression, can be properly addressed in both diagnosis and treatment.

### **Method**

We attempted to replicate the tripartite model in a youth population. We hypothesized that: (1) PA and NA would be negatively correlated (though not independent constructs, low PA is expected to be unique to depression which is also characterized by high NA); (2) SP would be positively correlated with NA and not correlated with PA; (3) SP would be positively correlated with anxiety symptoms but not depression symptoms; (4) NA would be positively correlated with both anxiety and depression; and (5) PA would be negatively correlated with depression, but not anxiety. In general, we expected that similar patterns of correlations

would be found in both self-reports and parent reports, but that correlations between the constructs would be higher for youth self-reports than for parent reports.

**Participants**

Participants were a community sample of 153 youth aged between 6 and 17 years. Adult caregivers completed measures of mood and behavior for all participants. Self-reports were obtained from participants aged 11 and older. In total, we collected 153 parent reports, 55 of which were paired with youth reports (for those children who were 11-17 years old). Participants were not pre-screened for clinical disorders (i.e., previous or current diagnoses of mood/anxiety disorders) in order to include a wide range of possible symptomatology and severity. Exclusion criteria were lack of fluency in English and the presence of developmental disorders (such as autism and Down’s syndrome), which we assessed by asking the child’s parent during phone screenings.

**Measures**

Parents completed the 51-item Inventory of Children’s Individual Differences (ICID; Halverson et al., 2003). The Positive Emotions subscale was used as a measure of PA, which includes items such as “is a joy to be with,” “is sweet,” and “is loving.” The ICID’s Negative Affect subscale was used to measure NA, which includes items such as “is irritable,” “is quick-tempered”, and “gets angry easily”.

Parents also completed the Child Behavior Checklist (CBCL; Achenbach, 1991), a measure of their children’s observed social behaviors and competencies. Anxiety symptoms were measured by the Anxious/Depressed scale, which included items such as, “Fears going to school”, “nervous, highstrung, or tense”, and “worries”. Symptoms of depression were assessed by the CBCL Withdrawn/Depressed scale. Items include descriptions such as, “there is very little he/she enjoys,” “underactive, slow moving, or lacks energy,” and “unhappy, sad, or depressed.” Finally, our measure of PH was approximated by the CBCL Somatic Problems (SP) scale. This scale was used due to the measures being administered as part of a larger study which did not include a specific measure of PH. The CBCL SP scale includes items such as “feels dizzy or lightheaded,” “overtired without good reason,” and “nausea, feels sick.” Although these items do not assess the autonomic arousal component of PH, it is parallel with the somatic tension associated with PH (i.e., items assessing nausea, dizziness, chronic aches).

Children’s self-report consisted of ratings on the Youth Self-Report (YSR; Achenbach, 1991). Items on the questionnaire are analagous to those on the CBCL, and participants completed the Anxious/Depressed scale, Withdrawn/Depressed scale, and the Somatic Problems scale.

**Procedure**

Youth and adult participants were recruited by phone from a database of families that had previously expressed interest in participating in psychological studies. Some

participants were also recruited by flyers posted in the metropolitan and Greater Toronto area, as well as advertisements in local newspapers. Participants were mailed a package containing the questionnaires, and were asked to send them back in separate, sealed envelopes in order to ensure confidentiality. Parents with children under the age of 11 were asked to fill out a set of questionnaires about their child. Parents with children over the age of 11 were asked if their child would be willing to fill out a set of questionnaires about themselves, and these parents were also asked to complete a corresponding set of questionnaires about their child. The current investigation included data from families in which one primary caregiver had completed the CBCL & ICID and their child over the age of 11 had completed the YSR. In 6-17 year old youth, we examined data from all parents who had completed the CBCL and ICID about their child. Upon receipt of the completed questionnaires each participant was compensated with a small honorarium (e.g., \$10 gift-certificate).

**Results**

**Youth Self- and Parent-Report**

Results of correlational analyses (Pearson’s r) using SPSS statistical software of 55 parent and youth dyads (youth 11 years and older) are depicted in Tables 1 and 2. We compared parent-reported NA, PA, & SP to parent- and youth-reported anxiety and depression. In both youth- and parent-reports, the tripartite constructs NA and PA were significantly negatively correlated, and SP was not significantly correlated with PA ( $p > .05$ ). Also in both youth- and parent-reports, SP was significantly positively correlated with Withdrawn/Depressed scores and Anxious/Depressed scores. However, the youth self-reports indicated that anxiety was more highly correlated with SP than was depression. Negative Affect was not associated with youth-reported Anxious/Depressed or Withdrawn/Depressed scores, while low PA was significantly correlated with parent- but not youth-reported Anxious/Depressed scores.

Table 1

*Correlations between Tripartite Constructs on Parent & Youth Self-Report Measures*

Tripartite Constructs	Positive Affect (Parent)	Negative Affect (Parent)
Somatic Problems (Parent)	-.260	.288*
Somatic Problems (Youth)	-.008	.103
Positive Affect (Parent)	1	-.470**

*Note.*  $N = 55$ . Data from youth 11 and older.

\* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

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Table 2

*Correlations between Tripartite Constructs and Depressive and Anxious Symptoms on Parent and Youth Self-Report*

Tripartite Constructs	Depression (Parent & Youth)	Anxiety (Parent & Youth)
SP (Parent)	P: .433**	P: .412**
SP (Youth)	Y: .472**	Y: .757**
PA (Parent)	P: -.480** Y: -.053	P: -.081 Y: .049
NA (Parent)	P: .380** Y: -.080	P: .488** Y: .019

*Note.*  $N = 55$ . Data from youth 11 and older.  
\* $p < .05$ , two-tailed, \*\* $p < .01$ , two-tailed.

Table 3

*Correlations between Tripartite Constructs on Parent Report Measures*

Tripartite Constructs	PA (Parent)	NA (Parent)
SP (Parent)	-.110	.271**
PA (Parent)	1	-.394**

*Note.*  $N = 153$ . Data from youth aged 6-17.  
\* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

### Parent-Report Only

Results of correlational analyses of 153 parent reports of their children aged 6-17 are depicted in Tables 3 and 4. Negative Affect was significantly negatively correlated with PA and significantly positively correlated with SP. Negative Affect was also significantly positively correlated with both anxiety and depression. Somatic Problems was significantly positively correlated with both anxiety and depression, and PA was significantly negatively correlated with depression. We observed PA to be negatively correlated with anxiety but it was not statistically significant ( $p > .05$ ).

### Discussion

The aim of this study was to examine the conflicting literature surrounding the function of the tripartite model in youth. We investigated the application of the tripartite constructs in differentiating anxious and depressive symptoms in a non-

clinical child and adolescent sample. We found that NA was significantly correlated with both anxious and depressive symptoms and the amount of variance it explained in both disorders was comparable. This is consistent with previous findings of the relationship between NA and the two disorders (Anderson & Hope, 2008), lending further support to the proposition of the tripartite model that NA is an underlying, shared component of anxiety and depression (Clark & Watson, 1991). However, SP was found to be associated with both anxiety and depression, which challenges the discriminant validity of SP (and possibly PH) in predicting anxiety, as proposed by the model. Indeed, previous studies on the association between PH and internalizing disorders have been mixed (e.g., Chorhita & Daleiden, 2002; Jacques & Mash, 2004; Laurent et al., 2004).

Surprisingly, we found no significant correlations between NA and anxious or depressive symptoms reported by adolescents themselves. This is contrary to the abundance of past literature demonstrating that negative affect strongly characterizes both anxiety and depression. The current findings may be due in part to the cross-informant issue. That is, for the older youth in the sample, ratings of NA were obtained from parents only, and these ratings were compared against the youth's own ratings of depressive and anxious symptoms.

It is possible that children's negative affectivity may be less apparent to parents. Negative Affect is characterized by more internal unpleasant engagement as opposed to the obvious, outward expressions of energy characteristic of PA (Clark & Watson, 1991), so parents may simply have less knowledge of their child's feelings of sadness. There is also evidence that children and adolescents' ability to verbalize their emotions are not well developed, and thus tend to present negative emotions as somatic symptoms (Mahoney, Kennard, & Mayes, 2011). Furthermore, for older adolescents beginning to assert their independence, displays of NA towards their parents might not be evident in other domains of their lives. In the current study, parents might have rated

Table 4

*Correlations between Tripartite Constructs and Depressive and Anxious Symptoms on Parent and Youth Self-Report Measures*

Tripartite Constructs	Depression (Parent)	Anxiety (Parent)
SP (Parent)	.506**	.498**
PA (Parent)	-.250**	-.034
NA (Parent)	.308**	.350**

*Note.*  $N = 153$ . Data from youth aged 6-17.  
\* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

their teenagers highly on NA based on their behavior displayed at home but may have little knowledge of their behavior in other settings. These negative behaviors at home might not be representative of their genuine feelings, leading to the observed lack of correlation between NA and depression or anxiety.

We found that PA was negatively correlated with depression in parent reports, but was not correlated with anxiety symptoms in both youth and parent reports. These results are consistent with the prediction of the tripartite model that PA is a factor unique to depression (Clark & Watson, 1991). Some studies, however, have reported the negative association between PA and anxiety symptoms (e.g., Jacques & Mash, 2004). It has been suggested that the absence of positive emotions might be the most prominent in social phobia among anxiety disorders (Watson et al., 2005). The anxiety measure used in the current study (i.e., CBCL) does not include symptoms of social phobia, which may have obscured this negative association.

The SP measure included in the current study captured the somatic tension component of the PH construct, and was found to be positively correlated with both measures of anxiety and depression in both parent and youth reports. These results suggest that somatic tension problems are not exclusive to anxiety, which invalidates predictions of the tripartite model. Though we were unable to measure and distinguish between specific anxiety disorders in the current study, perhaps PH is more highly correlated with panic disorder in youth populations. There is some evidence among adult outpatients that PH is positively correlated with panic symptoms, but not the other anxiety disorders (Brown, Chorpita & Barlow, 1998). Clark & Watson (1991) noted that NA comprised a component of psychosomatic distress, and as our current measure of PH focused on somatic complaints and tension, the similarity in correlations between our measure of PH and anxiety/depression may be a reflection of negative affect-related somatization. Therefore, this can help identify, at the symptom level, which components of PH (i.e., autonomic arousal vs. chronic somatic tension) are more relevant to different types of anxiety disorders in the future. For example, autonomic arousal measures have been consistently shown to be more highly correlated with panic than any other anxiety disorder (Anderson & Hope, 2008), while generalized anxiety disorder reflects some similar somatic symptoms as depression (e.g., muscle tension, aches and pains; American Psychiatric Association, 2000).

Interestingly, in the older youth sample, the positive correlation between SP and anxiety appeared to be larger than that between SP and depression (although we did not test if this difference was statistically significant). However, this difference was not observed in the analyses that included the full age range of youth. Perhaps in older adolescents, chronic aches and pains are more salient whereas younger children (for whom we only obtained parent report) are not able to adequately express or identify their physical complaints. Alternatively, perhaps somatic complaints simply become

more relevant to anxiety disorders than they are to depression as children grow up.

### **Future Directions and Limitations**

Based on the findings discussed above, we proposed several directions for future research. It is important to address the validity of parent reports when investigating the affective components of the tripartite model, as they may not fully capture the child's internal perspective. It is also necessary to investigate the relevance of PH in differentiating anxiety and depression, as the construct did not seem to adequately distinguish the two in the current study. Because we used SP to approximate PH, future studies should include more items measuring the autonomic arousal component in order to better represent Clark and Watson's (1991) original conception of PH. Although SP did not separate the two syndromes in our study, such physiological symptoms appeared to be more highly correlated with anxiety compared to depression in youth. Future research can examine age differences in the utility of somatic complaints as a distinguishing feature of anxiety and depression, and how different classes of symptoms may characterize subtypes of anxiety disorder.

In the current study, we utilized trait measures of positive affect and negative affect, as opposed to the more commonly used state measures, and found trait affectivity to be as effective as state affectivity in predicting anxiety and depression. McCrae and John (1992) proposed that NA is related to Big Five personality traits such as neuroticism and PA is related to extraversion. Our results appear to support the connection of affect and personality in relation to anxiety and depression. Some researchers have suggested a temperamental basis for both personality and psychopathology, with temperamental domains of negative affectivity and positive affectivity (Clark, 2005). Future studies can examine the relationships between affective dimensions in personality and anxiety/depression, and a closer exploration of trait versus state affectivity will enhance our understanding of how each functions in the two disorders. Our study was limited by the fact that the sample was drawn from a community sample, and the nature of clinically significant anxiety and depression may be phenomenologically different from subclinical symptoms. Further replication in a clinical population would be beneficial to advancing our understanding of the difference between clinical and subclinical anxiety and depression in terms of whether they differ in severity or presentation of symptoms.

Despite the methodological constraints, our study has shown that anxiety and depression are both characterized by NA, and PA distinguishes the two groups of symptoms – findings which are consistent with predictions of the tripartite model. Our results, however, do not support the model prediction that PH is uniquely associated with anxiety. Our results support the utility of the tripartite model in understanding anxiety and depression in children and

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adolescents, and also provide direction for further validation/modification of the model.

Finally, the tripartite model is a dimensional model of psychopathology that corresponds to the current shift towards an integration of categorical and dimensional models in DSM-5. For example, Watson (2005) has proposed empirically based structures of psychopathology that reflect similarities among disorders instead of separating them into different categories. Watson posits that disorders with a primary distress component such as major depression and generalized anxiety belong in one class, while panic disorder and social phobia cluster in a separate class, therefore dividing anxiety disorders (i.e., panic and GAD) which had been traditionally conceptualized within one category. Alternatively, Lahey et al. (2004) found that social phobia in children clustered with the distress disorders. This again demonstrates the need for further investigation into dimensional models of youth psychopathology or, as we have attempted to do with the tripartite model, further extensions of adult models to children.

Given the shift toward dimensional diagnoses of adult psychopathology, it is important to define highly comorbid disorders such as anxiety and depression (and their respective subtypes) in terms of the factors which they share and do not share. The tripartite model represents one such way of addressing the issues of comorbidity between anxiety and depression by positing a shared underlying component (NA) and unique constructs (PA, PH) instead of splitting the two syndromes. The current study highlighted the importance of further illuminating the dimensional nature of anxiety and depression in youth populations in order to advance tools for assessment and treatment, as well as our overall understanding of the two syndromes.

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