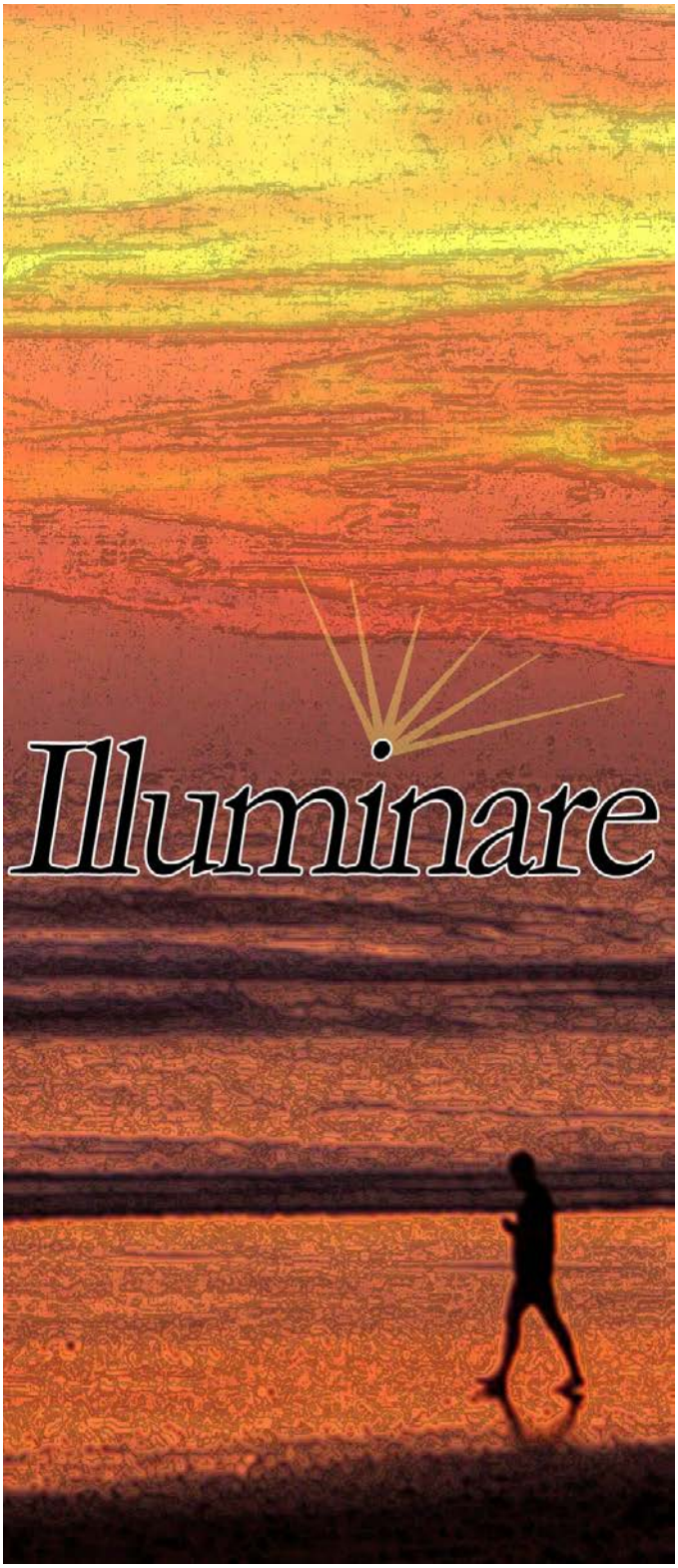

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The Resiliency and Attitudes Skills Profile: An Assessment of Factor Structure

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The Resiliency and Attitudes Skills Profile: An Assessment of Factor Structure

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Abstract

This study examines the Resiliency Attitudes and Skills Profile (RASP) in an afterschool recreation program with sixth grade students (*N*=137). The purpose of the study was to inspect the psychometric properties of the RASP and the internal consistency of the RASP global scale and subscales. This article expands on research reported on the RASP. Findings suggest that the RASP measures aspects of resiliency along four factors/dimensions. Suggestions for future research are provided.

Keywords: Resiliency Attitudes Skills Profile, resiliency and youths, exploratory factor analysis, scale assessment, scale development.

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Introduction

The time that children spend participating in constructive activities that encourage life and social skills is greatly needed to counteract the potential for delinquency (Green, Kleiber, & Tarrant, 2000; Hurtes, Allen, Stevens, & Lee, 2000). Riggs and Greenberg (2004) noted that urban youths are increasingly finding themselves in a changed landscape where social and economic circumstances are working against their success in school endeavors and, more generally, in life's pursuits. Youths who relate to various negative circumstances and living conditions where their best interests are compromised often lack resources, demonstrate the inability to thrive, and are viewed as disadvantaged youth. These youths are referred to as at-risk. According to the National Center for School Engagement, "the term at-risk youth typically implies a future with less than optimal outcomes," and reasons for being at-risk could include sexual abuse, homelessness, exposure to drugs or alcohol, mental illness, parental neglect, poor living conditions at home, or lack of social or emotional supports (para.1).

Given the possibility that youths can become at-risk, it is critical to explore how resiliency can be inculcated in today's youths. Resiliency has been found to be an important factor for life-long health and well-being, yet it has been difficult to define and measure (Windle, Bennett, & Noyes, 2011). The purpose of this study is to explore the psychometric properties of the Resiliency and Attitudes Skills Profile (RASP) developed by Hurtes (1999) and tested by Hurtes and Allen (2001) to test the factor structure underlying the theories espoused by Wolin and Wolin (1993) noted below. This study employed the RASP in an afterschool recreation program developed for sixth grade students as an intervention strategy to instill resiliency in youths. The following sections provide a brief review of resiliency, resiliency measures, the development of the RASP, and the psychometric testing of the RASP, followed by concluding remarks.

Literature Review

Resiliency

Resiliency has been defined as the ability to rise above adversity (Wolin & Wolin, 1993), "bounce back" from challenges (Benard, 1993; Hill, Gómez, & Jeppesen, 2007; Prince-Embury, 2010a; Windle et al., 2011), or as a "personality characteristic that moderates the negative effects of stress and promotes adaptation" (Waginold & Young, 1993, p. 165). Furthermore, the literature on resiliency distinguishes resiliency as conceptually different from resilience with the former defined as personal attributes of the individual, while the latter has been defined as more contextual in nature via interaction with one's environment (Luthar & Zelazo, 2003).

Benard (1993) defined four specific qualities that are found within resilient youth: social competence, problem-solving skills, autonomy and a sense of purpose. It is important for these skills to be learned, developed, and explored early in life while engaged in peer relationships to increase overall adjustment within a community. Zolkoski and Bullock (2012) noted three general waves of research regarding resiliency theory:

> The first wave of research came from scientists wanting to understand and prevent the development of psychopathology (Masten, 2011; Masten & Obradovic, 2006) … The second wave of resilience research concentrated on detecting the processes and regulatory systems that accounted for protective factors associated with resilience … The third wave arose due to a sense of urgency for the welfare of children growing up with adversities focusing on promoting resilience through prevention, intervention, and policy. (p. 2296)

According to Prince-Embury (2010a), the topic of resiliency has been investigated by developmental theorists for the past 50 years. The intent of this study is not an exhaustive approach to the literature, but rather an informative approach, as several re-

views related to the history and its development exist (Hurtes& Allen, 2001; Luthar & Cicchetti, 2000; Masten, 2007; O'Neal, 1999; Zolkoski& Bullock, 2012).

Resiliency Scales and Measurement

O'Neal (1993) and Windle et al. (2011) provided excellent reviews of different scales developed to measure resiliency. O'Neal's review was from the mid-1980s to the mid-1990s, and she discussed the origins, descriptions, and psychometric properties of seven different scales. Windle and colleagues reviewed 15 different scales related to resiliency from 1989 to 2008, including the RASP, and found no "gold standard" among the measures from a psychometric perspective.

In a special issue of the *Journal of Psychological Assessment* regarding resiliency, children, and adolescents, Prince-Embury (2010a) introduced four different scales. The scales measure resiliency in children and adolescents from (a) an individual perspective of youths, aged 9-18 years (Resiliency Scales for Children and Adolescents [RSCA]; Prince-Emubury, 2007); (b) a parental perspective on K-8th grade students (Devereux Student Strengths Assessment [DESSA]; LeBuffe, Shapiro & Naglieri, 2008); (c) a classroom perspective (Class Maps Survey; Doll, Zucker, & Brehm, 2004); and (d) early childhood, aged 2-5 years (Devereux Early Childhood Assessment-Clinical Form [DECA-C]; LeBuffe & Naglieri, 2004). The review of these scales is consistent with the depth and breadth of options available for researchers, and compliments resiliency-based intervention strategies related to the individual-level, family-level, and social environment (Zolkoski & Bullock, 2012). Moreover, resiliency scales should be developed for various growth stages because "developmental changes will influence resilience just as they influence any other characteristic" (Rutter, 1993, p. 626).

Although several scales have been developed, two are briefly introduced in this review for the purposes of comparing them to the RASP. Waginold and Young (1993) noted that resilient individuals exhibit equanimity (i.e., the ability to remain calm under pressure), perseverance, self-discipline, self-reliance, meaningfulness (i.e., life has a purpose), and existential aloneness (i.e., the realization that each person's life path is different). These characteristics form the basis for the Resilience Scale's two factors: personal competence, and acceptance of self and life. Prince-Embury (2007; 2010b) remarked that youth exhibit resiliency through three areas: (a) a sense of mastery, which includes self-efficacy, optimism, and adaptability; (b) a sense of relatedness, which includes trusting others, access to support, comfort with others, and tolerance; and (c) emotional reactivity, which includes sensitivity to adversity, the ability to self-regulate, temperament development, and the ability to recover. These three areas reflect the three subscales of the RSCA.

Recreation Programming, Resiliency, and the RASP

Resiliency theory suggests that increasing children's ability for using beneficial coping mechanisms to respond to adversity will greatly benefit their overall well-being and future lifestyles. Youth programs are more effective when they integrate multiple domains of family, school and community and focus on increasing competence and skills, rather than reducing existing negative behaviors (Browne, Gafni, Roberts, Byrne, & Majumdar, 2004). A variety of research has been conducted on the contributions of youth programs and their impact on healthy psychosocial development, especially with low-income, urban children (Fashola, 2003; Hall, Yohalem, Tolman, & Wilson, 2003; Hirsch, 2005; Kahne et al., 2001).

An advancement specific to recreation programming is Benefits-Based Programming (BBP), which involves the process of intentionally engineering recreation experiences for youths to help shape and prepare them for the future. The use of BBP can help youths by providing opportunities for supportive relationships with adults and mentors that allow

youths to feel a common bond and a sense of cohesiveness (Hill, Brown, & Cosnett, 2011). However, BBP opportunities are often not available or not provided to poor or minority youth populations, although BBP has been found to be particularly positive for those in underprivileged environments (Hill & Milliken, 2012). Benefits-Based Programming (BBP) and the positive benefits of recreation have been shown to enhance efforts to develop resiliency and positive youth behavior (Brown et al., 2012; Cooper, Estes, & Allen, 2004; Hill et al., 2011).

Hill et al. (2011) and Brown et al. (2012) explained the importance and incorporation of Wolin and Wolin's (1993) resiliency traits into activities, programs, and situations in order to build positive affect and well-being in youths. Wolin and Wolin advocated seven traits that reflect resiliency derived from qualitative research. These seven traits were operationalized by Hurtes (1999) in the Resiliency and Attitudes Skills Profile (RASP) and defined as: (a) *insight* (the ability to read into a person's verbal or body gestures), (b) *independence* (the capacity to separate oneself from risk factor or negative consequence), (c) *relationships* (establishing and maintaining healthy relationships with peers, family, and role models), (d) *initiative* (self-determination and the ability to take charge), (e) *creativity* (generating of options to cope with hardships), (f) *humor* (use of laughter or sense of humor as a healthy coping mechanism for stress), and (g) *values orientation* (decision-making or choices based on a core sense of values, ethics, and morals) (definitions adapted from Hill and colleagues, 2007, p. 62).

These traits were operationalized as separate factors (i.e., seven dimensions) of the RASP, and measured using Hurtes' (1999) original 40 items (Table 1). Hurtes and Allen (2001) later tested the RASP at two sites. Site 1 included participants in a recreation summer program, across six schools, ages 12-19. Site 2 included participants in a therapeutic wilderness camp, whose participants had diagnosed behavioral problems and were receiving therapeutic recreation interventions. Given the age range of the participants in their study, the institutionalized nature of their participants, and the wide variety of developmental changes represented across the age groups, Hurtes and Allen recommended the RASP be tested "in a variety of settings and with a variety of youth in order to cross-validate its structure and increase the instrument's utility" (2001, p. 23).

The RASP was selected for this study as the measure of resiliency for several reasons. First, the RASP items were created based on theory, face validity and Delphi expert review procedures (Hurtes & Allen, 2001). Second, independent external review of the RASP noted that its construction was theoretically sound, and had high content validity, but recommended further analysis due to low internal consistency (Windle et al., 2011). Third, the RASP was designed to be used in a recreation setting (Hurtes & Allen, 2001), complimentary to BBP approaches, and reflects current views regarding a positivistic approach to measuring resiliency (Luthar & Cicchetti, 2000; Masten, 2007; O'Neal, 1999; Zolkoski & Bullock, 2012). Fourth, the vast majority of resiliency research tends to be clinically based (Zolkoski & Bullock, 2012), and Hurtes and Allen recommended the RASP be used in non-clinical settings. Additionally, we selected sixth grade students for two reasons. First, the sixth grade represents a transition stage from elementary to middle school, and often a challenging time. Second, there is a general paucity of resiliency measures targeting youth under the age of 12, or specific age groups (Windle et al., 2011).

Methods

Research Design and Administration

The RASP was administered in the fall of 2008 in an afterschool, resiliency-based, recreation program called Character and Resiliency Education with Norfolk Public Schools (NPS) and Old Dominion University (ODU) Working Together (CARE NOW). The RASP and protocols for the study were approved by the ODU's IRB. Prior to beginning

Table 1. Initial Items and Subscales Measuring the RASP (N = 97)

Items and Subscales[a]	*M*	*SD*
Creativity Subscale		
CRE1. I can imagine the consequence of my actions[d]	5.02	1.20
CRE2. I come up with new ways to handle difficult decisions[d]	4.70	1.24
CRE3. I come up with different ways to let out my feelings	5.29	1.01
CRE4. I can entertain myself[b]	4.86	1.51
Insight Subscale		
INS1. I learn from my mistakes[b]	5.34	0.98
INS2. I notice small changes in facial expressions[d]	4.95	1.25
INS3. I know when I am good at something	5.05	0.95
INS4. I can change my behavior to match the situation	5.08	1.02
INS5. I can tell if it was my fault when something goes wrong	4.98	1.16
INS6. I can sense when someone is not telling the truth[d]	4.86	1.45
INS7. I can tell what mood someone is in just by looking at him/her[b]	5.01	1.44
Independence Subscale		
IND1. I can deal with whatever comes in the future[d]	4.82	1.01
IND2. I say "no" to things that I don't want to do[b]	5.33	1.28
IND3. I know it's OK if I don't see things the way other people do	5.23	1.09
IND4. I know it's OK if some people don't like me	5.30	1.29
IND5. I am comfortable making my own decisions[c]	5.32	1.09
IND6. I control my own life[c]	5.01	1.29
IND7. I avoid situations where I could get into trouble[d]	5.09	1.21
IND8. I share my ideas and opinions even when they are different from other people's	5.09	1.16
Humor Subscale		
HUM1. I use my sense of humor to deal with tough situations	4.62	1.45
HUM2. I look for the "lighter side" of tough situations	4.76	1.37
HUM3. I use laughter to help me deal with stress	4.70	1.67
HUM4. I can cheer myself up when in a bad mood[d]	4.07	1.67
Relationship Subscale		
REL1. I have friends who know they can count on me [d]	5.29	1.02
REL2. I have family who is there when I need them [b]	5.30	1.02
REL3. I avoid people who could get me into trouble [d]	4.95	1.42
REL4. I choose my friends carefully [c]	5.25	1.19
REL5. I am good at keeping friendships going	5.31	1.29
REL6. I have friends that will back me up	5.34	1.19
REL7. I can be myself around my friends	5.52	0.98
REL8. I make friends easily	5.26	1.28
Initiative Subscale		
INI1. I try harder the next time after my work is criticized[b]	5.32	0.98
INI2. I don't let anything stop me from reaching a goal I set for myself	5.30	1.01
INI3. I can change my surroundings	4.47	1.56
INI4. I try to figure out things that I don't understand[d]	5.19	1.06
INI5. I don't give up when something bad happens to me	5.07	1.11
Values Orientation Subscale		
VAL1. I am prepared to deal with consequences of my actions[b]	4.91	1.22
VAL2. I know lying is unacceptable[b]	5.17	1.31
VAL3. I try to help others	5.25	1.12
VAL4. I stand up for what I believe is right	5.37	1.09

[a] – items on a 6-point scale from 1=Strongly Disagree to 6= Strongly Agree
[b] – item did not have the necessary factor loading (h>.4), item discarded
[c] – items represented Heywood cases in the data, item discarded
[d] – cross-loaded on two or more factors, item discarded

CARE NOW programming, consent to engage in research was obtained through the researchers' University's IRB. Because CARE NOW was a joint initiative between NPS and ODU, NPS elected to have all sixth graders from one designated middle school participate in the programming. However, participation in the research was optional.

During sixth grade orientation, students were given information to pass on to their parents about the CARE NOW programming and their option to participate in the research. Additionally, program recreation facilitators, known as advocates, provided informed consent forms in hard copy to the students during the first two weeks of the semester. Moreover, the forms were made available on the school web site. The assistant principal also announced the program and the associated research on the daily announcements as well as on the parental link home phone system utilized by NPS. Ultimately, those who provided informed consent forms signed by their parents were included in the study.

Pre-test RASP data collection occurred during the third week of the semester prior to direct programming. The assistant principal provided class rosters of those who had submitted signed informed consents. Students from those classes were asked to go to a separate classroom, read and sign an assent form, and presented with the RASP. Items were read aloud to accommodate those at lower reading levels. Surveys were collected and securely stored.

Although our initial intent with the study was to create a pre-test and post-test analysis of resiliency, using the RASP as the measure and CARE NOW as the intervention, the method for tracking students (last four of home phone numbers) was found to be faulty for a matched pairs design, and would have given us an *N* of less than 10 matched-pairs. As such, only the data collected during the pre-test period of CARE NOW were used for this study of psychometric evaluation.

Instrumentation

As noted earlier, the RASP consists of 40-items, and was created to measure seven dimensions of resiliency. Items in the questionnaire (see Table 1) are scored on a Likert scale, from 1 (strongly disagree) to 6 (strongly agree). Hurtes and Allen (2001) tested the seven dimensions/subscales using Confirmatory Factor Analysis (CFA), and the internal consistency alpha levels for the seven subscales were .49 (Humor), .53 (Initiative), .62 (Independence), .65 (Initiative), .68 (Creativity), .68 (Values Orientation) and .71 (Relationships), and the overall RASP alpha was .91.

Data Analysis

Data analysis was conducted through basic descriptive statistics, Exploratory Factor Analysis (EFA), and reliability analysis using Cronbach's α. The data were analyzed using the Statistical Package for the Social Sciences (SPSS) 20.0. A *p*-value of .05 was used to determine statistical significance in all analyses.

Results

Descriptive statistics

In this 2008 study, 366 sixth graders were eligible to participate in the study. The number of surveys completed during the pre-test represented $N = 137$. Respondents' average age was 11.2 years old, and 11 year olds (66.2%) and 12 year olds (23.5%) constituted the largest age groups. The distribution of females (65.4%) was higher compared to the distribution of males (35.6%). Students predominantly lived in a two-parent household (67.2%) or a mom-only household (20.9%). Additionally, of the two-parent households, the majority lived with their original set of parents (82.2%), while others lived with a mom and stepparent (26.7%). The two most prominent racial groups were Black/African-American (56.5%) and White/Caucasian (28.2%) students.

Exploratory Factor Analysis (EFA)

An EFA was performed to determine if the factor structure of Wolin and Wolin's (1999) original RASP dimensions held as conceptualized by Hurtes and Allen (2001; see Table 1). EFA is the appropriate analysis given lack of theoretical agreement on resiliency, lack of dimensional agreement in previ-

ous literature, and because the scale is early in its development and could contribute to model specification prior to cross-validation using CFA (Hurley et al., 1997). The Kaiser-Meier-Olkin (KMO) measure was used to test adequacy of the sample for an EFA. KMO values > 0.70 and a significant Bartlett's Test of Sphericity (BTS) value of $p < 0.05$ were accepted as the minimum requirements for sampling adequacy (Guadagnoli & Velicer, 1988; Tabachnick & Fidell, 1996). According to Hutcheson and Sofroniou (1999), KMO values between .50 and .70 are mediocre, values between .70 and .80 are good, values between .80 and .90 are great, and values above .90 are superb. Field (2009) suggested KMOs above .50 are the bare minimum.

An EFA was conducted with promax rotation, and maximum likelihood extraction. Several well-recognized criteria for the factorability of a correlation were used. First, all items in the *R*-matrix correlated at least .30 with one other item, and no items correlated > .90 (Field, 2009). The initial KMO of .69 verified the sampling adequacy for the analysis; however some KMO values for individual items in the anti-image matrix were below the acceptable limit of .50 (Field, 2009), indicating problematic items. The initial Bartlett's test of sphericity χ^2 (780) = 1785.45, $p < .0001$, indicated that correlations between items were sufficiently large for EFA. An initial analysis obtained eigenvalues for each factor in the data, as well as a scree plot. Thirteen factors had eigenvalues over Kaiser's criterion of 1 and in combination explained 72% of the variance; however the leveling off of the scree plot of eigenvalues occurred after the fourth factor.

Although an initial extraction of seven factors was explored in SPSS to reflect Wolin and Wolin's (1999) seven dimensions of resiliency, the EFA showed no discernable factor structure beyond a five factor solution. Therefore, three, four, and five factor solutions were examined (not shown) based on the screeplot. During several steps, several items were eliminated because they did not contribute to simple factor structure, failed to meet a minimum criteria of having a primary factor loading of .40 or above, had low (< .30) communalities, or had cross-loadings (Field, 2009; Osborne, Costello, & Kellow, 2008; Stevens, 2002).

In each of the three, four, and five factor solutions, eight items (CRE4, INS1, INS7, IND2, REL2, INI1, VAL1 and VAL2) did not load .35 or higher on any factor and were deleted from the analysis. Three items (IND5, IND6 and REL4) were deleted as Heywood cases with commonalities or factor loadings of 1.0 or higher, an indication of a fundamental problem with these items, and the items were considered statistically inadmissible for analyses (Heywood, 1931, as cited in Thompson, 2004). Lastly, 10 items (CRE1, CRE2, INS2, INS6, HUM4, IND1, IND7, REL1, REL3, and INI4) were removed due to approximately equal cross-loadings on two or more factors in either the three or four factor solution.

A four factor solution was retained because of previous theoretical support, the scree plot analysis, and the insufficient number of primary loadings and difficulty of interpreting a fifth factor. Additionally, all items in a four factor solution had communalities above .30, with the exception of INS4, and factor loadings above .40, indicating that each item shared some common variance with other items and with the factors (see Table 2). When assessing the three factor solution, 25% of all communalities were below the .30 threshold, and three factor loadings were below the .40 cut-off. Thus, the more parsimonious model was the four factor solution.

Given these overall assessments, a final EFA was conducted with 19 items (Table 2). All items in the *R*-matrix correlated at least .30 with one other item, and no items correlated > .90. The KMO of .83 was a significant improvement over the initial set of variables, verifying sampling adequacy, and all KMO values for individual items in the anti-image matrix were between .71 and .91, which are well above the acceptable limit of .50. Bartlett's test of

sphericity χ^2 (171) = 745.88, $p < .0001$, indicated that correlations between items were sufficiently large for EFA. As a final assessment of the four factor model, the model was assessed for fit by comparing the *R*-matrix with the reproduced matrix and corresponding residual differences. For a good fitting model, no more than 50% of residual differences can be greater than the absolute value of .05 (Field, 2009). Only 24% of the residual differences had absolute values greater than .05, indicating good model fit for the four factor structure.

The four factors had eigenvalues over Kaiser's criterion of 1, and in combination explained 55.11% of the variance. Table 2 shows the factor loadings and factors after rotation. The items that cluster on the same factors suggest that factor 1 reflects relationship maintenance (RELM), factor 2 represents personal fortitude (PRFT), factor 3 indicates positive coping (PCOP) and factor 4 signifies independence and insight (ININ). After factor structure was assessed, the four factors were subjected to a reliability analysis (Cronbach's $\alpha > .70$ for reliable factors; Field, 2009). All four subscales had high reliabilities (Table 2), with three of the subscales exhibited Cronbach's α of .80 (RELM), .78 (PRFT), and .70 (PCOP), and the ININ subscale exhibited a Cronbach's α of .64. The deletion of any item in the four subscales did not improve reliability. The overall RASP-Revised model with 19 items had a Cronbach's α of .87, and deletion of any item did not improve scale reliability. Lastly, the factor correlation matrix indicates moderately-sized correlations between the factors (Table 3), indicating that the factors are related and supporting oblique rotation.

Discussion

The purpose of this study was to use EFA to investigate the psychometric properties of the RASP. Wolin and Wolin (1993) initially suggested seven resiliency traits, which were consequently operationalized in the RASP (Hurtes, 1999; Hurtes & Allen, 2001). The EFA results indicate that the original hypothesized seven factor model did not meet validity and reliability analyses. EFA analyses support a four factor model of resiliency: the RASP-Revised. The following discussion considers the assessment of the RASP and the RASP-Revised, as well as limitations of this study.

Assessment of the RASP

The seven traits were not confirmed as originally conceptualized with the use of the RASP. This is not surprising, given Hurtes and Allen (2001) also reported shortcomings. For example, Hurtes and Allen noted much overlap among the variables, low alpha levels for the subscales, and a mostly male population for testing of the original RASP. Additionally, their respondents had a broad age range (12-19), and varying levels of institutionalization for behavioral and emotional disorders.

Furthermore, advances in EFA, CFA, and structural equation modeling since 1999 would suggest higher acceptable values for the same analyses conducted in the Hurtes and Allen (2001) study, which would necessitate a replication or reassessment of the original scale. Hurtes and Allen correctly noted Bentler's CFI of .72 for the RASP as being well below the .90 cut-off for a well-fitting model, and recommended further psychometric testing of the RASP. However, in 1999 Hu and Bentler revised the cut-off value for the CFI from .90 to .95 or higher (Byrne, 2010). Furthermore, Hurtes and Allen, relied heavily on the use of the χ^2/df ratio for assessing model fit, and the χ^2/df ratio has been criticized and recommended that its use be discouraged (Kline, 2011; Wheaton, 1987). If a CFA fails for these reasons, an EFA approach should typically be considered to evaluate the factor structure of the model, especially given the early stages of development (Hurley et al., 1997).

This is not to say that Hurtes and Allen's (2001) conceptualization of the RASP was not thorough. In fact, we found it to be rather sound in their approach. For example, the items representing resiliency had face validity, and their derivation of the items for the

Table 2. ***Four factor Resiliency Attitudes and Skills Profile-Revised (RASP-R) exploratory factor analysis, Maximum Likelihood extraction, Promaxrotation*** **(*N* = 120)**

Items	Commun. Extracted	Factor Loadings RELM	PRFT	PCOP	ININ
REL6	0.741	**0.896**	-0.106	-0.046	0.058
REL7	0.574	**0.719**	0.011	0.131	-0.102
REL8	0.529	**0.660**	-0.169	0.069	0.174
REL5	0.459	**0.651**	0.204	-0.121	-0.036
HUM3	0.367	**0.537**	0.226	-0.056	-0.050
VAL4	0.465	0.033	**0.717**	-0.050	-0.057
VAL3	0.416	-0.070	**0.671**	-0.014	0.012
IND8	0.386	0.149	**0.545**	0.076	-0.084
HUM2	0.516	-0.055	**0.518**	-0.046	0.371
INI5	0.422	0.081	**0.508**	0.060	0.117
INI2	0.440	-0.045	-0.124	**0.748**	-0.028
CRE3	0.496	0.012	0.288	**0.575**	-0.117
INI3	0.417	0.032	0.138	**0.537**	0.020
HUM1	0.354	-0.025	-0.027	**0.439**	0.272
INS4	0.219	0.011	-0.017	**0.423**	0.084
INS3	0.472	0.024	0.010	-0.046	**0.695**
IND4	0.351	0.033	-0.130	0.169	**0.532**
INS5	0.311	-0.153	0.252	-0.025	**0.467**
IND3	0.328	0.196	0.018	-0.011	**0.458**
Eigenvalue		5.823	1.872	1.501	1.275
% of Variance		30.647	9.852	7.902	6.709
Cronbach'sα		0.801	0.783	0.700	.639
Min	0.219				
Max	0.741				
KMO=0.831, Bartlett's Test of Sphericityis significant at $p < 0.0001$					

Note. Factor loadings > .40 are in boldface. RELM = Relationship Maintenance Subscale; PRFT = Personal Fortitude Subscale; PCOP = Positive Coping Subscale; ININ = Independence and Insight Subscale.

Table 3. Correlation Analysis between RASP-R factors

	RELM	PRFT	PCOP	ININ
RELM	--			
PRFT	.397	--		
PCOP	.520	.483	--	
ININ	.430	.477	.510	--

Note: RELM = Relationship Maintenance Subscale; PRFT = Personal Fortitude Subscale; PCOP = Positive Coping Subscale; ININ = Independence and Insight Subscale

RASP utilizing the Delphi technique was an optimal approach. They also noted that some items are more correlated with other items from different traits, thereby indicating further exploration of the factor structure. We explored the factor structure in this study and found support for four factors, rather than seven. Each of these factors will be discussed in turn.

Relationship maintenance

The first factor consists of items REL5, REL6, REL7, REL8, and HUM3. Clearly this reflects the nature of the role that relationships play in resilient

sixth grade students. HUM3 reflects "laughter makes me deal with stress." We thought that respondents interpreted this "stress" as referring to stress involved in making relationships, and how humor helps to reinforce relationships. This interpretation of the question by sixth grade students is possible due to the proximity of HUM3 to two relationship items (HUM3 followed REL5 and REL6 on the instrument) on the RASP. Given the exploratory nature of our study, and our relatively small *N* for factor analysis, we decided to keep HUM3 to determine how it might perform in future analyses. We also recommend it not be located near the other relationship questions when we next administer the RASP to see how it performs.

The relationship maintenance factor is closest to the notion of sense of relatedness in the RSCA scale, which incorporates social support and the ability to make friends (Prince-Embury, 2010b), and reflects Wolin and Wolin's (1993) relationship trait. The transition of sixth grade and meeting new friends can be stressful on youths, and humor could be used as a coping mechanism to stave off the stress of meeting someone new, and as a reflection of how the students view themselves in relationships (Prince-Embury, 2008).

Positive coping

The second factor consists of items CRE3, INS4, INI2, INI3, and HUM1. With respect to the original conceptualization, this factor represents a diversity of resiliency characteristics that reflect general coping strategies leading to positive outcomes. The suggestion behind this factor is that sixth grade students at this middle school possess coping and adaptation skills. The concept of coping and adaptability is also reflected in the RSCA's sense of mastery dimension, as well as the ability to be optimistic (Prince-Embury, 2010b). The positive coping dimension combines Benard's (1993) notion of social competence and problem-solving skills.

Personal fortitude

The third factor consists of items VAL3, VAL4, HUM2, IND8, and INI5. These items represent the general notion that sixth grade students in this middle school have a strong sense of what to do in the face of adversity, and they do so with conviction. This factor represents a general approach towards an external manifestation of their resiliency, as if to demonstrate a sense of steadfastness. This notion is related to the qualities of autonomy and sense of purpose as discussed by Benard (1993), as well as reflective of perseverance in Waginold and Young's (1993) Resilience Scale. Lastly, the personal fortitude factor is similar in nature to Prince-Embury's (2007; 2010b) emotional reactivity and one's ability to recover and self-regulate.

Independence and Insight

The fourth factor consists of items IND3, IND5, INS3, and INS5. These items represent the general notion that sixth grade students in this middle school have the ability to think or act independently and insightfully, reflecting a combination of two of the previous concepts from Wolin and Wolin (1999). This factor incorporates Waginold and Young's (1993) concepts of self-reliance and existential aloneness. This notion is related to the qualities of autonomy and sense of purpose as discussed by Benard (1993), as well as reflective of perseverance in Waginold and Young's (1993) Resilience Scale. Lastly, the personal fortitude factor is similar in nature to Prince-Embury's (2010b) emotional reactivity and one's ability to recover and self-regulate.

Summary of Findings

Our findings indicate that the Relationship Maintenance factor reinforces Wolin and Wolin's (1993) relationship trait, and is reflective of the importance placed on protective factors for resiliency discussed by Allen et al. (1998). The Positive Coping factor reflects many of Wolin and Wolin's resiliency traits, as well as Werner and Smith's (1992) emphasis on coping skills. The Personal Fortitude item is in part values orientation, but it is more a

reflection of inner strength or conviction because of their values. This could be getting at that ubiquitous positive pole within a person in response to stress or adversity, which Rutter (1993) alluded to. Lastly, the Independence and Insight factor simply reflects a combination of two previous dimensions noted by Wolin and Wolin. In short, we feel Hurtes and Allen (2001) provided a foundation for a youth resiliency scale. Following their lead, this newly developed RASP-Revised might be an effective measure of resiliency among middle school students, sixth grade students in particular, while maintaining the fundamental concepts of the Wolins' research.

Limitations and Recommendations

Our first limitation was the sample size. Future studies would need to have larger samples to test the RASP, whether it is the previous version or our proposed revised version with four factors. Statistical analyses were limited with an *N* of 137. While we had an adequate representation regarding race, our sample was overrepresented by female students. Arguably, this has an effect on generalizability beyond this middle school, and should be viewed as a case study, especially given our low response rate. The low *N* could also have an effect on the EFA. We did, however, meet the minimum of five subjects per item ratio for conducting an EFA factor structure in our final 19-item EFA (Osborne et al., 2008), and feel confident in our analyses given adequate communalities, factor loadings, and reliabilities. In general, EFAs or CFAs require 5-20 times the number of respondents per item on the scale, or have minimum samples ranging from 200-300 respondents (Kline, 2011).

We also recommend using the same site and study population. If a low number of respondents, then multiple years of new populations of sixth grade students could yield a large enough sample size for CFA and SEM analyses on the RASP or RASP-Revised. Another limitation was our data collection process. We were ineffective at instructing students to use the same phone number, and struggled to match the last four digits of phone numbers. Phone numbers may change during the year, and students often could not recollect if they used their home number or cell phone number for the last four digits. We recommend using the student's lunch number, or other specific school identification, that will not be used beyond data entry for the purposes of matching pre-test and post-test RASP scores in future studies to move beyond factor structure of the RASP, and successfully use it as a pre-test/post-test measure. Lastly, unlike Hurtes and Allen (2001), we did not establish any construct/convergent validity measures to correlate the RASP with other measures, and this practice should be conducted in future studies.

Conclusion

Our overall assessment of the RASP is that it reflects previous conceptualizations from the resiliency literature and other resiliency scales. We assessed the factor structure and psychometric properties of the RASP and found support for a four factor structure, rather than a seven factor structure by assessing item communalities, correlations, residuals, and factor loadings, as well as reliability analyses. With respect to the RASP itself, we would recommend replication of the RASP, or the RASP-Revised (RASP-R) with 19 items to see if either our findings or Hurtes and Allen's (2001) findings could be further replicated. Moreover, given the nature of the interaction between the items in this study and Hurtes and Allen's study, as well as previous studies, it is still unclear whether the RASP/RASP-R or the resiliency characteristics are multidimensional as hypothesized by Wolin and Wolin (1993), or unidimensional – this needs further exploration. Our study differed from Hurtes and Allen's (2001) because we used a population that is different from theirs in that our respondents were more uniform in age, came from the same geographic region, and were non-institutionalized.

This study compliments and extends Hurtes and Allen's seminal work, and addresses their call to test

the RASP in other settings for cross-validation purposes. To conclude, our findings indicate that the RASP-Revised is a multidimensional four factor model of resiliency based on relationships, positive coping, independence and insight, and personal fortitude.

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