

# ***A MEASUREMENT MODEL OF STUDENT CHARACTER AS DESCRIBED BY THE POSITIVE ACTION PROGRAM***

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This article measures a model of student character as defined by the Positive Action (PA) program, that posits that students' characters are based on their behaviors and how they feel about themselves when they engage in those behaviors. The program consists of a teacher-led curriculum of 9 units and components that represent different aspects of student character (physical, intellectual, social, and emotional). Using structural equation modeling, we constructed a measurement model of the behavior and feeling domains and the 9 units and components as described by the PA theory. The model was a good fit and a replication sample produced similar results. The results supported that the set of constructs that describe student character, as described in PA's theory, could be measured and distinguished from each other.

Character education is emerging as a promising school-based intervention because it can address a wide range of student problem behaviors and academics (Flay & Allred, 2003). Researchers inevitably need to measure the construct of character as part of an empirical model to demonstrate the program's effects. Theories of character and their associ-

ated constructs are typically complex and comprehensive because such theories are based on a wide range of cognitive, social and emotional theories of student development. In this article, we use the Positive Action (PA) program as an example of a program that uses student character as a key intervention outcome. PA's conceptualization of character integrates several

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theories of a student's self concept. We intend to demonstrate that the constructs described by the PA theory could be measured and distinguished from one another. The results from this article could serve as an example model for others who wish to measure the construct of character in order to empirically demonstrate that character-based interventions can improve a wide range of student outcomes.

### ***THE POSITIVE ACTION PROGRAM—THEORETICAL BASIS***

The Positive Action (PA) program is a comprehensive school-based program designed to promote student character and positive behavior, prevent an array of student problem behaviors, and improve student achievement (Flay & Allred, 2003; Flay, Allred, & Ordway, 2001). PA is grounded in a broad theory of self-concept (Combs, 1962; Purkey, 1970; Purkey & Novak, 1984) that posits that students' self-concepts and characters are determined by how they behave and how they feel about themselves when they do various behaviors; and that making positive and healthy behavioral choices results in feelings of self-worth.

The PA theory is consistent with a wide array of theories of behavior change, many of which are integrated into the Theory of Triadic Influence (Flay & Petraitis, 1994; Petraitis, Flay, & Miller, 1995) and with other current approaches to social and emotional development, health promotion, and the prevention of unhealthy behaviors (Battistich & Hom, 1997; Hawkins & Weis, 1985; Peters & McMahon, 1996). The PA theory is also supported by the recent development of "Positive Psychology" (Seligman, 1998).

An important objective of the PA program is to help students apply the PA theory in a broad range of contexts. The program first teaches students about the relationship between thoughts, behaviors and feelings about themselves. The instructor demonstrates that students feel better about themselves when they engage in positive behaviors and worse

about themselves when they engage in negative behaviors, and that how they feel about themselves determines their future thoughts and then actions. Students are then taught to identify the positive behaviors in the physical, intellectual, social, and emotional domains of their lives and are provided with opportunities to practice these behaviors and then experience how they feel about themselves. These areas are divided into program units that comprise the PA curriculum. Each unit has a series of daily 15-minute classroom lessons that teachers deliver in their classrooms. Teachers are trained to recognize and positively reinforce those students whose behaviors are good examples of the PA theory throughout the day.

There are six main PA units, each of which represents one or more aspects of the student's physical, intellectual, social, or emotional development. Some units are divided into components, resulting in a total of nine PA units/components. Each unit or component has two domains—a behavioral and a feeling domain. Each unit/component describes positive actions (behaviors) that students can use to enhance an aspect of themselves and the positive feelings about themselves that result when students engage in those positive actions.

Unit one introduces students to the idea of self-concept; what it is, how it is formed, and why it is important. Within this discussion, the PA theory is introduced and the relationship between students' thoughts, actions (behaviors) and feelings about themselves are explained. Students are shown a graphic representation model referred to as the Thoughts-Actions-Feelings about Self (TAF) Circle. It shows that thoughts lead to actions (behaviors), actions lead to feelings about oneself, and feelings about oneself lead to more thoughts. The circle describes how a self-concept is formed. When the word "positive" (or its synonyms good or right) or "negative" (or its synonyms bad or wrong) are added to the circle, the idea of "values" is added, and character education is about teaching values. Positive Action connects self-concept and character with its philosophy—you feel good

about yourself when you do positive actions. When you act positively or right or good, it is an indication that you value those behaviors, that is, you value good health, learning, responsibility, positive relationships, honesty with self and others, and self-improvement. Thus, the entire content of the PA program is about developing character and linking it to feelings about yourself. Character and self-concept depend on actions or behaviors. When behaviors, like high academic achievement, are valued, they can be achieved; when behaviors are not valued, they are rarely achieved.

Units two through six teach students what positive actions are and how positive actions are used to enhance all aspects of themselves. Unit Two, Physical and Intellectual, teaches students the positive actions that enhance their bodies (physical) and minds (intellectual). The physical component teaches students positive actions that enhance the physical parts of the self or good health: exercise, hygiene, nutrition, avoiding harmful substances, sleeping and resting enough, and safety. The intellectual component addresses thinking skills like decision making, problem solving, creative thinking and reasoning. It also teaches study skills and the value of learning and education.

Unit Three, Self-Management, teaches students the positive actions to help them manage themselves responsibly. This unit has two components: Responsibility and Control. The responsibility component teaches them how to responsibly manage their time, energy, talents, money, and possessions. The control component teaches them how to manage their thoughts, actions and feelings (e.g. anger, worry, jealousy, love, gratitude).

Unit Four, Being a Good Friend, teaches students the positive actions to improve their social relationships. The concepts introduced here are all based on treating others the way you like to be treated. People like to be treated with respect, fairness, kindness, honesty, courtesy, empathy, and care. This definition leads to serving others or being focused on others rather than self. This unit also includes skills

for positive communication, forming relationships, working cooperatively, conflict resolution and community service.

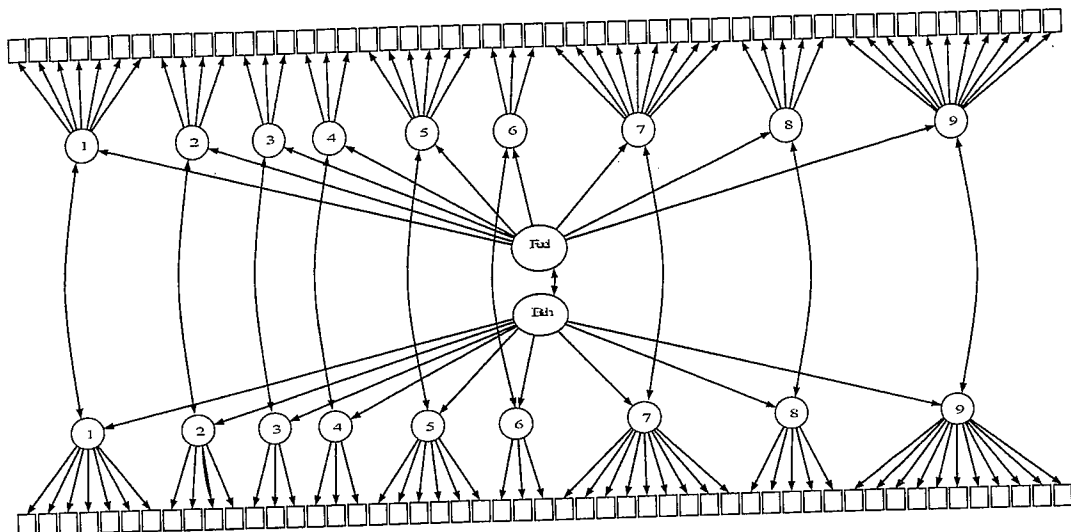
Unit Five, Self-Honesty, teaches students the positive actions to help them to be honest with themselves and with others. The self-honesty unit emphasizes integrity and reliability by doing what you will say you will do, and not blaming others, making excuses or rationalizing. The unit also teaches students about self-appraisal (assessing one's own strengths and weaknesses) and mental health (by teaching the need to and how to deal with reality).

Unit Six, Self-Improvement, teaches students the positive actions to help them improve themselves. This unit teaches students to set goals for their physical, intellectual, social and emotional domains, and to reach their goals by: believing in their own potential, having the courage to try new things, turning problems into opportunities, persisting when they encounter difficulties and broadening their horizons.

### *Measuring and Establishing the Validity of PA Constructs*

Our goal in this article is to measure the constructs according to the PA theory (see Figure 1). Another goal of this article is to demonstrate that the PA constructs have validity, that is, that the PA behaviors and feelings about oneself can be measured, that scales corresponding to the various units are distinct from each other, and that measures of behaviors are distinct from measures of feeling. We approach this problem from the perspective of discriminant and convergent validity. The former term implies that we can reliably distinguish among the constructs and, further, that we can distinguish between behavior and feeling constructs. The latter term implies that the constructs have a correlation structure that the theory predicts and, in particular, that behavior constructs are correlated appropriately with feeling constructs.

First, PA theory states that there are two distinct, yet related domains, behaviors and



Note: 1 = PA Unit 1: Self-Concept; 2 = PA Unit 2: Physical Health; 3 = PA Unit 2: Intellectual-Decision Making; 4 = PA Unit 2: Intellectual-Learning; 5 = PA Unit 3: Self-Management-Responsibility; 6 = PA Unit 3: Self-Management-Control; 7 = PA Unit 4: Good Friend; 8 = PA Unit 5: Self-Honesty; 9 = PA Unit 6: Self-Development.

FIGURE 1  
Structural Equation Model for PA Factors and Second-Order Behavior and Feeling Factors

feelings about oneself, that determine a student's character and self-concept. In the center of Figure 1, we construct our model by first displaying a behavior and a feeling factor and indicating that these factors are correlated. Between the behavior and feeling domains, the nonzero relationship between the behavior and feeling factors reflects the PA theory, which assumes that behaviors are correlated with but also distinguishable from feelings about oneself.

Second, PA theory states that a student's character can be divided into nine PA units/components. In Figure 1, these nine PA units/components are represented by a set of nine factors. Third, students develop their characters by engaging in behaviors and experiencing the feelings that accompany those behaviors that are taught in each of those nine PA units/components. Therefore, there is a set of the nine PA constructs (i.e., the PA units/components) in the behavior domain and a parallel set of the nine PA constructs in the feeling domain. The behavior domain is depicted in the lower half of Figure 1 and it consists of the

behavior factor, the nine PA unit/component factors, and their associated survey items. The feeling domain has a similar structure and is depicted in the upper half of Figure 1.

The PA theory states that the behavior domain explains the relationships among the nine PA behavior constructs. The same structure is true for the feeling domain. We depicted this structure in Figure 1 by having each set of the nine PA units/components load on their respective behavior or feeling factor. Thus, we hypothesize that we can construct a factor model within the behavior and feeling domain where a second-order factor (i.e. a factor of factors) explains the relationships among the first-order factors (i.e. the nine PA units/components). Within each domain, the second-order factor should explain the correlations among the factors, implying that residual terms among the set of factors for feelings and among the set of factors for behaviors should be relatively uncorrelated; that is, controlling for second-order latent variables, the partial correlations among the factors should be relatively small.

To explore these ideas within each of the behavior and feeling domains, each of the PA units/components is represented by a factor, which is measured by a set of survey items (i.e., the observed variables).

## METHOD

### Participants

This study is part of an overall effort to investigate the effects of the PA program on students' behavior and achievement. We measured the effects using a self-report survey. The students were enrolled in Grades 6–12 in schools in a rural district in Utah. Of the students in the district, 46.3% were from a low socioeconomic status background, 12.8% were English as Second Language students and 12.8% were disabled. The median household income for the district was \$37,498 and the district's total population was 26,640. Students

were surveyed in one middle school (Grades 6 and 7), two junior high schools (Grades 6 through 9; Grades 8 and 9) and one high school (Grades 10 through 12). Students were eligible for the survey only if their parents did not object to their child's participation. The University of Illinois-Chicago's Internal Review Board approved parent notification procedures.

The first survey was administered during the spring of 2002 before the PA program was implemented in the schools. In the spring of 2003, a second sample of students, who were not part of the initial survey sample and who also did not have any exposure to the PA program, completed the same survey in order to replicate the findings from the first sample. Table 1 shows the student demographics for both samples. The first sample consisted of mostly students from Grades 9 through 12 and the second sample consisted of mostly students from Grades 6 through 8.

TABLE 1  
Student Demographic Data

	First Sample ( <i>N</i> = 1,156)		Second Sample ( <i>N</i> = 1,375)	
	<i>N</i>	%	<i>N</i>	%
Male	619	53.5	723	52.7
Female	537	46.5	649	47.3
6th Grade	36	3.1	343	24.9
7th Grade	46	4.0	347	25.2
8th Grade	311	26.9	320	23.3
9th Grade	248	21.5	101	7.3
10th Grade	192	16.6	104	7.6
11th Grade	220	19.0	108	7.9
12th Grade	103	8.9	52	3.8
Hispanic/Latino	82	8.0	110	9.1
White	922 (31)	84.4	1,097 (49)	85.5
Black/African American	9 (1)	0.8	10 (1)	0.8
Full or part-Native American	129 (14)	11.8	136 (17)	10.6
Asian or Pacific Islander	16 (3)	1.5	29 (3)	2.3
Other	16 (0)	1.5	11 (0)	0.9

For race/ethnic category: first sample missing *n* = 64; second sample missing *n* = 92.

Numbers in parentheses indicate the number of students who indicated they identified as both Hispanic/Latino and another racial category.

## Instruments

The survey was similar to the survey found on the Positive Action Web site (available at [www.positiveaction.net/support/index.asp?ID1=2&ID2=150](http://www.positiveaction.net/support/index.asp?ID1=2&ID2=150)). The survey contained a set of 50 relevant "behavior" items and each item had a corresponding "feeling" item. The survey asked students how often they engaged in each of the behaviors and how they felt about themselves when they engaged in those behaviors. The behavior items were derived from the lessons taught in each of the PA program units/components. Table 2 shows each survey item and its associated PA unit or component. For the behavior items, the question stem was "How much of the time do you...?" Students indicated on a 5-point scale how often they engaged in a behavior (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*, 5 = *always*). For the feeling items, the question stem was, "How would you feel about yourself if or when you ...?" Students indicated on a 6-point scale how they would feel (1 = *very bad*, 2 = *moderately bad*, 3 = *a little bad*, 4 = *a little good*, 5 = *moderately good*, 6 = *very good*).

## Analysis

A frequency analysis indicated that the items' response distributions were highly skewed. Therefore, prior to further analysis, the responses for the behavior items were collapsed into three categories (from five): response categories 1, 2, 3 were collapsed into one category and categories 4 and 5 were left as is. The responses for the feeling items were collapsed into three categories (from six): response categories 1, 2, and 3 were collapsed into one category, response categories 4 and 5 were collapsed into one category, and category 6 was left as is.

We used structural equation modeling (SEM) available in M-Plus to estimate the model in Figure 1. PA theory states that every behavior a student engages in results in an accompanying feeling about him or herself. In

accordance with the theory, for both the behavior and feeling domains, we constrained the loadings to be equal for (a) the PA items on their designated factors (i.e., the PA units/components), and (b) the nine factors on their designated second-order factors. In constructing the model, we allowed the observed variable (i.e., the PA survey items) errors to correlate across the two domains of behaviors and feelings. Furthermore, we expected that each of the PA behavior factors would covary with its corresponding feeling factor. Therefore, as depicted in Figure 1, we included these covariances in the model so that the correlation between the PA behavior second-order factor and the PA feeling second-order factor would not be inflated.

Because of the ordinal nature of the observed variables, it was necessary to use estimation procedures for ordinal data available in the M-Plus software package version 3.12 (Muthén & Muthén, 2004). It is well known that conventional maximum likelihood methods developed for multivariate normal data yield biased goodness of fit statistics when applied to ordinal data. Typically, chi-square values for assessing model fit are too high, leading one to conclude that the factor structure is more complex than it should be. Essentially, we assumed that normally distributed latent variables were linked to ordinal outcomes. We used WLSMV (weighted least squares with a diagonal weight matrix) estimation. This approach produced robust estimates of the chi-square goodness of fit statistic, corrected for distributional aspects of the observed data. As with most such models, we found that we would reject virtually any model based on the probability value associated with the chi-square statistic, even in robust form. Consequently, we relied on additional goodness of fit statistics, particularly the root mean square of approximation (RMSEA) and the comparative and Tucker fit indices (CFI and TFI). Yu (2002) provides detailed information on the behavior of these and other fit measures.

TABLE 2  
Unstandardized Factor Loadings for the PA Survey Items on Their Designated PA Units or Components

<i>PA Unit/Component</i>	<i>Item</i>	<i>First Sample</i>	<i>Second Sample</i>
1. PA Unit 1: Self-Concept	Feel good when you do good things. (Do good things).	1	1
	Feel bad when you do bad things. (R - Do bad things.)	0.79	0.81
	Feel good about who you are.	0.91	0.95
	Feel successful.	0.95	0.95
	R - Feel unhappy.	0.48	0.49
	Feel optimistic.	0.81	0.75
	Feel good about who you are and what you are doing.	0.92	0.98
2. PA Unit 2: Physical	Keep yourself clean.	1	1
	Choose to eat fresh fruits and vegetables.	1.04	1.16
	Do physical activities.	1.06	1.08
	Brush your teeth at least twice a day.	1.02	1.06
3. PA Unit 2: Intellectual – Decision Making	Make good choices.	1	1
	Make good decisions.	1.13	1.1
	R - Make bad decisions.	0.71	0.68
4. PA Unit 2: Intellectual - Learning	Do your homework.	1	1
	Work hard in school.	1.13	1.1
	Like to do well in school.	1.1	1.15
5. PA Unit 3: Self-Management– Responsibility	Take care of your belongings.	1	1
	Do your chores.	0.92	0.99
	Take responsibility for yourself.	1.26	1.25
	Manage your time wisely.	1.25	1.21
	Manage your energy wisely.	1.21	1.19
	Manage your money wisely.	1.03	1.02
6. PA Unit 3: Self-Management– Control	Control yourself.	1	1
	Control your feelings.	0.98	0.94
	Manage your anger.	1.01	0.97
7. PA Unit 4: Good Friend	Be a good friend to others.	1	1
	Be tolerant of differences in others.	0.88	0.84
	Help others when they need it.	1.1	1.04
	Be kind to others.	1.17	1.16
	Get along with others.	1.09	1.08
	Think about how others feel.	1.04	1.07
	Respect others.	1.1	1.15
	Treat others the way you like to be treated.	1.14	1.12
8. PA Unit 5: Self-Honesty	R - Blame others for your mistakes.	1	1
	Tell yourself the truth.	1.72	1.55
	Keep promises you make to others.	1.71	1.52
	Return something that you borrowed.	1.63	1.49
	Admit your mistakes.	1.52	1.4
9. PA Unit 6: Self-Improvement	Make yourself a better person.	1	1
	Keep trying something until you succeed.	0.93	0.94
	Set goals for yourself.	0.92	0.95
	Try new things.	0.77	0.86
	Be creative.	0.75	0.85
	Develop your talents.	0.85	0.9
	Turn problems into opportunities.	0.9	0.88
	Know your strengths and weaknesses.	0.81	0.78
	Try to be your best.	1.02	1.06
Solve problems well.	0.97	0.99	
	Learn new things.	0.93	0.99

*Note:* The items were the same for both the Behavior and Feeling scales, except for PA Unit 1 where items in parentheses indicated the items' wording for the behavior scale; The question stem for the Behavior items was "How much of the time do you....?"; The question stem for the Feeling items was "How would you feel about yourself if or when you....?"; R = Reverse-Worded Item.

## RESULTS

The analysis indicated that the model was a good fit. Although the value of the chi-square statistic was high ( $\chi^2(412) = 1,974.81, p < .01$ ), the values of the other fit indices suggest that the model was a moderately good fit (Yu, 2002) (Free parameters = 330, Comparative Fit Index (CFI) = .88, Tucker Fit Index (TFI) = .97, Root Mean Square of Approximation Index (RMSEA) = .06, Weighted Root Mean Square Residual (WRMR) = 1.84). To determine if the model that constrained the factor loadings to be equal for the behavior and feeling factors provided the best fit, we compared it to an unconstrained model where we allowed the factor loadings to be unequal. Fit statistics for this model were closely comparable to the constrained model ( $\chi^2(494) = 2,338.33, p < .01$ , Free parameters = 379, CFI = .86, TFI = .97, RMSEA = .06, WRMR = 1.68). A chi-square difference test, based on the procedures described by Muthén & Muthén (2004), indicated that the unconstrained model fit significantly better than the constrained model ( $\chi^2(40) = 205.65, p < .01$ ). However, the difference test was very sensitive and the differences in factor loadings between the two models were not substantively meaningful. Thus, we retained the constrained model because it was more parsimonious.

Table 2 shows the unstandardized factor loadings for the survey items on their designated factors. The survey items demonstrated reasonably high loadings on their respective factors, with only the 3 reverse-coded items having less desirable loadings.

We hypothesized that a behavior and a feeling factor could explain the relationships among the set of nine behavior and feeling PA units/components, respectively. Table 3 shows the factor loadings for the nine behavior and feeling factors (i.e., the PA units/components) on their designated second-order behavior and feeling factors. The factors demonstrated reasonably high loadings. Tables 4 and 5 demonstrate the effect of including the behavior and feeling factor on the correlations among their respective set of nine PA unit/component factors. Table 4 shows the correlations between the PA behavior units/components and the PA feeling units/components. The diagonal values (**bolded**) represent the correlations between each of the PA behavior units/components and its corresponding PA feeling unit/component. Correlations between a PA behavior unit/component and the other PA feeling units/components are presented in the upper and lower triangles. The off-diagonal correlations were smaller than the diagonal correlations, with few exceptions (e.g. diagonal correlation:  $r_{11} = .65$ , off-diagonal correlations:  $r_{13} = .63$ ,

TABLE 3  
Factor Loading Estimates on the Second-order Factor

<i>PA Unit/Component</i>	<i>First Sample Model</i>	<i>Second Sample Model</i>
1. PA Unit 1: Self-concept	1.00 (.86)	1.00 (.85)
2. PA Unit 2: Physical	0.64 (.87)	0.64 (.85)
3. PA Unit 2: Intellectual–Decision Making	0.91 (.70)	0.94 (.75)
4. PA Unit 2: Intellectual–Learning	0.81 (.70)	0.86 (.73)
5. PA Unit 3: Self-Management–Responsibility	0.75 (.91)	0.80 (.96)
6. PA Unit 3: Self-Management–Control	0.88 (.72)	0.92 (.77)
7. PA Unit 4: Good Friend	0.85 (.84)	0.89 (.86)
8. PA Unit 5: Self-Honesty	0.55 (.92)	0.62 (.91)
9. PA Unit 6: Self-Improvement	0.96 (.87)	0.97 (.92)

Note: Standardized factor loadings are in parentheses.

For all models, the 'Behavior' PA Unit/Component factors loaded on the second-order 'Behavior' factor. The 'Feeling' factors and second-order factors had the same structure.



TABLE 4  
Correlations Between the Behavior and Feeling PA Units and Components

	1. <i>Feeling-PA Unit 1: Self-concept</i>	2. <i>Feeling -PA Unit 2: Physical</i>	3. <i>Feeling -PA Unit 2: Intellectual-Decision Making</i>	4. <i>Feeling -PA Unit 2: Intellectual-Learning</i>	5. <i>Feeling -PA Unit 3: Self-Management-Responsibility</i>	6. <i>Feeling -PA Unit 3: Self-Management-Control</i>	7. <i>Feeling -PA Unit 4: Good Friend</i>	8. <i>Feeling-PA Unit 5: Self-Honesty</i>	9. <i>Feeling -PA Unit 6: Self-Improvement</i>
1. Behavior-PA Unit 1: Self-concept	<b>0.65</b>	0.54	0.63	0.53	0.57	0.54	0.64	0.60	0.67
2. Behavior-PA Unit 2: Physical	0.41	<b>0.67</b>	0.37	0.41	0.49	0.41	0.45	0.48	0.53
3. Behavior-PA Unit 2: Intellectual-Decision Making	0.47	0.38	<b>0.55</b>	0.50	0.45	0.44	0.44	0.44	0.45
4. Behavior-PA Unit 2: Intellectual-Learning	0.55	0.44	0.62	<b>0.71</b>	0.52	0.47	0.51	0.50	0.51
5. Behavior-PA Unit 3: Self-Management-Responsibility	0.45	0.50	0.43	0.44	<b>0.57</b>	0.44	0.45	0.57	0.56
6. Behavior-PA Unit 3: Self-Management-Control	0.46	0.35	0.50	0.42	0.45	<b>0.59</b>	0.44	0.46	0.45
7. Behavior-PA Unit 4: Good Friend	0.57	0.48	0.55	0.52	0.49	0.50	<b>0.70</b>	0.59	0.57
8. Behavior-PA Unit 5: Self-Honesty	0.54	0.51	0.52	0.51	0.56	0.51	0.54	<b>0.63</b>	0.58
9. Behavior-PA Unit 6: Self-Improvement	0.53	0.54	0.46	0.46	0.53	0.43	0.53	0.54	<b>0.67</b>

Note: The correlations between a PA behavior unit and its corresponding PA feeling unit are on the diagonal (bolded). Correlations between a PA behavior unit and other PA feeling units are in the upper and lower triangles. All correlations were significant at  $p < .01$ . The average correlation among the Behavior PA Units is 0.66. The average correlation among the Feeling PA Units is 0.86

$r_{17} = .64$ ,  $r_{19} = .67$ ; diagonal correlation:  $r_{55} = .57$ , off-diagonal correlations:  $r_{58} = .57$ ,  $r_{59} = .56$ ). The average correlation among the PA behavior units/components was 0.66 and

among the PA feeling units/components was 0.86.

Table 5 shows the correlations between each of the nine PA behavior units/compo-

TABLE 5  
Correlation Estimates Between the Behavior Factors and Their Corresponding  
Feeling Factors After Accounting for the Behavior and Feeling Second-Order Factors

<i>Factors</i>	<i>First Sample Model</i>	<i>Second Sample Model</i>
1. PA Unit 1: Self-concept	0.08**	0.11**
2. PA Unit 2: Physical	0.16**	0.21**
3. PA Unit 2: Intellectual–Decision Making	0.12**	0.10**
4. PA Unit 2: Intellectual–Learning	0.27**	0.25**
5. PA Unit 3: Self-Management–Responsibility	0.02	0.01
6. PA Unit 3: Self-Management–Control	0.21**	0.10**
7. PA Unit 4: Good Friend	0.16**	0.13**
8. PA Unit 5: Self-Honesty	0.03	0.08**
9. PA Unit 6: Self-Improvement	0.09**	0.08**

Note: \*\* $p < .01$ .

nents with its corresponding PA feeling unit/component, after accounting for the correlations between the nine PA behavior and feeling units/components at the second-order factor level. As expected, the correlations in Table 5 were much smaller than the correlations in the diagonal correlations in Table 4, although most remained significant.

We hypothesized that, according to the PA theory, the behavior domain would be correlated with, yet still distinguishable from the feeling domain. The estimated correlation between the second-order behavior factor on the second-order feeling factor was significant and the size of the coefficient was moderate ( $r = .65$ ,  $p < .01$  in both the constrained and unconstrained models).

### *Replication of the SEM Model*

The model using the second sample also yielded a good fit (see Tables 2, 3, 4, and 5). The fit indices were similar to the results obtained from the first sample ( $\chi^2(427) = 2295.29$ ,  $p < .01$ , Number of free parameters = 330, CFI = .90, TFI = .98, RMSEA = .06, WRMR = 1.90). The item loadings, the loadings for the nine PA behavior and feeling factors on their corresponding second-order factors, and the estimated correlation coefficient between the second-order behavior and

feeling factors ( $r = .71$ ,  $p < .01$ ) were all comparable to the first sample.

### *DISCUSSION*

The results from our analyses supported our hypothesized measurement model of PA's theory of student character and self-concept. The results from these analyses indicate that behaviors and feelings about oneself can be measured and that they can be distinguished from each other. Furthermore, PA theory states that a student's character can be divided into nine components (i.e., the nine units/components). These aspects of student character can be distinguished from each other, yet they are related, and we outlined a second-order factor model so that the nine aspects of student character also can be subsumed under a behavior and feeling domain.

In order for us to test the hypothesized relationships among the PA constructs, we first had to measure them. The survey items that measured students' behaviors and feelings about themselves loaded appropriately on their respective factors (i.e., the PA units/components).

The results in Table 3 indicated that the nine PA behavior and feeling factors loaded appropriately on their respective second-order behavior or feeling factor. Thus, our hypothe-

sis that the second-order behavior and feeling factors would account for the correlations among their respective behavior and feeling factors was supported. Table 4 shows that the correlations between each of the PA behavior units/components and its corresponding PA feeling unit/component were higher than the correlations across the PA behavior and feeling units/components. When the correlations between behaviors and feelings was accounted for at the second-order factor level (in Table 5) we saw that the estimates between each of the PA behavior units/components and its corresponding PA feeling unit/component were substantially reduced. The relationships among the nine PA behavior and feeling units/components, which are considered to represent aspects of student character, could be subsumed under a behavior and a feeling domain.

By stating that there are nine aspects of the self that comprise student character, the PA theory also implies that the various PA units/components are distinct from each other. Our hypothesis that the PA units/components were distinguishable from each other was supported by the pattern of the factor loadings of the nine PA behavior and feeling units/components (i.e., each set of the nine factors) on their respective second-order behavior or feeling factors. The results from the model helped establish the convergent and discriminant validity of the nine PA units and components.

Finally, by stating that behaviors predict feelings about oneself, the PA theory also implies that behaviors and feelings about oneself are related to, yet distinct from, each other. The discriminant validity of the second-order behavior and feeling factors was supported by the moderate estimate of the correlation between the two factors.

### ***Replication of the SEM Model***

As noted, the results of the model based on the second sample were very similar to the results from the first sample, suggesting that the findings obtained from the first sample were robust. The two samples were different

from each other in terms of the students' grade level, so the higher correlation estimate between the second-order behavior and feeling factors was to be expected for developmental reasons (because relationships among variables are usually higher for younger children). The comparable results between the first and the second sample helped support the generalizability of the PA theory for younger and older students. Future research could investigate the effects of developmental differences between younger and older children on the measurement of character.

### ***Limitations***

A limitation of this study was that the sample students' ethnic and racial backgrounds were homogenous; the majority of the students were white. Further research should replicate the PA model with diverse ethnic/racial groups. Another limitation was that the study did not address the "thoughts" component of the PA model. Further research could determine if a "thoughts" factor is distinguishable from the behavior and feeling factors.

### ***Summary***

The analysis and its findings suggest that it was possible to measure the constructs specified in PA's theory of student character and demonstrate that the constructs were related to, yet distinct from, each other. In order for researchers to demonstrate empirically that interventions that address student character and self-concept can produce positive outcomes, they first have to measure character. We hope our results establish that complex models of character can be specified and measured as part of a comprehensive model. We hope that future evaluation results will demonstrate empirically that the effects of character-based intervention programs on student character also translate to effects on other outcomes such as pro- and anti-social behaviors and academic achievement.

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