Refining a Measure of Appraisal Style

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Honors Thesis, Vanderbilt University

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April 5, 2012

Abstract

The following study addresses creating a new, more efficient measure for evaluating appraisal styles, specifically emotion-focused, or accommodative-focused, coping potential and problem-focused coping potential. The current measure, the Appraisal Style Questionnaire is considerably reliable and valid, yet its length precedes its usage in practical settings. We aimed to create this measure, administer it along with the old measure and select validating measures to collect data, which we then utilized for validity and reliability checks. We had three main expectations: the first of which was that the new scales of Accommodative-focused coping potential (AFCP) and Problem-focused coping potential (PFCP) will correlate appropriately with each other and their analogous ASQ counterparts, which results show occurred with significance. The second expectation for our new measure was that it would show significant correlations with other validating measures. Our last expectations was that our new scales would maintain unique relationships with those validating measures when controlled for the opposing component, and these unique relationships would mimic the old ASQ components' unique relationships. Results show that in fact our new measure correlated with the validating measures and maintained those correlations when being controlled, to an extent more so than the old ASQ and with stronger correlations.

Introduction

Do you ever wonder why people have what appear to be different emotional styles or why certain people tend to respond to challenging events with a typical pattern of response? These differences in emotional styles, or appraisal styles, are important in understanding not only how emotions are elicited, but additionally they are highly critical to comprehending the trends with which they elicit emotions. Some people seem to be more anxious when dealing with stressful situations, whereas others may appear to be typically depressed. We want to understand why certain people respond to stressful events with different types of responses. These emotional responses can be directly linked to appraisal styles, which is what this study aimed at differentiating. Appraisal theory is an important way to understand emotion, which can be directly linked to understanding various affective disorders, such as General Anxiety Disorder and Depression because different appraisal styles are hypothesized to correlate with these types of affective disorders. We are aiming to get at differentiating the cognitions that lead to these different appraisal styles.

What is Appraisal Theory?

We are interested in the development and testing of an appraisal approach to the study of human emotion (e.g., Smith & Lazarus, 1990). In order to understand how emotions are generated, it is important to be familiar the theory of appraisal, which attempts at defining emotion generation. Appraisal theory presents a comprehensive overview of emotion generation not as a response to one's current circumstance, but as a cognitive process that evaluates the situation and then elicits an emotion. The appraisal approach to emotion holds that how one reacts emotionally to one's circumstances is a function of how one interprets what those circumstances imply for themselves (Smith & Lazarus, 1990). The key difference is how one

interprets the circumstance, not the circumstance alone. Thus it is not the objective circumstance that is important or a cause to the emotion; it is how a person evaluates the circumstance that matters. Emotions are thus a response to a person's *appraisal* of their situation.

After an antecedent event happens and a person is undergoing the cognitive appraisal process, they make primary and secondary appraisals. Primary appraisal is considered primary because it's components, relevance and congruence, are required for the response to be emotional. Secondary appraisals in isolation do not yield emotion. Primary appraisal addresses the global issue of how relevant a situation is to the person's well-being. The components to this primary appraisal are the motivational relevance and motivational congruence of the situation. In other words, for motivational relevance the person appraises how important the situation is to them. Does it affect the person's needs or goals? For motivational congruence, the person evaluates how desirable is the situation, and how it relates to their goals. Is it congruent, or beneficial to their goals? Is the situation incongruent, or negatively impacting their goals?

The secondary part of appraisal addresses the global issue of what resources are available and what types coping options the individual has. The different components of secondary appraisal are accountability, coping potential, and future expectancy. Accountability relates the responsibility of the situation to the individual, thus the individual will either find themselves accountable or others. Determining self-accountability versus other-accountability helps direct coping efforts. Coping potential evaluates how a person can deal with a situation and to what extent they will be able to handle what might happen in the situation. Problem focused coping potential reflects a person's ability to improve the situation and take actions to make their circumstance more congruent with their goals. Emotion focused coping potential, also known as accommodative-focused coping potential, reflects to what extent an individual can accept or

handle a situation, should the situation become incongruent with their goals. Emotion-focused coping potential requires making cognitive changes to one's goal. Future expectancy, the third component to secondary appraisal, reflects one's expectations for change in the situation, for better or worse. For example, is the situation likely to improve, and become more consistent with one's goals, or is it expected to get worse, and less consistent with those goals?

An example of how appraisal theory works with an emotion would be the case of anxiety. Anxiety is hypothesized to arise when a person believes that they are in a stressful situation, and that they might not be able to handle things, if things go poorly. If a student were to receive a poor grade as the antecedent event the individual first must appraise the motivational relevance and congruence of the situation. Does the situation affect their goals and in what way? If the person wants to succeed in the course and have a good overall grade, then it is both relevant and incongruent. The secondary appraisal process evaluates accountability, coping potential, and future expectancy. Problem focused coping potential can be useful in encouraging themselves to do something to change the situation, such as studying harder for the next exam, or through emotion focused coping a person could change their cognitions about the situation, by lowering their expectations for the course. For assessing future expectancy the person can determine how the grade will impact their academic career. All these cognitive processes can lead to the emotions anxiety, the most relevant appraisal dimensions being relevance, congruence, and emotion-focused coping potential. The situation is important, incongruent, not as desired, and that the person does not know if they can handle it if things do not work out well (low accommodation-focused coping potential).

Why care about how emotions are elicited or the appraisal approach to emotions? Appraisal theory promises to describe the types of cognitions that elicit various emotions, which

in turn can show us a great deal of insight into the study of emotions. There are several valuable

concepts that back the importance of appraisal theory, and it reflects these. Appraisal theory is

useful for evaluating individual differences, as situations and contexts give rise to certain

emotions for different individuals. It also can show an organization for physiological activity in

regards to emotion. Appraisal theory aims to map out the motivational functions served by

emotion and show the role emotions plays in coping and adaptation (Smith & Kirby, 2001).

Appraisal Style

Within appraisal there are different styles that reflect trends in the way individuals make

their appraisals.   Some people seem to be easily able to adjust their goals in unfortunate

situations, whereas others find it very difficult. Some people are better at taking action when in a

stressful situation. These *appraisal styles* are of particular interest to me, because there is a

potential that different appraisal styles will be comorbid with other various psychological traits

and tendencies. This could prove to be clinically relevant in today's society and the ability to

differentiate the different dimensions of appraisal style is quite useful.

Appraisal style is degree to which individuals characteristically appraise their

circumstances in particular ways. Individuals differ in their assessment of how well they will be

able to handle it if things go wrong. For example, some people have a tendency to see

themselves as competent versus incompetent, or some people have a tendency to see things as

positive versus negative. Some people can handle stressful situations through coping by making

changes in cognitions, while others can handle situations by tackling problems and taking action.

Our focus is in the development and testing of an appraisal approach to the study of human

emotion.

Two dimensions of appraisal style that seem promising are problem-focused coping and accommodative or emotion-focused coping. Researchers have typically considered the distinction between the two as such proposed by Folkman and Lazarus (1980; Lazarus & Folkman, 1984). Problem-focused is the ability to change a situation to make it more congruent with one's goals. A person utilizing problem-focused coping directs their cognitions and actions towards the problem.

Accommodative/emotion focused is ability to handle or adjust to the situation should things not work out to be congruent with one's goals. Accommodative reflects one's ability to adjust to unwanted circumstances. A person utilizing accommodative coping places their attention on the emotional responses caused by a problem.

For my research project, we are interested in the degree to which individual differences in the ways that people typically appraise their circumstances are reliably associated with different adaptational outcomes. That is, the degree to which having different strengths and weaknesses in the various dimensions of appraisal style correlate and reflect with adaptational outcomes. Having a measure of these individual differences allows us to predict how people will react emotionally to various situations.

For example, past research shows that individual differences in dispositional appraisals of problem-focused coping potential have been associated with depressive symptoms. That is, depressive symptoms have been seen to be associated with low appraisals of problem-focused coping potential; a person does not think they have the ability or potential to direct their focus on the problem while coping. Individual differences in dispositional appraisals of accommodation-focused coping potential are been associated with being trait anxious versus calm (Smith, C.A. &

Kirby, L.D., 2009). Trait anxious is associated with low dispositional appraisals of accommodative-focused coping potential and calm is associated with high dispositional appraisals of accommodative-focused coping potential. Thus, being able to identify these differences in individuals can provide hopeful prospects in the realm of clinical practice and research.

Both accommodative and problem focused coping potential have previously shown reliable individual differences in dispositional appraisals. Currently, we are most interested in accommodative coping though there are several other dimensions of appraisal style. This dimension in particular is useful and has the promise of being clinically relevant. It shows association with depression, anxiety, and general optimistic outlook on life.

Existing measure

The current measure for assessing dispositional appraisal styles is the Appraisal Style Questionnaire (ASQ). The ASQ assesses the dispositional constructs of appraisal style and is quite useful when a researcher needs these results. However, it has faults, in that individuals need to rate their appraisals in response to each of twelve different standardized situations, which are lengthy and time consuming. The survey at a glance is hefty in that it is thirteen pages long with large amounts of text. A participant would be daunted when handed the ASQ and asked to complete it.

An example of one of the standardized situations would be "A close friend beats you out for the opportunity to participate in an activity you had been looking forward to." After imaging this situation vividly, the participant is asked about seven questions in regards to each situation. An example of one of the questions would be "Think about what you want and don't want in this

situation. How certain are you that you will be able to influence things to make (or keep)

situation the way you want it? (1 = completely certain WILL NOT be able; 5 = completely

uncertain; 9 = completely certain WILL be able)." This particular item is used across all the 12

situations to assess Problem-focused coping potential. The item that assesses Emotion-focused

Coping Potential is "How certain are you that you will, or will not, be able to deal emotionally

with what is happening in this situation however it turns out? (1 = completely certain WILL

NOT be able; 5 = completely uncertain; 9 = completely certain WILL be able)."

The Appraisal Style Questionnaire yields reliable and valid results, but the amount of time it

takes to administer it hinders actually using it in many studies where we would like to assess

appraisal styles (David, Kirby, & Smith, 2007).

New measure

Therefore for this project our goal was to develop and validate a relatively brief (i.e., roughly

ten to twelve items per construct) Likert-type, dispositional measures of appraisal style. We

planned to develop and validate new dispositional measures of these dimensions. My main

focus was on problem-focused and accommodative-focused coping potential, as they are of

particular interest. As mentioned earlier, both these dimensions of appraisal style are believed to

correlate with various affective disorders and other trait measures. Having a new, shorter

measure that could potentially evaluate problem-focused and accommodative-focused coping

potentials would be useful in laboratories studying emotion and in clinical settings where

knowing an individual's appraisal style and potential could help determine a plan of therapy.

For my research strategy, we planned to try and generate this new measure for these two

constructs by creating a pool of likert-type items. We then planned to embed these items in a

survey containing a variety of measure previously associated with the old ASQ measures of these

constructs, which we then intend to use to validate the resulting measures.

Why do we care about appraisal style? We want to study consistencies that have

correlations with dispositional styles because this can prove useful in laboratory and clinical

settings. Ideally, through creating a new measure to asses appraisal styles we will be able to

more efficiently determine an individual's style discrepancies within appraisal. Thus, using our

knowledge of appraisal style correlations with other measures we can hopefully make predictions

of a person's emotional response based upon their appraisal styles. This challenge of predicting

how people make their appraisals will lead to knowing how a person will respond emotionally to

a particular set of circumstances depending on their personality.

Methods

Participants

Our participants were healthy, adult volunteers who respond to an anonymous internet

survey. Participants were recruited in three different ways. The first group is composed of

friends and acquaintances of key study personnel, who invited these participants through an e-

mail with a direct URL link to the survey. The second group of participants was recruited

through Vanderbilt University Psychology Department's SONA system. These participants were

Vanderbilt University undergraduates who use SONA to identify studies they can participate in

as a part of their psychology course requirements. These participants voluntarily signed up to

participate in our survey and were provided with a URL that took them to the survey. The third

group of participants was recruited through postings on a variety a psychology experiment

boards on the internet, where they could find the survey and volunteer to participate on their

own.

We had 102 males and 31 males with a total N=133. The majority of our participants

was Caucasian, 74%, had a highest level of education as currently in college, and was located in

North America. (See Tables 1-3 for demographic information).

Table 1 : Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Caucasian	97	72.9	74.0	74.0
	African American	3	2.3	2.3	76.3
	Hispanic	12	9.0	9.2	85.5
	Asian	10	7.5	7.6	93.1
	Other	9	6.8	6.9	100.0
	Total	131	98.5	100.0	
Missing	System	2	1.5		
Total		133	100.0		

Table 2: Highest Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some High School	4	3.0	3.0	3.0
	High School	7	5.3	5.3	8.3
	Some College	11	8.3	8.3	16.5
	Currently a College Student	88	66.2	66.2	82.7
	Associates Degree	2	1.5	1.5	84.2
	Bachelors Degree	16	12.0	12.0	96.2
	Masters Level Degree	4	3.0	3.0	99.2
	Doctorate Level Degree	1	.8	.8	100.0
	Total	133	100.0	100.0	

Table 3: Current Location

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	North America	120	90.2	90.9	90.9
	South America	1	.8	.8	91.7

	Europe	11	8.3	8.3	100.0
	Total	132	99.2	100.0	
Missing	System	1	.8		
Total		133	100.0		

Measures: We embedded the following items in a larger survey that was designed to serve

additional purposes beyond the scope of our study that will not be considered here.

Demographics: This area of our survey asks general demographic information of our

participants. It asks for age, sex, ethnicity, level of education, location, and employment status.

Our new Problem-focused Coping-Potential Scale: Our new Problem-focused Coping-

Potential Scale (PFCP Scale) was designed to measure to what extent participants utilize that

particular appraisal style, showing their general potential to act on a stressful situation to increase

its desirability or lack of potential. It includes Likert-type, dispositional measures of the

problem-focused coping potential dimension. An example of a statement that the participants

must rate the extent to which they agree with the statement is: "In general, when faced with a

stressful situation, I am confident of my ability to deal with it." Participants then chose the

extent to which they either: strongly disagree, somewhat disagree, neither agree nor disagree,

somewhat agree, or strongly agree. There were 24 items in this original form of the scale (see

Appendix A).

Our new Accommodative-focused Coping Potential Scale: Our new Accommodative-

focused Coping-Potential Scale (AFCP Scale) was designed to measure to what extent

participants use emotion-focused as an appraisal style, which ideally reflects the degree to which

the participant has the general potential, or lack of, to handle and adjust to a stressful situation,

especially if the situation does not turn out in a desirable manner. It includes Likert-type,

dispositional measures of the emotion-focused coping potential dimension. An example of a statement that the participants must rate the extent to which they agree with the statement is: "When I realize a goal is unattainable, I change my goal to make it more reachable." Or "When something goes wrong, I readjust my priorities." Participants then chose the extent to which they either: strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, or strongly agree. There were 24 items in this original form of the scale (see Appendix A).

Appraisal Style Questionnaire: (David, Kirby, & Smith, 2007) The current measure for assessing dispositional appraisal styles is the Appraisal Style Questionnaire (ASQ). The ASQ assesses the dispositional constructs of appraisal style and is quite useful when a researcher needs these results. It uses several vignettes for people to imagine themselves in and then answer questions in regards to the situation. An example of one of the standardized situations would be "A close friend beats you out for the opportunity to participate in an activity you had been looking forward to." An example of one of the questions would be "Think about what you want and don't want in this situation. How certain are you that you will be able to influence things to make (or keep) situation the way you want it? (1 = completely certain WILL NOT be able; 5 = completely uncertain; 9 = completely certain WILL be able**)."**

Table 3: Reliabilities (α) of ASQ (2007)

	Across all 12 situations	**Across 6 positive situations**	**Across 6 negative situations**
Motivational Relevance	.83	.76	.71
Motivational Congruence	.80	.70	.94
Self-accountability	.64	.59	.58

Other-accountability	.77	.68	.64
Problem-focused coping	.78	.78	.72
Emotion-focused coping	.87	.81	.87
Future expectancy	.74	.82	.83

Constructive-Thinking Inventory -- Behavioral Coping (CBT-BI): The Constructive-Thinking Inventory (Epstein & Meier, 1989) is a self-report questionnaire that evaluates the habitual cognitive coping assessments participants make in stressful situations. The Behavioral Coping component refers to the tendency participants have to focus on behavioral and taking actions when in stressful situations. We chose to include this measure because it was thought to be a fairly close analog to the PFCP component of the ASQ and hopefully our new PFCP measure. This measure provides good evidence of reliability with Cronbach's Alpha = .84.

Constructive Thinking Inventory -- Emotional Coping (CBT-EC): The Constructive-Thinking Inventory (Epstein & Meier, 1989) is a self-report questionnaire that evaluates the habitual cognitive coping assessments participants make in stressful situations. The Emotion Coping component refers to the tendency participants have to focus on cognitive evaluations and readjustments when in stressful situations. We chose to include this measure because it was thought to be a fairly close analog to the EFCP component of the ASQ and hopefully our new AFCP measure. This measure provides good evidence of reliability with Cronbach's Alpha = .85.

Rosenberg Self-Esteem Scale: Self-esteem was assessed with Rosenberg's Self Esteem

Scale (Rosenberg, 1965). The Rosenberg Self-Esteem Scale is a 10-item self-report measure of

global self-esteem. It consists of 10 statements related to overall feelings of self-worth or self-

acceptance. The items are answered on a four-point scale ranging from strongly agree to strongly

disagree. This scale has demonstrated good reliability and validity across a large number of

different sample groups. In the present sample this measure provided evidence of good reliability

(Cronbach's Alpha = .89).

Perceived Competence Scale (PCS) - Perceived Competence Scale (Smith, Wallston, &

Dobbins, 1991) evaluates one's perceived ability to effectively interact with one's environment.

It is composed of a four-item measure designed to assess a persons perceived ability to

personally accomplish goals that the person deems are important. The PCC has an internal alpha

of 0.72.

Perceived Stress Scale (PSS): The Perceived Stress Scale (Cohen, Kamarck, &

Mermelstein, 1983) is a 14 item self-report instrument with a five-point scale: (0 = never, 1 =

almost never, 2 =sometimes, 3 =fairly often, 4 = very often), is an economical and simple

psychological instrument to administer, comprehend, and score. It measures the degree to which

situations in one's life over the past month are appraised as stressful. Items were designed to

detect how unpredictable, uncontrollable, and overloaded respondents find their lives. The

Perceived Stress Scale poses general queries about relatively current levels of stress experienced.

All items begin with the same phrase: In the past month, how often have you felt…? In the

present sample the Perceived Stress Scale demonstrated an alpha reliability of .88.

State-Trait Anxiety Inventory: The State-Trait Anxiety Inventory (STAI) measures two types of anxiety, state anxiety (S-Anxiety) and trait anxiety (T-Anxiety). S-Anxiety is characterized by subjective feelings of anxiety about an event or particular time, and T-Anxiety is characterized by anxiety-proneness, shown through individual differences which anxiety, which are reflected through a frequency of anxiety states in past and future probabilities. It is formatted in a 4-pont Likert scale and has a median alpha of .90 (Spielberger & Reheiser, 2009). For the purposes of our study we used the trait version of the scale because the state version was not deemed relevant to our study.

Connor-Davidson Resilience scale: The CD-RISC (Connor & Davidson, 2003) is a 25-item scale that measures the ability to cope with stress and adversity. Items include: ''I am able to adapt when changes occur,'' ''I tend to bounce back after illness, injury, or other hardships,'' and ''I am able to handle unpleasant or painful feelings like sadness, fear, and anger.''). Other aspects of resilience are tested including a sense of personal competence, tolerance of negative affect, positive acceptance of change, trust in one's instincts, sense of social support, spiritual faith, and an action-oriented approach to problem solving. Respondents rate items on a scale from 0 (''not true at all'') to 4 (''true nearly all the time''). The scale has been shown to have adequate internal consistency, test-retest reliability, and convergent and divergent validity (Connor & Davidson, 2003). In the present sample, this scale demonstrated an alpha reliability of .88

*Ego Resiliency Scale (*Block & Kremen, 1996): This scale was designed to assess the ability to change from and also return to the individual's characteristics level of ego-control after the temporary stressing influence is no longer present. The scale consists of 14 items, each responded to on a 4-point Likert scale (1 =does not apply at all, 4 = applies very strongly). In the

present sample, this scale demonstrated an alpha reliability of .73. The Connor-Davidson

Resilience Scale and the Ego Resiliency Scale were strongly correlated, and were thus combined

for our analysis as a single best estimate of resilience, r(95)= .614, p<.01.

The LOT (Life Orientation Test): The Life Orientation Test (LOT) was developed to

assess individual differences in generalized optimism versus pessimism. The LOT (Scheier &

Carver, 1985) consists of eight items, four of which are keyed in a positive direction, and four of

which are keyed in a negative direction. Respondents are asked to indicate the ex-tent to which

they agree with each of the items, using the following response format: 4 = strongly agree, 3 =

agree, 2 =neutral, 1 = disagree, and 0 = strongly disagree. In the present sample, the LOT

demonstrated an alpha reliability of .86.

The Satisfaction with Life Scale (SWL Scale): Life satisfaction was assessed with Diener,

Emmons, Larsen, and Griffin's (1985) five-item Satisfaction with Life Scale, each rated on a

seven-point scale (1 strongly disagree…7 strongly agree). This scale is intended to be a general

measure of life satisfaction. It has good internal consistency, has demonstrated high stability,

and correlates highly with alternative measures of life satisfaction (Diener et al., 1985). In the

current study, the Satisfaction with Life Scale demonstrated an alpha reliability of .83

Procedure

We created and tested a web-based, anonymous survey designed to validate and asses our

new measure of determining differences among appraisal styles. To generate the items on our

survey, members of our lab created several items per dimension thus giving us a very large pool

of items to choose from. We then compiled the list, categorized by both dimensions, which was

reviewed and rated by myself and my mentors. After eliminating redundant statements and

statements that did not focus on coping, we continued the elimination process until we had 24

likert-statements for Problem-focused coping potential and 25 items for Accommodative-focused

coping potential, which we intended to hone down once we had data on each item (see Appendix

A). We made sure the statements evaluated both positively and negatively towards the coping

potential of each dimension, in order to have a well-balanced compilation.

We then plugged in this new appraisal style evaluative measure (the new AFCP Scales

and PFCP Scales) with various other measures (listed above) in order to provide validity and

reliability for the statements. We then uploaded this mega-survey onto Vanderbilt's Redcap

survey software. A pilot study was run with the current lab personnel who were not directly

involved with creating this mega survey in order to make sure there were no errors or glitches in

the survey and survey website. We also wanted to make sure the survey was also a decent

length, so we could provide an estimate for participants in regards to the time commitment of

taking this survey. This would help participants allot an appropriate amount of time to take the

survey, so as to hinder as many incomplete responses as possible. The study was listed on the

following sites in addition to the Vanderbilt SONA system: Online Social Psychology Studies

(Social Psychology Network): http://www.socialpsychology.org/expts.htm, Psychological

Research on the Net (Hanover College): http://psych.hanover.edu/research/exponnet.html,

Online Psychology Research UK (University of Central Lancashire):

http://onlinepsychresearch.co.uk/, The Web Survey List (University of Zurich):

http://www.wexlist.net/browse.cfm?action=browse&modus=survey, and Web Experiment.net:

http://www.webexperiment.net/ . The survey-link was also e-mailed to various friends and

acquaintances of lab members.

Results

Overview of Analyses

In the first step of our analyses, the items chosen to assess the two dimensions were examined psychometrically in order to select from the available items an approximately 12-item scale that was both statistically reliable, and which had high face validity for assessing its intended construct. Then in the second step of our analyses, the validity of the resulting scales was examined by examining how these scales correlated with one another, with their old ASQ-counterparts, and with theoretically related constructs.

Validity

First, we wanted to examine how the subscales of our new measure correlate with each other and how they correlate with their analogous ASQ measures. For an initial look at this we computed scales using all of the candidate items, and correlated the resulting subscales with those for the ASQ PFCP and EFCP measures. (See Table 4, which shows a correlation matrix for the four measures). It is interesting to note the high correlation between the new AFCP and the new PFCP scales (r = 0.784). We are coming up with an alternate version of the ASQ scales, therefore we want the corresponding scales: EFCP to AFCP and PFCP to PFCP to correlate as strongly as possible, which indicates that they are measuring the same thing. Unfortunately, what is problematic here is how the new AFCP correlates with the new PFCP: r = 0.784 is too high. However, it is also the case, counter this observation, that the old EFCP and PFCP are also correlated similarly highly in our study, and we *know* that this is a non-characteristic result, because in past work these latter two scales tend to correlate more like 0.5 (David, Kirby, & Smith, 2007) . This suggests that something in the present study, perhaps the long survey caused

respondents to respond in a way that led the correlations of a/efcp and pfcp to be

uncharacteristically high for both measures.

Table 4: Pearson Correlations Before Reducing New Scale to 12-Items				
	New AFCP	New PFCP	ASQ-PFCP	ASQ-EFCP
New AFCP	1	0.784***	0.505***	0.564***
New PFCP	0.784***	1	0.535***	0.502***
ASQ-PFCP	0.505***	0.535***	1	0.793***
ASQ-EFCP	0.564***	0.502***	0.793***	1

Note: * $p < .05$, ** $p < .01$, *** $p < .001$ (2-tailed)

As for correlating with their analogous counterparts, the new AFCP correlates with the old EFCP

$r = 0.564$, and the new PFCP correlates with the old PFCP $r = 0.535$. This shows how strongly

the two measures are related and gives a solid indication that we are on the right track for

developing our new measure.

Scale Development

In order to have a construct with the length we desired, as described in the introduction,

we needed to eliminate some items from the new AFCP and PFCP Scales so that each construct

was only twelve items in length, as opposed to 25. In order to do this we ran a Corrected Item-

Total Correlation to compute the scale scores using all of the generated items of both the new

AFCP and PFCP Scales. This shows the correlation of the individual item with the whole scale

if that item were removed. The correlation between the two subscales was 0.784, and thus

considerably high. Given this in eliminating items we tried to be very mindful of the constructs

we were trying to assess.

For AFCP the items with the highest item-total correlations seemed to be very tightly

aligned with the AFCP construct, whereas for PFCP the top items conceptually, did not have the

highest item-total correlations. Therefore, for AFCP we removed any items that had a Corrected

Item Correlation Total below 0.6. For PFCP, rather than relying on the item-total correlations,

we selected items to keep based on how well they correlated with what we identified as the

conceptually strongest items on this subscale. We chose four items that were conceptually the

cleanest and best captured the construct we were trying to test. These four items had a few key

words and phrases which especially reflected Problem-focused coping potential. Then we chose

the following of the twelve that correlated well with them and also fit these key ideas.

The final number of items included on the two subscales was 12 items each, and the

Cronbach's alpha reliabilities of the two scales were .906 for the AFCP and .889 for the PFCP.

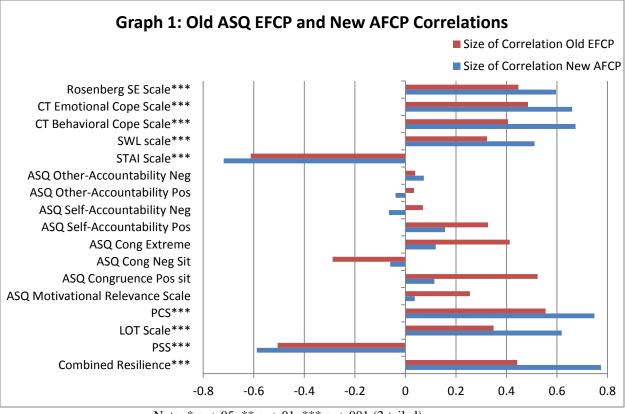The final sets of items that defined the revised scales can be seen below in Table 5and 6.

Table 5: Item-Total Statistics for AFCP				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	**Corrected Item-Total Correlation**	Cronbach's Alpha if Item Deleted
When I experience a setback, I don't know if I will be able to cope (R).	40.7037	47.736	.610	.900
I find it hard to keep my composure in stressful situations (R).	40.8889	47.100	.618	.900
When things don't go my way, I often feel hopeless (R).	40.8395	48.161	.591	.901
When something unforseen happens, I find it hard to adjust to the new situation (R).	41.0617	48.434	.614	.899
In general, when faced with a stressful situation, I am confident of my ability to deal with it.	40.0370	50.986	.654	.898
I know that I can deal with uncertainty, no matter how challenging.	40.6420	50.333	.642	.898
I am able to make the best out of any situation.	40.6914	50.066	.622	.898
I know that I will be able to deal with any stressful situation I may encounter.	40.4938	48.353	.749	.892

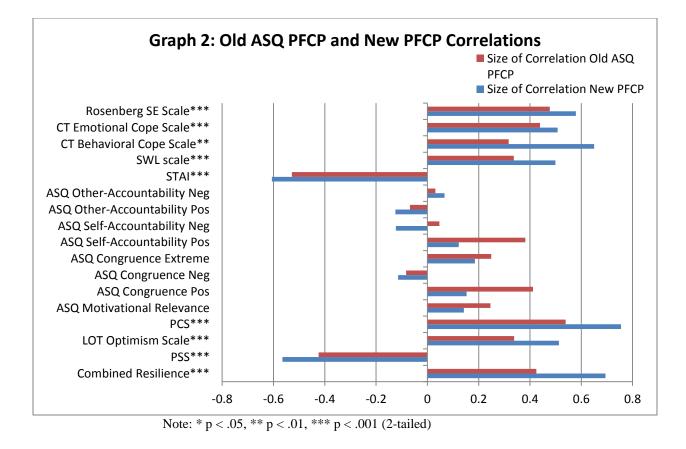|				
When faced with a challenging situation I trust myself to make it through.	40.0494	51.123	.664	.898
I know I will get through whatever comes my way.	40.1358	51.719	.652	.898
I know I can adjust to my circumstances, whatever they might be.	40.5062	50.603	.573	.901
I am confident that I can handle unexpected events.	40.3951	48.292	.772	.891

Table 6 : Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	**Corrected Item-Total Correlation**	Cronbach's Alpha if Item Deleted
I feel I can always find ways to improve my circumstances.	41.4699	44.277	.497	.885
If I work hard, I can get what I want.	41.2289	45.105	.569	.882
I believe I can accomplish almost anything if I work hard enough.	41.3373	44.056	.639	.878
I have a hard time coming up with plans to solve my problems (R).	41.8313	42.093	.600	.880
I can almost always find a solution to my problems.	41.6265	42.920	.634	.878
No matter how bad the situation, I know there is always something I can do to improve it.	41.6867	41.876	.729	.872
When problems arise, I know I can just fix them.	42.0482	43.583	.522	.884
No matter what obstacles are present, I can find a way to succeed.	41.7711	42.496	.705	.874
If I am unable to succeed the first time, I do not know what my next step would be (R).	42.2169	42.367	.555	.883
I lack the abilities I need to succeed (R).	41.1446	43.808	.516	.884
If I try hard enough, I can always find a solution to the problem at hand.	41.6024	44.023	.613	.879
When faced with a challenge, I am able to find more than one way to overcome it.	41.6747	42.881	.613	.879

Validation of the new scales

We had several expectations for how the other measures in our study would correlate with our new AFCP and PFCP Scales. For the AFCP and the ASQ-EFCP we predicted that both should correlate with aspects that are relevant to accommodative-focused coping, such as the Rosenberg Self Esteem Scale, the PCS, SWL, LOT, and Resilience measures. These items all relate to strong emotional coping skills through confidence, self-optimism, and other constructs one would expect to positively correlate with high accommodative focused. We especially expected that the CBT-EC Scale would correlate strongly with both A/EFCP scales because they parallel a good bit in conceptual goals, and negatively with the STAI and PSS. For the PFCP I expected to find correlations between both the PFCP and ASQ-PFCP with the PCC, Rosenberg Self Esteem Scale, PSS, and Resilience measures because those seem to be more centrally relevant to Problem-focused coping. I also expected that both would correlate strongly with the CBT-BC scale because it parallels in relevance with the PFCP. The actual results are shown below in Graphs 1 and 2.

Graph 1: Old ASQ EFCP and New AFCP Correlations

- Size of Correlation Old EFCP
- Size of Correlation New AFCP

Rosenberg SE Scale***
CT Emotional Cope Scale***
CT Behavioral Cope Scale***
SWL scale***
STAI Scale***
ASQ Other-Accountability Neg
ASQ Other-Accountability Pos
ASQ Self-Accountability Neg
ASQ Self-Accountability Pos
ASQ Cong Extreme
ASQ Cong Neg Sit
ASQ Congruence Pos sit
ASQ Motivational Relevance Scale
PCS***
LOT Scale***
PSS***
Combined Resilience***

Note: * p < .05, ** p < .01, *** p < .001 (2-tailed)

Graph 2: Old ASQ PFCP and New PFCP Correlations

Note: * p < .05, ** p < .01, *** p < .001 (2-tailed)

Fortunately, the data supports several of our expectations, and adds some new correlations that were not quite as expected, but make sense. The AFCP and ASQ-EFCP Scales correlated significantly with each predicted measure, showing that both scales are justly assessing the concept of accommodative-focused coping potential. The PFCP scales correlated with the expected measures and additionally with some of the measures that we expect should be more relevant to AFCP, which we will control for by conducting partial correlations.

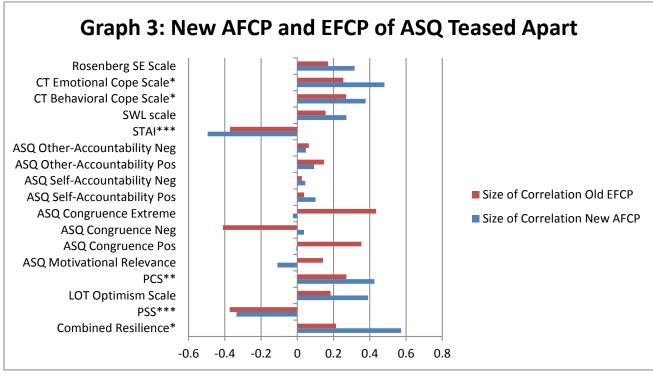*Partial Correlations: Scale Validity*

To confirm the validity of our new shorter versions of the AFCP and PFCP Scales, we ran partial correlations to find relationships unique to each individual component to control for the strong correlation between the AFCP and PFCP components. Partial correlations show the relationships of the component towards the other measures without its counter, to see how that

particular component is shaping up.   For example we correlated the dispositional measures with

AFCP after controlling for PFCP to control for the strong correlation between these two scales.

The partial correlation removes from the AFCP all variance attributable to PFCP and then shows

whether is left (the unique component of AFCP not related to PFCP) is correlated with the other

measures of interest. We ran these same partial correlations with both the EFCP and PFCP of

the old ASQ to compare the ASQ scales with the new scales to see if the unique relationships

existed for both.

Similarities: The AFCP component of our new scale and the EFCP component of the

ASQ showed considerable similarity in their unique relationships with other measures (see

Graph 3. Both the new AFCP and EFCP scales show significant correlations with the

Constructive-Thinking Emotional Cope Scale, the Constructive-Thinking Behavioral Cope

Scale, the STAI-Anxiety Scale, the PCS, PSS, and the Combined Resilience Scale. For a

comparison of these two scales with their similar unique relationships see Graph 3.

Differences: It is interesting to note that the AFCP of our new scale showed significant

relationships with the Rosenberg Self Esteem Scale (r=0.316, p=0.003), the Satisfaction With

Life Scale (r=0.271, p=.011), and the LOT Optimism Scales (r=0.391, p=0.000) whereas the old

EFCP scale from the ASQ did not show significant unique relationships with these measures. To

the extent to which the new measure is picking up relations to scales we would expect

accommodative-focused coping potential to be associated with that these measures and since the

old measure is not capturing those, we have potential evidence that the new scale is better. The

newer AFCP scale is the only one that significantly correlated with the SWL Scale and the LOT

Optimism Scale, so perhaps our newer measure shows that these concepts are more central to

accommodative-focused coping potential than previously thought. It makes solid sense that a

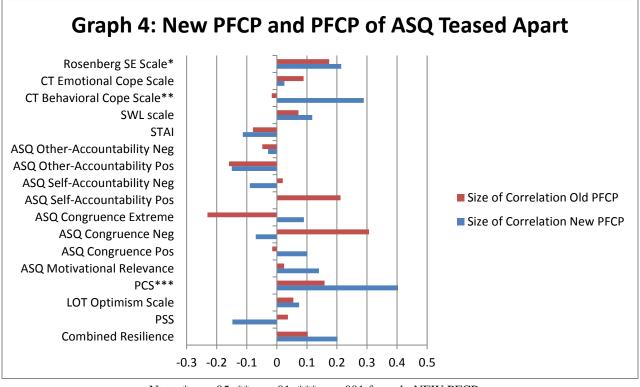person who is content with life and optimistic would have good emotion-focused coping skills.

Further investigation would be needed to show this relationship in a stronger light.

Note: * p < .05, ** p < .01, *** p < .001 for BOTH scales

The Problem-focused coping potential components of each measure had a little bit less in

common, but still enough for reasonable validity (See Graphs 8 & 9). Both ASQ and new PFCP

scales had unique correlations with the Perceived Competence, which is conceptually relevant to

the constructs and was predicted to correlate. It is interesting to note that the New PFCP Scale

correlates significantly with the PCS (r=0.403, p=0.000), Constructive-thinking Behavioral Cope

Scale (r=0.289, p=0.007), and Rosenberg Self Esteem Scale (r=0.214, p=0.47) yet the ASQ

PFCP Scale only significantly correlated with the PCS (r=0.271, p=0.011) out of those three

measures. While a perhaps too bold of a statement to make, it is a nice sentiment to suppose that

perhaps our new measure is more accurately attacking the concepts we desire to test. A

hypothesis supporting this idea is that if a person has good Problem-focused coping potential

skills they would exhibit a stronger sense of confidence and competence in their ability to handle

stressful situations. Confidence ideally should correlate with the potential to take action to

remedy a stressful situation, thus correlating with PFCP. Further testing should be hopeful in

that regards.

Graph 4: New PFCP and PFCP of ASQ Teased Apart

Note: * p < .05, ** p < .01, *** p < .001 for only NEW PFCP

Discussion

Summary and Implications

A summation of our key results shows that the new AFCP and PFCP correlated with each

other perhaps a little too closely, but the ASQ counterparts mimicked this pattern, so there is a

good chance it could be our population and a result of the length of the survey, which was

embedded with other items not relevant to our study. The AFCP and ASQ-EFCP had a strong

correlation with each other as well as predicted measures that exhibit constructs that are similar to accommodative-focused coping potential. The PFCP scales correlated strongly with each other and with other relevant measures, though perhaps not as strongly as the AFCP constructs. When controlling for each counterpart, we saw that each held expected unique relationships, and in fact our newer versions picked up on more relationships with other measures than did the older ASQ version.

Based on the results of our data, we can conclude that we are on the right track towards creating a more efficient and accurate measure for determining an individual's accommodative-focused and problem-focused coping potential of appraisal styles.

Accommodative-focused potential thoughts

Both the new AFCP and EFCP scales showed significant correlations with the Constructive-Thinking Emotional Cope Scale, the Constructive-Thinking Behavioral Cope Scale, the STAI-Anxiety Scale, the PCS, PSS, and the Combined Resilience Scale. This is particularly interesting because it is good to know because these scales are useful in laboratory and clinical settings. The EFCP/AFCP is theoretically associated with fear and anxiety, and thus strong negative correlations with STAI and Perceived Stress Scale are important to notice. Low accommodative-focused coping potential is a part of the appraisal that elicits fear and anxiety, so these correlations show promising futures for the new AFCP measure. The strong correlation with the Resilience measures is equally as important as resilience is believed to be associated with high accommodative-focused coping potential. The correlation with Perceived Competence is less expected because we would typically expect it to be more strongly associated with Problem-focused coping potential. Perhaps if ran again as a study without the additional

measures not relevant to our study people will be more discriminatory on their answers and that

correlation will lower. Or perhaps this study of AFCP is picking up on a unique relationship that

while unexpected is due to the expectation that people who exhibit confidence should also be

able to handle situations emotionally.

The Constructive-Thinking Scales, which evaluates the daily cognitive coping

assessments participants make in stressful situations, is a concept close to appraisal style. We

hoped that there would be correlation between the new AFCP and the Emotional Coping

component, which refers to the tendency participants have to focus on cognitions when in

stressful situations. The AFCP has a correlation of .377 ($p < .001$) with the emotion coping

component where the old ASQ EFCP has a correlation of .254 (significance $p = .018$), which

might lead one to think that our newer version gets at what we are trying to measure a little bit

better than the old ASQ.

The Perceived Stress Scale and Perceived Competence Scales can show the degree to

which situations in one's life over the past month are appraised as stressful, and how much

confidence the individual has in their situations. The Combined Resilience Scales measures the

ability to cope with stress and adversity. Thus, the significant correlations that the AFCP

component had with those measures shows that it could be particularly useful in evaluating one's

competence in handling stressful situations, both in a clinical setting and laboratory setting.

The STAI Scale measures essentially the degree of which an individual experiences

feelings of anxiety, both about events and in general how prone they are to anxiety. As

mentioned in our introduction, having poor accommodative coping potential styles should

correlate with feelings of anxiety if the new scale works as effectively as the old ASQ. Since it

does, this could prove useful in clinical situations while evaluating someone with anxiety-related disorders or in stressful situations. Determining their coping potential and targeting that as an area that needs work and therapy can help practitioners help their patients more effectively.

Problem-focused coping potential thoughts

Both the old and new PFCP scales showed significant correlations with the Perceived Competence scale, which shows that perhaps individuals who have good problem-focused coping skills also have an adequate sense of confidence during stressful situations. This correlation is helpful in assessing that we are attacking what is desirable because hypothetically individuals with confidence should exhibit good problem-focused coping potential. What is interesting about the analysis in regards to the two PFCP scales is that the newer PFCP scale correlates significantly with more validating measures, the Constructive-thinking Behavioral Cope Scale, and Rosenberg Self Esteem Scale, than the old ASQ scale, or at least in our study. Hopefully this shows that our PFCP scale is more accurate and more effective, and with further testing and refinement this could be a reality.

Limitations

A few limitations of the study are of course that it is a self-reported measure and thus we are relying on individuals own perceptions and reports. It would also be ideal to run the study in a lab setting instead of through the internet. Unfortunately we had no way of ensuring that participants were fully focused on the task at hand and not distracted by outside stimuli. The study was also combined with a few other measures that were important to other studies, making the survey quite long. It is very possible that participants experienced fatigue in completing the survey and that mental fatigue lead to being less discriminatory in their answer selections.

Looking to the future and conclusion

For the future, I would like to re-run the study with a few changes. Instead of having the ASQ and my new measures near the end of a three-study survey that took roughly an hour to complete, I would like to run the study with just the ASQ, my new measures, and the validating scales alone. This would hopefully lower the abnormally high correlations between the ASQ and my new measures, as participants would be ideally more discriminatory in answering each item scale. If we do that, I predict that the correlation between the two will be closer to 0.5.

Overall the data suggests that our study was a relatively successful attempt at recreating a new, more effective measure for assessing individual differences in appraisal style. The strong correlations with the old and new measures are positive signs for progress, in addition to maintaining similar unique relationships as the old measure. Hopefully, this study will aid in the continuing development and refinement of new measures, especially the Appraisal Style Questionnaire, which is quite long and inefficient. The newer, Likert-based model will allow and promote increased evaluations of appraisal styles in both laboratory and clinical settings, as it should be more efficient and direct, once refined to desirable correlations.

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Appendix A

Original Accommodation-focused Coping Potential Original Items

1. **In general, when faced with a stressful situation, I am confident of my ability to deal with it.**
2. When I realize a goal is unattainable, I change my goal to make it more reachable.
3. **I am confident I can handle unexpected events.**
4. I can adapt to just about any situation.
5. **(R) When I experience a setback, I don't know if I will be able to cope.**
6. In general, when things go wrong, I know that I will be able to deal with it.
7. I am able to accept things and move on when I can't get what I want.
8. (R) I can't cope if I can't reach my goals.
9. (R) I find unexpected stressors overwhelming.
10. **I know that I can deal with uncertainty, no matter how challenging.**
11. **(R) I find it hard to keep my composure in stressful situations.**
12. (R) Surprises make me feel unprepared.
13. I accept and understand that things do not always go as planned.
14. **I am able to make the best out of any situation.**
15. **(R) When things don't go my way, I often feel hopeless**
16. **I know that I will be able to deal with any stressful situation I may encounter.**
17. Even if my plans for the future do not work out, I know I will be alright.
18. **(R) When something unforeseen happens, I find it hard to adjust to the new situation.**
19. When something goes wrong, I readjust my priorities.
20. **When I am faced with a challenging situation I trust myself to make it through.**
21. I can reprioritize my goals when I need to.
22. I am flexible when plans change.
23. (R) When something goes wrong, I have trouble accepting it.
24. **I know I will get through whatever comes my way.**
25. **I know I can adjust to my circumstances, whatever they might be.**
    *Items in bold were chosen as the 12 final items

Problem-focused Coping Potential Original Items

1. **I feel I can always find ways to improve my circumstances.**
2. **I find I can almost always find a solution to my problems.**
3. When faced with a challenge, I am confident I can succeed.
4. **If I work hard, I can get what I want**.
5. When there is a problem, I am confident I can fix it.
6. **If I try hard enough, I can always find a solution to the problem at hand.**
7. **When faced with a challenge, I am able to find more than one way to overcome it.**
8. No matter the situation, I can find ways to get what I want.
9. I have the ability to improve my circumstances, not matter how bad they might be.
10. If something goes wrong, I know I can make it right.
11. {missing}

12. (R) If faced with a difficult challenge, I do not think I have the ability to succeed.

13. (R) If I am unable to succeed the first time, I do not know what my next step would be.

14. {nome}

15. No matter what obstacles are present, I can find a way to succeed.

16. No matter how bad the situation, I know there is always something I can do to improve it.

17. I feel I have the resources and abilities to solve my problems.

18. (R) When faced with a challenge, I typically feel helpless.

19. I believe I can accomplish almost anything if I work hard enough.

20. I know that I will succeed, no matter what.

21. (R) I just give up if too much is asked of me.

22. When problems arise, I know I can just fix them.

23. (R) I have a hard time coming up with plans to solve my problems.

24. (R) I lack the abilities I need to succeed.

*Items in bold were chosen as the final 12 Items