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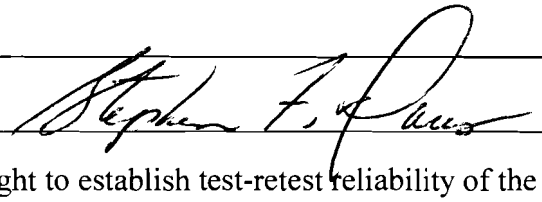
Abstract approved: 

The present study sought to establish test-retest reliability of the Comprehensive Affect and Personality Scales (CAPS; Lubin & Whitlock, 1999) over the span of 1, 2, and 3 weeks. The CAPS is composed of two forms, an affect state measure (CAPS-ASR) and a personality trait measure (CAPS-PTR). Participants were 78 undergraduate students from a medium-sized Midwestern university. All participants were administered the CAPS in an initial session. Students returned either 1 week, 2 weeks, or 3 weeks later to complete the CAPS again. Results indicated that the CAPS is, indeed, temporally stable. CAPS-ASR scores were less reliable over time, reflecting the fluctuation of affect by the context of individuals' environments. CAPS-PTR scores were stable over time with no decrease in reliability. The CAPS-PTR scores were more stable over time than the CAPS-ASR scores, supporting the idea that personality traits are more representative of individuals' patterns of behavior, whereas affect states are more a measure of extended mood and will fluctuate over time. The CAPS reliably measures both affect states and personality traits over time.

ESTABLISHING TEST-RETEST RELIABILITY OF THE COMPREHENSIVE AFFECT AND PERSONALITY SCALES

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CHAPTER 1

INTRODUCTION

We are free when our actions emanate from our total personality, when they express it, when they resemble it in the indefinable way a work of art sometimes does the artist -- Henri Bergson

The study of personality has long been an obscure process. The dynamic nature of human behavior drives our interest in studying ourselves, but also causes us to be difficult creatures to study. These differences make us unique and constitute our personality. Over 30 years ago, Walter Mischel (1968) challenged the study of personality, arguing that the dynamic nature of behavior is created by the context of the situation. When psychologists measure personality, Mischel argued, they are measuring a reaction to a situation and this variability in human behavior cannot be accurately measured and, therefore, behavior cannot reliably be predicted from these measurements. The response to Mischel's criticism was overwhelming and remains the impetus for personality research three decades later.

In addition to the person-situation controversy initiated by Mischel (1968), there is a similar debate in the field regarding the differences and similarities of states and traits. A person's state, by definition is expected to fluctuate over time and in accordance with the individual's mood. A trait, however, is seen as a personality characteristic that should be representative of an individual's typical pattern of behavior. The distinction between a person's state and traits is not always clear.

The most commonly employed measure to evaluate the stability of an individual's current state and personality traits is test-retest reliability. By administering the same instrument at two separate points in time, a correlation between the two samples of the individual's responses can be obtained. One of the inconsistencies currently found in the literature is how stable (i.e., reliable) behavior should be across time. Personality trait measures ideally would be relatively highly correlated over time, whereas an individual's affect state is expected to be somewhat less stable over time due to the changing contexts

of the individual's life. The concurrent response of psychologists in the field of personality research to this measurement question has been the search for more sensitive, accurate instruments to evaluate personality variables. One such attempt to address the problem was the development of adjective checklists to allow individuals to self-report how they are feeling and how they typically respond to a situation. The adjective checklist procedure involves indicating the mood or personality through rating adjective words that describe the individual. The reliability of an instrument to measure these characteristics is crucial to its usability.

Review of the empirical research on the topic of stability of states and traits indicates the following subtopics are essential in understanding the importance of this topic and its origins: (a) affect states (further divided into positive and negative affects), (b) personality traits (including specific factors such as the "Big Five" traits), (c) adjective checklist measures, (d) test-retest reliability properties, and (e) development of the Comprehensive Affect and Personality Scales (CAPS; Lubin & Whitlock, 1999). Each of these topics will be discussed in the following sections.

Affect States

Due to confusion in the terminology used to describe the different affective components, Ekman and Davidson (1994) invited theorists to answer fundamental questions regarding emotion from their theoretical viewpoints, including defining misunderstood terms. The resulting common definitions follow: emotion is a relatively brief behavioral display that is precipitated by an environmental stimulus; mood is a somewhat longer expression of an emotion; affect is a term broadly used to refer to all affective constructs; state generally refers to a prolonged mood; trait is more difficult to define due to the disagreements in the literature and will be discussed in a later section.

Pioneering theory developed by Raymond Cattell molded the methods used in subsequent personality research. By utilizing factor analytic procedures he refined the many personality characteristics to a manageable number. Although considered a trait

theorist, Cattell (1966) did not consider an individual as a static being, rather he acknowledged the role of the environment on the individual. The concept of state, or the emotional and mood changes partly determined by specific situations, is an integral concept within personality theory (Pervin, 1993). Cattell emphasized that the description of an individual depended on a consideration of both states and traits; behavior from a specific situation cannot be predicted from traits alone without regard to the affect of the individual.

In a more modern conceptualization, states and traits are seen on a continuum: qualities that endure over months, years, or decades qualify as traits, whereas qualities generated from events lasting instants, seconds, minutes, hours, or weeks qualify as states (Harkness & Hogan, 1995). The quandary posed by this viewpoint is in determining a method to measure this continuum. The aforementioned state-trait distinction informs researchers of the type of qualities they should be seeking to measure. In situations where both characteristics exist, data collected in short time periods should reflect greater environmental influence (i.e., less stability), whereas data collected over greater time periods should reflect stable characteristics because the environmental fluctuations average out over time (Harkness & Hogan, 1995).

Historically, the salience of evaluation of states or affect has been largely neglected, ostensibly due to the over-concern of determining personality traits or factors. With the advent of cognitive psychology (and the decline of behaviorism), there has been a surge of interest in fluctuations in affect. The field now realizes the importance of combining the two qualities due to their cyclic nature: differences in personality traits resulting from past experience influence emotional states because they may dispose an individual to react to similar situations in radically different ways. Therefore, accurate assessment of personality requires not only distinguishing between different emotional states, but also evaluating the intensity of the emotions as they fluctuate over time (Spielberger, Ritterband, Sydeman, Reheiser, & Unger, 1995).

There appears to be an ongoing controversy in the field concerning the importance of the distinction between states and traits. Allen and Potkay (1981) posit that this distinction is arbitrary; the choice of words on a scale dictates the responses to the scale. Zuckerman (1983), however, argues that personality scales are created because single word items are highly unreliable and that the average of these responses is what is important and has proven reliable. To quote Zuckerman, "even Skinnerians do not attempt to predict single bar presses; they use cumulative rates of response" (1979, p. 53). As always, behavior in situations is only predictable when sufficient numbers of situations are sampled. Allen and Potkay (1983) suggest that there is mathematical error in this summation technique. They further argue that because states and traits are considered to fall on a continuum, their distinction must be arbitrary. This arbitrariness, however, is not necessarily detrimental because if psychologists can become less concerned with determining whether they are measuring a state or a trait, they will be "free to use whatever works best to predict behavior" (Allen & Potkay, 1983, p. 1089). Zuckerman (1983) believes that because experimental inducement of an emotion creates change in state measures, but not in trait measures, the distinction between state and trait is worthy of consideration and certainly not arbitrary. Low test-retest reliability coefficients are expected for state measures, whereas higher coefficients are expected for trait measures.

Positive affect. Another issue in the study of affect states is whether the dichotomy of positive and negative affect exists and if this dichotomy can be reliably measured. Intuitively, positive feelings (i.e., happy) are seen as opposites of negative feelings (i.e., sad). This viewpoint places affect on a continuum where high levels of an emotion are the same as low levels of the "opposite" emotion, and is termed the bipolarity viewpoint. Its followers are devout and are consistently challenged by the other "camp" of researchers who assert that positive and negative affect are independent and an individual may experience both simultaneously (happy and sad all at once).

Researchers have staunchly defended bipolarity for several decades, but more recently Green, Goldman, and Salovey (1993) suggested that statistical artifacts have masked the bipolarity of positive and negative affect. When correlation error is statistically controlled, the independence of the affects is not as easy to establish. This research initiated a caution in the field of personality measurement by redirecting attention to the effects of measurement error. The debate was certainly not resolved, however, by this research. Instead, it launched increased research by the opposing camp.

Tellegen, Watson, and Clark (1999a) recently challenged the bipolarity issue by suggesting that instead of regarding positive and negative affect in a linear fashion, a three-level hierarchy seemed to better explain the structure of affect. One level of this hierarchy is the bipolar happiness vs unhappiness distinction. The next level includes relatively independent positive and negative affect, and the third level incorporates more circumscribed discrete affects. Their view is similar to circumplex models that support both bipolar and independent axes. Green and Salovey (1999) responded to this challenge by again citing measurement error as the culprit for failing to find bipolarity in affect structure. In a rejoinder, Tellegen, Watson, and Clark (1999b) reaffirm their belief that a hierarchical structure better explains the relation between positive and negative affect and serves a heuristic purpose as well: a person who is unhappy is not necessarily sad.

The careful consideration of time, choice of descriptors, measurement error, and response formats in understanding affect structure is essential when attempting to resolve this controversy (Russell & Carroll, 1999a). Unfortunately, disparate research supports both the bipolarity viewpoint and the independence viewpoint. Russell and Carroll (1999a) proposed a recent bipolar model, with positive and negative affect set on a continuum, but this viewpoint appears to be in the minority in the literature. In response, Watson and Tellegen (1999) cite numerous reasons why their hierarchical model is superior to that of Russell and Carroll's (1999a) bipolar model. Surprisingly, Russell and Carroll's (1999b) final reply to Watson and Tellegen (1999) achieved some middle-

ground. The end-result of this controversy appears to be the "rebirth" of the bipolarity viewpoint and a conclusion by Russell and Carroll (1999b) that bipolarity and independence viewpoints are not mutually exclusive.

The issue that logically follows from this debate is determining how to measure these dimensions of affect within an individual's personality. One way of distinguishing among affect qualities is to consider mood in light of (a) frequency and intensity of affective reactions (responsiveness), (b) frequency and intensity of interpersonal expression of affect (expressiveness), and (c) the extent to which individuals are comfortable with the emotion and seek out emotional experiences (orientation) (Allen, 1976). Negative affect, specifically anger, fear, and sadness, is more strongly related to responsiveness than any other emotional dimension, whereas positive affect, specifically elation, is most strongly related to orientation and expressiveness (Allen, 1976). In light of this research, measurement must not only assess the amount of an affect displayed by an individual, it must also consider the frequency with which the affect is experienced, the intensity of that affect, and how comfortable the individual is with experiencing that affect. An individual who is scared, for example, may not be comfortable with that feeling and, therefore, not acknowledge it, or report it.

More recently, Watson (1988) addressed the issues of descriptor, time frames, and response formats on the measurement of positive and negative affect. A slight reconceptualization of affect over time by some theorists (Diener, Larson, Levine, & Emmons, 1985; Russell, 1980) introduced the concepts of pleasantness-unpleasantness, or the differences in degree of positive vs negative affect, and arousal, the strength or intensity of the affect experience. Any emotion, by definition, must involve an increase of arousal, so low arousal is considered the absence of emotion (i.e., sluggish, relaxed). Watson (1988) suggested that scales designed to assess affect must simultaneously account for both of the above factors to sufficiently provide an estimation of an individual's current affect state but must also be reliable. Watson retermed these factors

as positive affect and negative affect. Because affect levels fluctuate, time must be considered in assessment. The time frame in which the individual is instructed to report his or her feelings exerts a strong influence on the relation between positive and negative moods (Watson, 1988). This influence, however, is not directionally consistent. A second variable, mood descriptor terms, also exerts an influence on responses over time. Because of lexical differences, some affect terms are a mixture of both positive and negative affects. It seems, the bipolarity/independence debate is cyclic in nature. Taking the existing literature into consideration, Watson, Clark, and Tellegen (1988) developed the Positive and Negative Affect Schedule (PANAS) which is internally consistent and brief.

Not surprisingly, there is conflicting research on the separation of positive and negative affect and the feasibility of organizing measurement instruments in this manner. Diener, Smith, and Fujita (1995) reported that individual differences in discrete emotions cannot be reduced to positive and negative affect. Further, the structure of affect can be explored in two ways, by studying long-term affect and momentary affect. Diener et al. indicated that long-term pleasant and unpleasant affect are not completely overlapping, but separable. Consistent with other research, pleasant emotions were experienced more frequently than unpleasant ones, and of the negative emotions, anxiety was the most frequently experienced. Diener et al. also found that people who experience one pleasant affect frequently tend to experience other pleasant affects frequently. Furthermore, people who experience unpleasant emotions frequently also experience other discrete specific negative affects. The extent of overlap in the emotions within positive and negative affect cautions the use of scales that do not measure direct central emotions.

The above controversy becomes important in the applied as well as research domains. For example, bipolarity vs independence would differentially predict how to alleviate negative and facilitate positive mood.

Negative affect. Considering the affect structure debate, differing attempts have been made to apply what is known about affect states to applied clinical practice. Because

positive affect is regarded as appropriate and high levels of negative affect are regarded as pathological, the research on negative affect focuses on the alleviation of these maladaptive symptoms. For example, Catanzaro and Mearns (1990) describe a scale developed to measure negative mood regulation expectancies. Before seeking treatment, many people attempt to cope with depression or other negative states in commonsensical ways (e.g., reflection, turning to a friend). Better understanding of these self-initiated attempts to cope would aid in treatment planning. For instance, women who were successful copers more often reported making a change in their social environment, and believed self-coping statements made to themselves, whereas women who were poor copers had neither of these qualities. Further demonstrating the utility of studying individual differences in regulating negative moods, depressed women had lower expectancies that their attempts to cope with sadness would be helpful than nondepressed women did. Therefore, generalized expectancy for problem solving is an important dimension of affective self-regulation. Catanzaro and Mearns' (1990) questionnaire measures these expectations with the rationale that "what people think will happen when they experience negative emotions has important implications for their experience of those states and the development and treatment of a number of psychiatric and physical disorders" (p. 560).

A slightly different approach to studying negative affect was proposed by Watson and Clark (1984). They view the construct of negative affectivity as a mood-dispositional dimension, whereby individuals high in this disposition tend to be distressed and upset and have a negative view of self, whereas those persons low on the dimension are relatively secure and content with themselves. The emotions subsumed under negative affectivity (i.e., nervousness, worry, anger, scorn, guilt) are currently measured by various scales, all of which correlate highly with the construct of negative affectivity, leading the researchers to consider them to be measuring the same thing (Watson & Clark, 1984). Negative affectivity, however, is unrelated to an individual's sense of positive emotion:

those high on negative affectivity are not necessarily low on joy, excitement, or enthusiasm, supporting the independence viewpoint of affect states. Catanzaro and Mearns (1990) clarified the relation of negative mood regulation expectancies to negative affectivity by differentiating the ability to terminate unpleasant mood states from the tendency to experience them in the first place. Similarly, Watson and Clark (1984) caution that negative affectivity represents subjective differences in mood rather than differences in actual adjustment. Further, high negative affectivity individuals experience more negative emotions and then exacerbate them by ruminating over mistakes and failures.

Martin, Flett, Hewett, Krames, and Szanto's (1996) model of self-regulation took a more personality-disposition approach. They examined how negative mood (depression) combined with personality factors (perfectionism, procrastination) exacerbate both the negative mood and physical/psychosomatic health symptoms in college students. In accordance with other research, they found that physical symptom report was associated with personal and social perfectionism, low self-efficacy, and depression. These results support the application of a self-regulation model to college students' psychological distress and physical/somatic problems. A crucial point to consider, however, is that the link between self-reports of personality and health may be more a reflection of a negative affect then a bona fide health problem (Costa & McCrae, 1987). Yet these self-perceived health problems have significant implications for the distressed person's daily functioning and should be taken seriously, regardless of their validity.

Lubin et al.'s (1988) research on health and affect revealed that certain demographic variables were highly associated with different affect states. For example, education and race of the individual had little relation to affective disorders. Women scored higher on anxiety, depression, and overall dysphoria than did men. African-American individuals scored higher on depression and hostility than did Caucasian individuals, and Caucasians scored higher on general positive affect than did African-

Americans. Interestingly, there were no significant relations between affect and age. In terms of education levels, those persons with higher levels of education reported higher levels of general positive affect, and general dysphoria was higher in persons with less education. Occupation type also was related to affect: laborers showed high levels of depression and low levels of general affect, whereas the reverse was demonstrated for professionals and executives. Not surprisingly, general positive affect rises with increasing income, and general dysphoria falls. Married individuals scored higher than single individuals on positive affect and the single individuals scored higher on anxiety and dysphoric affect. The married group scored lowest on depression than any other group. Questionable (i.e., low n) significant results were also found for religious affiliation, region of U.S., and size of town or city. Because these are correlational values, cause and effect are indeterminable, but the information is still useful. Knowledge of these relations may allow researchers and clinicians to predict whom is more susceptible to certain health risks. This research also underscores the need for predictive measurement instruments.

Mood-induction research (Brown, Sirota, Niaura, & Engerbretson, 1993) utilized various affect state instruments (e.g., MAACL-R, Zuckerman & Lubin, 1985; PANAS, Watson, Clark, & Tellegen, 1988) to measure mood change. Brown et al. (1993) artificially induced sadness and elation and measured blood serum quantities of cortisol, which has been found to respond to psychological influences. Cortisol levels increased when both elation and sadness scores on the MAACL-R increased. This research is important because it implicates the measurement of psychological factors (affect) in the study of endocrine function and brain pathway activation.

Affect instruments (MAACL) have also been used to study medical conditions such as asthma. Because pulmonary function has been found to covary with mood, it is useful to study the effects of induced mood on asthma patients (Schmalling et al., 1996). Some individuals exhibit strong associations between mood and pulmonary function and

others do not. Measurement of these phenomena may lead to better treatment planning for asthmatic patients. The MAACL was used to measure an induced mood of depression, anxiety, and hostility scores and then compared with peak flow measurements of breathing. Four of the six participants experienced a drop in breathing level when exposed to brief uncomfortable situations (e.g., engaging in heated conversation with spouse) and concurrently scored higher on hostility and depression scores than they did on baseline. This research suggests that measures of affect may predict an asthmatic's emotional triggers and aid in a cognitive-emotional regulation strategy for patients with asthma.

If mood states are, indeed, a sample of personality traits (Zuckerman, 1979), then where do these states fit within the trait factor models? To answer this query, Zuckerman, Joireman, Kraft, and Kuhlman (1999) explored several models of personality through factor analysis to determine where affective states fit in the various models. Because fundamental personality traits are based on individual differences in strength and frequency of emotional states, factor analysis should pair the corresponding affects and traits together. Zuckerman et al. found that the precursors to the "Big Five" (Goldberg, 1990) factors (neuroticism, extraversion, openness) did, indeed, show loadings for specific negative and positive affects. These findings buttress the viewpoint that positive and negative affects form two distinct and separate independent factors in both state and trait forms (Diener & Emmons, 1984; Watson & Tellegen, 1985). Specifically, positive affect was predicted by all the models to be associated with extraversion, as well as a negative loading on negative affect.

Personality Traits

Several personality theorists believe that personality traits are based on underlying affective states. Basic emotions such as fear, anger, joy, and happiness have psychobiological substrates in the brain; the differentiation of these systems provides one basis for the differences along trait dimensions of personality (Zuckerman et al., 1999).

Finding an agreed upon definition of trait in the literature is difficult due to differing viewpoints. Trait has been defined as "a disposition to behave in a particular way, as expressed in a person's behavior over a range of situations" (Pervin, 1993, p. 510) and as "dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings and actions" (McCrae & Costa, 1990, p. 23). People infer the level of a trait by the frequency and intensity of the appropriate acts and feelings of the trait. Yet another definition of a trait is "a linear dimension of behavior upon which persons can be said to differ" (McAdams, 1993, p. 129). People can be reliably assessed in terms of a number of simple trait dimensions and these ratings are relatively stable over time. People rate themselves reliably; others' ratings of a person tend to correlate with self-ratings. People are generally aware of their own traits (McAdams, 1993). These definitions considered, traits should be fairly stable (reliable) over time.

The Five Factor Model. The most dominant personality trait model is the Five Factor Model of Personality (Goldberg, 1990). In maintaining the historical trend in personality measurement, constructs identified by personality theory were used to derive new items (and then scales) specifically to elicit information about those constructs (Cronbach, 1960). Factor analysis determined that most personality trait adjectives could be summarized into five specific categories: Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness. Costa and McCrae (1985) developed the Neuroticism Extraversion Openness Personality Inventory (NEO-PI) to measure personality in light of these five factors. Now one of the most widely used tests in personnel selection (Goldberg, 1993), the proponents of the "Big Five" model are increasing.

A related area of research is the construct of subjective well-being (SWB). Research on SWB focuses on how and why people experience their lives in positive ways (Diener, 1984). The most important qualities examined seem to be happiness, life satisfaction, and positive affect. SWB also seems to be assessed by the individual

recalling a preponderance of positive affect over negative affect (Diener, 1984). It views positive affect as a separate affect from negative affect in the spirit of the independence viewpoint. The emphasis in assessment is placed on an integrated judgment of the person's life, but measures may include a span of weeks or years. Furthermore, when a period of weeks or more of a person's life is considered, the average level of positive and negative affects are independent, even though the chance of experiencing the two simultaneously is unlikely. The average refers to both frequency and intensity of the affect experienced (Diener, 1984). SWB is probably more cognitively based than emotionally based, but affect certainly influences SWB. Both current mood and long-term affect are related to SWB; hence, SWB is considered by some researchers as a trait and a state. Stability estimates for SWB range from .7 to .9. Personality traits and positive and negative affect may tap the same underlying construct, but they focus on different time frames. Personality traits generally reflect one's overall life, whereas positive and negative affect typically focus on experiences within the recent past (DeNeve & Cooper, 1998).

Several studies (Costa & McCrae, 1980; DeNeve & Cooper, 1998; Diener, Suh, Lucas, & Smith, 1999) implicate personality traits (specifically the Big Five) as the most influential predictors of SWB. Extraversion correlates with positive affect, whereas neuroticism is related to negative affect (Costa & McCrae, 1980; DeNeve & Cooper, 1998; Diener et al., 1999). Conscientiousness was related to SWB (DeNeve & Cooper, 1998), but this finding has not been replicated. Openness to experience was the least correlated with SWB, perhaps because this trait serves as a "double-edged sword" that predisposes individuals to experience the negative and the positive affects more deeply (DeNeve & Cooper, 1998). Most researchers agree that scoring high on neuroticism predisposes an individual to experience less SWB, in light of quality of life experiences, negative short-term emotions, or the absence of long-term positive emotions.

A final consideration of SWB places the construct within theory. Cognitive

theories of processing suggest there are two approaches to perception; top-down and bottom-up processing (Matlin, 1998). In top-down processing, a global "picture" is formed and then details are filled-in. In contrast, bottom-up processing builds upon an accumulation of details to form a "big picture." In studying affect, both top-down and bottom-up approaches are implicated in SWB and correspond somewhat to the trait/state argument (Diener, 1984). The top-down approach suggests that SWB is a trait and reflects a propensity for persons to react in a happy way but can at any point in time be unhappy. Bottom-up approaches, in contrast, support the state viewpoint that happiness is a culmination of many happy occurrences. If these theories are true, then the top-down approach (the more favored approach) implies that personality traits lead people to experience life in a positive or negative manner (DeNeve & Cooper, 1998). Diener's message is clear: factors that affect state vs trait happiness must be differentiated (Diener, 1984), and SWB researchers should include measures of both positive and negative affect in their research and not merely assess global happiness (Diener et al., 1999).

The study of personality is predicated on the notion that behavior is consistent; if it were not relatively consistent over time and across situations, the term "personality" would have little meaning (Satterwhite, Fogle, & Williams, 1999). Interestingly, there is a paucity of research on this topic. Baumeister (1991) demonstrated that certain personality traits (e.g., self-esteem, self-consciousness, locus of control) were, indeed, stable over time with test-retest coefficients ranging from .66 to .74. He also cautioned that short scales had much lower stability coefficients than their longer counterparts. Satterwhite et al. (1999) extended this research by examining the test-retest reliabilities of the Big Five traits. High cross-temporal correlations were found ranging from .61 for extraversion to .70 for conscientiousness in Study 1 and from .67 for neuroticism and .83 for both openness and conscientiousness in Study 3. Taren (1997) also found strong retest reliabilities for the five factors over a 4-week interval. Based on this paucity of data, these five traits seem to be reliable individual differences in the area of personality. To quote

Baumeister, "the ultimate goal of this line of work is not just to facilitate measurement but also to afford insight into the nature and structure of personality itself" (1991, p. 639).

Adjective Checklist Measures

Self-report measures have been considered the most desirable means of assessing personality because there is a private dimension to feelings that can only be measured through self-report measures (Zuckerman & Lubin, 1985). The individual is ultimately the best source of information about his or her own personality. Moreover, correlations between scale-measured other- and self-reported scores were highest when individuals were allowed to choose their most consistent trait (Kenrick & Stringfield, 1980).

Adjective checklists (ACL) have improved considerably over time. The use of a checklist of trait names to measure personality was seen as early as 1929 (LaForge & Suczek, 1955). Unfortunately, early versions of checklists used only a "check" or "no check" type response format, as in the Interpersonal Check List developed in the early 1950s. This response format poses several scoring ambiguities. First, the researcher must note not only which adjectives are checked but also which items were not checked. An adjective which remains unchecked can be interpreted by the researcher as not applicable, not representative of that individual, or perhaps the item was simply overlooked. Secondly, checklists that require a check or no-check format are equating the judgments of "extremely applicable," "applicable," and "somewhat applicable" as a single response. This method provides a limited range of responses in comparison to a 4- or 5- point Likert-type scale. An all-or-none inventory is quantitatively different than one that utilizes a rating scale for each adjective (Masterson, 1974).

Proponents of the adjective checklist believe that it has the advantage of ease of administration and scoring, and is sufficiently complex to cover a broad range of behavior (Masterson, 1974). Adjective checklists are also infinitely repeatable and can be applied as a comparison of two concepts, or between the same concept at two points in time. Historically, the first widely accepted checklist was the Gough-Heilbrun ACL developed

in 1965 (Gough & Heilbrun, 1965). The Multiple Affect Adjective Checklist (MAACL; Zuckerman & Lubin, 1965, 1985) was devised to measure state affect. It was revised in 1985 to reflect improvements in scale constructions and to incorporate the independence of affect viewpoint. Retest-reliability ranged from .50 to .75. This scale is concerned with the measurement of the current affect variables which are subject to change.

Changes in scoring and response formats have greatly improved adjective checklists. Moving away from a forced "all-or-none" response format allows the researcher to gain more information and to increase the reliability and validity of the scale. Many adjective checklists today utilize an improved Likert-type measurement scale (Masterson, 1974). This type of scale requires participants to indicate their degree of agreement or disagreement with a statement or how applicable an adjective is to them. The advantage of Likert-type scales is that they are easily quantified and enable researchers to make comparisons among different individuals or several instances within the same individual (Davis & Palladino, 2000).

Test-Retest Reliability

Reliability is one of the basic foundations of behavioral research. If a test is not reliable, one cannot determine if it has any meaning (Nunnally, 1967). Reliability is the ratio of true variability to observed reliability. The difference between the true score and the observed score is error. To measure time-related sources of error, test-retest reliability is used where the same group of people is measured at two different points in time with the same test. The shorter the retest interval, the higher the retest coefficient because there is less time for the individual's scores to change (Sattler, 1982). Additionally, prior research has found that retest reliabilities for personality traits become more stable as we age (Cronbach, 1960).

Retest reliability shows the extent to which scores on a test can be generalized to different occasions; the higher the reliability, the less susceptible the scores are due to random daily changes in the conditions of the individual or the testing environment

(Anastasi, 1968). A reasonably high test-retest coefficient would seem imperative for an instrument purporting to measure enduring personality traits, yet too high of a correlation would actually suggest the insensitivity of the scale to measure affect change. The implications of low test-retest reliability coefficients would then seem to vary with the nature of the approach of the test (Cronbach, 1960; Masterson, 1974). The idea that an instrument can be developed to measure both has been suggested by Zuckerman and Lubin (1966). It has also been suggested that test-retest reliability can be improved by using probability response data rather than regression coefficients (Curley & Golden, 1996).

Comprehensive Affect and Personality Scales (CAPS)

Lubin and Whitlock (1999) developed the CAPS based on a number of studies generated over the past 20 years regarding the independence of positive and negative affect and the complex relation of affect states and personality traits. Synthesis of this research suggests that combining affect states and personality traits into one instrument should facilitate both applied and research areas of personality and clinical psychology. It is found that several health related processes (resilience, appraisal, and coping) are crucial for arousal and regulation of affect and can be understood in terms of personality processes. Therefore, a solitary instrument that combines both affect states and personality traits would seem to be of interest to clinical researchers and practitioners.

The CAPS is a measure of both affect state and personality trait and has two corresponding forms, the Affect State Rating (ASR) and the Personality Scale Rating (PTR). The ASR is a 78-item Likert-type scale that measures current affect state. The form is composed of 10 affect scales: 5 negative scales (Anxiety, Depression, Hostility, Agitation, and Shyness) and 5 positive scales (Self-satisfaction, Other-centeredness, Cheerfulness, Health/Fitness, and Daring/Adventurous). The PTR is a 53-item Likert-type scale that measures the personality trait dimension, represented by the Big Five

personality traits. The PTR consists of 5 scales (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism).

The development of the scales was achieved through factor analytic procedures. A sample of 152 adjectives with either positive or negative affect connotation formed the preliminary list for the CAPS-ASR. These items were administered to a sample of 1073 college students who were randomly split into a validation and a cross-validation group. Positive and negative items were separately factor analyzed to produce 5 interpretable negative scales and 5 interpretable positive scales. Similarly, adjectives that appeared to be indicators of the broad domain traits of the Big Five model of personality were considered for inclusion for the CAPS-PTR. Factor analysis resulted in 68 adjectives to assess the Big Five traits.

As the only instrument to simultaneously measure affect states and personality traits, the CAPS (once fully validated) will have useful applications in a number of settings and populations including clinical and counseling psychology, behavioral medicine and health psychology, vocational and career counseling, and industrial/organizational psychology. With only 68 adjectives, the CAPS will also be easy to administer and complete.

Present Experiment

In light of the research discussed regarding the distinction between states and traits, the independence of positive and negative affect, the stability of traits (specifically the Five Factor Model and Subjective Well-Being), the refinement of adjective checklist measures, and the varying levels of desired test-retest reliability coefficients, the present study sought to establish appropriate levels (r = .70; Guilford, 1956) of test-retest stability (over 1-, 2-, and 3-week intervals) for a unique measure of personality, the Comprehensive Affect and Personality Scales (CAPS; Lubin & Whitlock, 1999). The CAPS is unique in that it simultaneously measures affect states (based on the independence of positive and negative affect) and personality traits (based on the Five

Factor Model). These scales are named Affect State Rating (ASR) and Personality Trait Rating (PTR), respectively.

Research Questions

Based on the abovementioned literature, the following research questions were developed:

Research Question 1: Are affect state scores relatively stable over time or do they reflect a person's changing life context?

Research Question 2: Are personality trait scores stable over time, demonstrating a disposition to respond in a consistent manner?

Research Question 3: Are affect state scores less temporally reliable than personality trait scores?

Hypotheses

Based on the research questions posed above, the following predictions are made:

Hypothesis 1: Affect state scores (CAPS-ASR) will only show low ($\underline{r} < .70$) test-retest reliability coefficients over the span of 1 (Hypothesis 1a), 2 (Hypothesis 1b), or 3 (Hypothesis 1c) weeks with decreasing stability over time.

Hypothesis 2: Personality trait scores (CAPS-PTR) will demonstrate high ($\underline{r} > .70$) test-retest reliability coefficients over the span of 1 (Hypothesis 2a), 2 (Hypothesis 2b), or 3 (Hypothesis 2b) weeks and will remain stable.

Hypothesis 3: Personality trait scores will demonstrate higher reliability coefficients than affect state scores will over time.

CHAPTER 2

METHOD

The purpose of the present research study was to demonstrate the test-retest reliability of a unique affect state and personality trait measurement, the Comprehensive Affect and Personality Scales (CAPS; Lubin & Whitlock, 1999). The CAPS has two subscales; the Affect State Rating (ASR) and the Personality Trait Rating (PTR). Three hypotheses are made: Hypothesis 1 predicts that affect state scores (CAPS-ASR) will show only low test-retest reliability coefficients; Hypothesis 2 predicts personality trait scores (CAPS-PTR) will demonstrate high test-retest reliability coefficients; Hypothesis 3 predicts that personality trait scores will demonstrate higher reliability coefficients than affect state scores.

Method

Participants

Participants. The participants for the current study consisted of 78 students enrolled in undergraduate psychology classes at a medium-sized Midwestern university. Only students participating in both portions of the study were given course credit for participation. Because the participants were required to return, they were given two participation points for volunteering. Of the 78 students, there were 60 women (77%) and 18 men (23%), the mean age was 18.5 (SD = 1.17), 90% were freshmen, 5% were sophomores, and 5% were juniors. All participants were unmarried except one, and 88.5% were not affiliated with a Greek sorority or fraternity. No racial or ethnic data were obtained for this sample, but the sample was largely Caucasian.

Materials

Demographic sheet. The demographic sheet consisted of questions that corresponded to the characteristics mentioned in the participant section. These variables included last four digits of social security number (to code for test-retest purposes), age, sex, academic classification, sorority or fraternity membership, and marital status of the participants. All data were kept confidential.

Comprehensive Affect and Personality Scales (CAPS). The CAPS (Lubin & Whitlock, 1999; see Appendix A) is a measure of both affect state and personality trait and has two corresponding forms, the Affect State Rating (ASR) and the Personality Scale Rating (PTR). The ASR is a 78-item Likert-type scale that measures current affect state. Participants are given the following instructions: "Below is a list of words that describe feelings people have. Circle the number that best describes how much you have felt each word during the past week including today." The participants rate their feelings on a 5-point scale, with 1 = Not at all, and 5 = A Great Deal. Higher scores on an individual subscale indicate higher levels of that emotion. The ASR is composed of 10 affect scales: 5 negative scales (Anxiety, Depression, Hostility, Agitation, and Shyness) and 5 positive scales (Self-satisfaction, Other-centeredness, Cheerfulness, Health/Fitness, and Daring/Adventurous). Scoring is accomplished by adding the circled Likert values for each item (adjective) that falls within the scale being measured. The 5 positive scales are summed to provide a Positive total, and the 5 negative scales are summed to obtain the Negative total. The sum of the Positive total and the Negative total provides a Total score.

The PTR is a 53-item Likert-type scale that measures the personality trait dimension, represented by the Big Five personality traits. Participants are given the following instructions: Please think of yourself generally and circle the number that is most descriptive of how you are generally. The participants rate their traits on a 5-point Likert-type scale with 1 = Not at all and 5 = A Great Deal. Higher scores indicate higher levels of the trait being measured. The PTR consists of 5 scales (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism). These 5 scales are summed to provide a total PTR score. The CAPS scales may be administered either individually or in groups.

Procedure

After approval was granted by the Institutional Review Board, a sign-up sheet was

posted on the Division of Psychology and Special Education bulletin board. Students who volunteered to participate were telephoned the night before the experiment to remind them of the room number and time.

After all participants had arrived, the researcher distributed an informed consent document (see Appendix B) to each potential participant. All students agreed to participate. After the informed consent documents were collected, the questionnaire packets were distributed in a pre-determined order chosen by the use of a random number table. Each packet was numbered either 1, 2, or 3 to denote how many weeks the participants were required to return for retest. Brief instructions were given to the participants concerning how to complete the packet. Upon completion, the students turned in the packets to the researcher, signed a participation log and were given a reminder slip informing them when to return for retest.

Participants returned either 1 week (n = 30), 2 weeks (n = 21), or 3 weeks (n = 27) later on the same day of the week in the same room at the same time of day. Each of the three groups completed an identical questionnaire packet upon return. The instructions and procedures were identical to the first session, with the exception of the informed consent document and the reminder to return. As each participant completed and turned in his or her packet, the researcher gave the participant an approved voucher for two points of research course credit and thanked him or her for participating. At the end of the experiment, the researcher and two trained assistants scored the CAPS according to the established scoring procedures and entered the resulting data and demographic information into an SPSS computer program.

CHAPTER 3

RESULTS

Participants were administered the CAPS packet at the first session. The participants returned either 1 (Week 1 sample), 2 (Week 2 sample), or 3 (Week 3 sample) weeks later and completed an identical packet for test-retest reliability purposes. The results were analyzed by SPSS for Windows software. An alpha level of .05 was used for all analyses.

Equivalence of groups

One-way analyses of variance (ANOVAs) were conducted to establish equivalence of groups. Sex, age, marital status, Greek sorority or fraternity membership, and academic classification factors were all nonsignificant (all ps > .05) for the 3 time interval groups.

The Week 1 sample consisted of 30 (9 men, 21 women) participants. Of these, 26 were freshman, 2 were sophomores, and 2 were juniors. The mean age was 18.33. All participants were unmarried, and only one participant (3.3%) reported Greek sorority or fraternity affiliation.

The sample for Week 2 consisted of 21 (5 men, 16 women) participants. The mean age was 18.57. Twenty of the participants were freshmen, and one was a junior. Only one participant was married, and three participants (14.3%) reported Greek sorority or fraternity membership.

The Week 3 sample consisted of 27 (4 men, 23 women) participants. Of these participants, 24 were freshmen, 2 were sophomores, and 1 was a junior. The mean age was 18.78. All participants were single, and five participants (18.5 %) reported Greek sorority or fraternity membership.

Test-retest reliability

Stability was assessed by running bivariate Pearson correlation coefficients between Time 1 and Time 2 (whether it was 1, 2, or 3 weeks later) on each of the 10 ASR

scales (plus Positive Total and Negative Total) and each of the 5 PTR scales. For all (N = 78) participants (i.e., all three samples), all retest coefficients were significant at the $p < .05$ level. For specific correlations regarding all three hypotheses see Table 1. For specific test-retest correlation coefficients by week see Appendices C through F (specific scale to scale correlations are shown in boldface type for all tables). Both the ASR and the PTR are reliable across the time periods employed in this research.

Hypothesis 1a. For specific 1-week test-retest reliability, the scores from the 30 participants were compared from Time 1 to Time 2 (1-week later) using Pearson's correlation coefficients. Four of the 10 affect subscales (40%) demonstrated test-retest reliability coefficients of $r \leq .70$, whereas 6 of the 10 subscales had coefficients $r \geq .70$.

Hypothesis 1b. The affect scores from the 21 participants for the 2-week retest period were compared from Time 1 to Time 2 (2-weeks later). Five of the 10 affect subscales (50%) demonstrated test-retest reliability correlaton coefficients of $r \leq .70$, whereas the other 5 correlations were $r \geq .70$.

Hypothesis 1c. The affect scores from the 27 3-week retest participants were compared from Time 1 to Time 2 (3-weeks later). Nine of the 10 affect subscales (90%) demonstrated test-retest reliabilities of $r \leq .70$, whereas only 1 subscale was $r \geq .70$. Based on these data, Hypothesis 1 is supported; affect state scores demonstrated sufficiently high reliability that decreased over time.

Hypothesis 2a. For specific 1-week test-retest reliability correlation coefficients, the personality trait scores (n = 30) were compared from Time 1 to Time 2 (1-week later). Only 1 of the 5 personality subscales demonstrated reliability of $r \leq .70$; the other 4 subscales (80%) demonstrated reliabilities of $r \geq .70$.

Hypothesis 2b. The personality scores from the 2-week retest participants (n = 21) were compared from Time 1 to Time 2 (2-weeks later). Three of the 5 personality subscales demonstrated reliabilities of $r \leq .70$, whereas 2 of the five (40%) demonstrated reliabilities of $r \geq .70$.

Hypothesis 2c. Personality scores from the 3-week retest sample ($n = 27$) were compared from Time 1 to Time 2 (3-weeks later). Again, only 1 of 5 personality subscales demonstrated reliability of $r \leq .70$, whereas 4 of the 5 subscales (80%) demonstrated reliabilities of $r \geq .70$.

Hypothesis 2 is partially supported; personality trait subscales demonstrated high reliability coefficients and remained stable with the exception of 3 scales during the 2-week retest interval sample.

Hypothesis 3. For the affect subscales, 12 of the 30 (40%) demonstrated reliability coefficients $r \geq .70$, whereas 10 of the 15 (67%) of the personality subscales demonstrated correlations $r \geq .70$. These findings support Hypothesis 3; personality trait scores demonstrated higher reliability coefficients than affect state scores did over time.

Table 1

Correlations Between Time 1 And Time 2 Retest For All Participants

	Ad	Ch	H/F	O-C	SS	Pos	Ag	Ax	D	H	S	Neg	A	C	E	N	O
1-Week Interval	.52**	.51**	.83**	.35	.65**	.80**	.52**	.42*	.46*	.74**	.80**	.56**	.47**	.72**	.87**	.77**	.75**
2-Week Interval	.66**	.80**	.51*	.67**	.53*	.57**	.82**	.72**	.87**	.86**	.50*	.86**	.79**	.62**	.79**	.38	.38
3-Week Interval	.54**	.73**	.68**	.63**	.60**	.67**	.26	.38	.45*	.30	.62**	.42*	.62**	.74**	.82**	.72**	.71**

Note. Ad = Adventurous; Ch = Cheerfulness; H/F = Health/Fitness; O-C = Other-Centeredness; SS = Self-Satisfaction; Pos = Positive Total; Ag = Agitation; Ax = Anxiety; D = Depression; H = Hostility; S = Shyness; Neg = Negative Total; A = Agreebleness; C = Conscientiousness; E = Extraversion; N = Neuroticism; O = Openness.

*$p < .05$

**$p < .01$

CHAPTER 4

DISCUSSION

Hypotheses 1a, 1b, 1c

Hypothesis 1 stated that affect state scores (ASR) would demonstrate low test-retest reliability coefficients over time. For the overall sample, the affect states were indeed stable over the time periods measured in the present study.

For the Week 1 interval sample (Hypothesis 1a), there were 4 low and 6 high test-retest reliability coefficients found for the ASR subscales, which was higher than predicted. Apparently, 1 week is not a sufficient amount of time to change affects significantly, therefore the correlations may have represented the same affect measured on the initial session.

Hypothesis 1b (Week 2 interval sample) found 5 low correlations, and 5 high test-retest correlation coefficients for the affect state measure. After 2 weeks, the students reported similar affect states to the ones reported on the first session. Again, the time interval may not have been great enough for drastic fluctuations in affect to occur. The CAPS measurement remained temporally stable over the 2 weeks.

Week 3 interval sample (Hypothesis 1c) demonstrated less stable reliability coefficients, as predicted. There were 9 low correlations and 1 high test-retest correlation coefficients for this sample. Overall, the affect state scores were more temporally reliable than predicted, but the predicted pattern did emerge: the stability of affect states decreased over the 3 weeks measured in the present study. The implications of these findings are either that a) affect states do not fluctuate as quickly as predicted over the short time intervals employed in this study, or b) the CAPS is not a sensitive enough instrument to detect these fluctuations in mood. Regardless of the predictions made here, the CAPS-ASR is stable over time.

Hypotheses 2a, 2b, 2c

Hypothesis 2 stated that test-retest personality trait scores would be both highly

correlated and stable over the three time intervals. For the entire sample, all PTR subscales were reliable over time, suggesting a proclivity to act in a consistent manner over time.

For the Week 1 interval sample (Hypothesis 2a), 4 of the 5 scales demonstrated high reliability coefficients, as predicted. Apparently, the traits measured by the Five Factor Model are indeed, consistent means of reacting to one's environment.

For the Week 2 interval sample (Hypothesis 2b), 2 subscales demonstrated high reliability, but 3 subscales showed low reliability, contrary to prediction. The two traits measured by these subscales are Neuroticism and Openness to experience. Neuroticism is a trait that is highly affected by mood and may be an accumulation of negative affect states (Zuckerman, 1979); therefore, perhaps it will always demonstrate lower reliabilities than the other four traits. In contrast, Openness to experience should be highly reliable over time because it reflects a more cognitive or even intellectual component of personality. The finding that it was not temporally reliable across 2 weeks seems unusual. The most likely supposition that seems to be viable here is that the finding was an artifact of the sample or some type of measurement error. Another supposition may be that something significant occurred during this week on campus (i.e., campus-wide tragedy or major sporting event) that caused the students' responses as a whole to change drastically.

All five subscales for Week 3 interval scores also demonstrated high test-retest reliability coefficients, as predicted. The five traits measured were all temporally reliable over the span of three weeks.

Hypothesis 3

Across the three weeks, the personality trait scores demonstrated higher test-retest reliability coefficients than did the affect state scores, as predicted. These results suggest that personality traits are more consistent and representative of an individual's pattern of behavior, as compared to affect states, which fluctuate with the context of an individual's

environment. These results are consistent with the extant literature and will be expanded in the following section.

Additional Findings and Related Literature

In examining the correlation tables (see Table 1 and Appendices C - F), all but one of the positive affect total test-retest correlation coefficients were more highly correlated over time than were the negative affect total correlations. It seems that negative mood is less stable over time and may be more affected by environmental context than positive affects are. Similar evidence from the literature supports this finding (Catanzaro & Mearns, 1990; Costa & McCrae, 1980).

The fluctuation of affect stability includes low and high levels of both negative and positive affect in a relatively short period of time. This occurrence favors the independence viewpoint of positive and negative affect (Tellegen, Watson, & Clark, 1999a, 1999b); an individual can feel both "good" and "bad" in tandem and lack of happiness does not necessarily indicate sadness. Related research on subjective well-being indicates that healthy individuals recall more pleasant affect states than negative affect states (Diener, 1984). This finding gives credence to the finding that positive affect was found to be more stable over time than negative affect.

The present study found personality trait scores to be highly reliable over time. Because the CAPS-PTR was modeled after the Five Factor Model (Lubin & Whitlock, 1999), the current research suggests that the five personality factors do indeed, represent a consistent pattern of behavior displayed by individuals. If individuals do not display a propensity to behave in a certain manner over time and across most situations, then they would not, in essence, demonstrate a personality. The Five Factors have also been found to be highly reliable over time by other researchers (Costa & McCrae, 1990; Satterwhite et al., 1999; Taren, 1997).

Some personality traits are also highly correlated with certain affect traits (Zuckerman, 1979). For example, extraversion correlates highly with positive affect and

neuroticism is highly related to negative affect (Diener, et al., 1999). Similar results were found in the present study. For example, negative affect total scores correlated highly with Neuroticism and positive affect total scores correlated highly with Extraversion, Agreeableness, Conscientiousness, and Openness. For a full comparison of these factors, consult Appendices A - F.

Conclusions and Future Directions

As a more-sophisticated adjective checklist measure than other existing measures, the CAPS displays adequate levels of stability, both for the personality scales and for the affect scales. A stable inventory that accurately measures both affect states and personality traits is of multiple utility in the field of psychology. According to Spielberger et al. (1995), measuring psychological "vital signs" and providing feedback about them to clients may contribute to effective crisis intervention and may facilitate treatment by linking intense feelings to the events and experiences that predicate them. Specifically, anger, anxiety, and depression as indicators of subjective well-being should be carefully assessed in diagnostic evaluations and then continuously reassessed throughout treatment and other behavioral interventions. The CAPS is one such measure suitable for monitoring treatment progress. In addition to detecting those individuals whose chronic affect is typical of an affective or anxiety disorder, a state measure such as the CAPS will also detect those individuals who are responding to transient reactions to immediate stress or those who just "had a bad day" (Lubin et al., 1988).

The use of psychological testing is a widespread and arguably, necessary process to adequately assess and diagnose individuals. Exner (1995) surveyed psychologists for the frequency of selected common personality tests given and the reasons behind whether they used testing or not. He found that 25% of the psychologists surveyed did not use personality testing. Of this subset, 65% reported that they did not find them useful or valid, 25% reported they were not sufficiently trained in their use, and 6% reported that their clients objected to the use of psychological tests. Of the psychologists who did use

psychological testing, only 75% indicated that they used the tests in treatment planning. The most popularly used tests (of the tests surveyed) include a sentence completion blank of some type (75%), MMPI (51%), and the Rorschach (43%). Exner (1995) indicated that the lack of testing in general and the lackadaisical approach to treatment planning without using test results, demonstrated a serious disservice to clients. Recently, numerous tests have been developed and renormed; thus poor validation is not a feasible excuse. Some psychologists have argued that personality testing is time-consuming and the same information will eventually be gained through treatment. In reality, however, personality testing is not time-consuming and the information gained is generally needed before treatment begins (Exner, 1995). Another underutilized application of testing is in evaluating treatment outcome, and there seems to be a paucity of research in the literature on inventories used to measure outcome. Because the CAPS measures affect states and personality traits in the same inventory in a brief period of time it is well-suited for this task.

The abovementioned study by Exner (1995) only inquired about test usage of a few inventories. In a more comprehensive survey of psychological testing, Lubin, Larsen, Matarazzo, and Seever (1985) reported the most commonly used psychological tests in the United States and in which types of institutions they were used. They found that the same core tests were used in all of the settings, but the frequency of use rankings were quite disparate. For example, community mental health centers and clinics reported using the following tests most frequently (in order of most frequent to least frequent): MMPI, WAIS, Bender-Gestalt, Rorschach, Draw-A-Person, Sentence Completion Blanks (SCB), and Thematic Apperception Test (TAT). For the psychiatric hospitals, the most popular were: Rorschach, MMPI, WAIS, Bender-Gestalt, TAT, and SCB. The counseling centers surveyed used: Strong Vocational Interest, MMPI, Edwards Personal Preference Test, SCB, Kuder Preference Record, Rorschach, and WAIS. Centers for developmentally delayed and mentally retarded individuals used the following tests: WAIS, Vineland

Social Maturity Scale, Peabody Picture Vocabulary Test (PPVT), Bender-Gestalt, Stanford-Binet, Rorschach, and SCB. The Veterans Administration Centers used: MMPI, WAIS, Bender-Gestalt, Wechsler Memory Scale, Memory for Designs test, and SCB. The overwhelming trend for these lists is that personality and affect testing is suspiciously missing except for the MMPI and several projective measures of personality measurement. For most of the facilities listed above, the MMPI is too costly and lengthy, and projective assessments suffer from a lack of reliability and validity. Hence, the CAPS may be a viable option for personality measurement in this wide array of settings due to its brief nature and its reliability.

Finally, the quick assessment of mood and personality is also beneficial in physiological and psychological research. When an induced mood is needed to measure a physiological state, there needs to be a reliable assessment of the mood state before and after the administration of the mood inducer. Examples of this use of state measures in research are asthma control (Schmalling et al., 1996), endocrinology studies (Brown et al., 1993), negative mood regulation (Catanzaro & Mearns, 1990), and in assessing depression and health symptom relations (Martin et al., 1996). Because the CAPS is both brief and reliable, it would be useful in measuring the changes in affect created by the mood inducer.

Further validation of the CAPS with populations other than college students is underway (Lubin & Whitlock, 1999). If reliability estimates are as high as they were for both the affect and personality scales found in the present research, the CAPS will be a welcome addition to the measurement of affect and personality in a variety of settings. Its brief nature of administration and the completion of scoring and profile sheets will certainly be appreciated in a world where "time is money."

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Appendix A: Comprehensive Affect and Personality Scales

CAPS ASR

M_____ F_____ Age_____ **Highest Grade Completed (H.S. Grad = 12)**_____

Marital Status: _____Single _____Married _____Separated _____Divorced _____Widowed

INSTRUCTIONS: Below is a list of words that describe feelings people have. Circle the number that best describes HOW MUCH YOU HAVE FELT EACH WORD DURING THE PAST WEEK INCLUDING TODAY.

The numbers mean:	1	2	3	4	5
	Not at all	A little bit	More than a little bit	Quite a bit	A great deal

. active	1	2	3	4	5	27. glad	1	2	3	4	5	53. rejected	1	2	3	4	5
. adventurous	1	2	3	4	5	28. gloomy	1	2	3	4	5	54. rough	1	2	3	4	5
. affectionate	1	2	3	4	5	29. good-natured	1	2	3	4	5	55. sad	1	2	3	4	5
. afraid	1	2	3	4	5	30. happy	1	2	3	4	5	56. safe	1	2	3	4	5
. aggressive	1	2	3	4	5	31. healthy	1	2	3	4	5	57. satisfied	1	2	3	4	5
. agitated	1	2	3	4	5	32. hopeless	1	2	3	4	5	58. secure	1	2	3	4	5
. alone	1	2	3	4	5	33. hostile	1	2	3	4	5	59. shaky	1	2	3	4	5
. angry	1	2	3	4	5	34. impatient	1	2	3	4	5	60. shy	1	2	3	4	5
. annoyed	1	2	3	4	5	35. irritated	1	2	3	4	5	61. soothed	1	2	3	4	5
0. athletic	1	2	3	4	5	36. joyful	1	2	3	4	5	62. sound	1	2	3	4	5
1. awful	1	2	3	4	5	37. lonely	1	2	3	4	5	63. steady	1	2	3	4	5
2. blue	1	2	3	4	5	38. lost	1	2	3	4	5	64. sturdy	1	2	3	4	5
3. calm	1	2	3	4	5	39. low	1	2	3	4	5	65. suffering	1	2	3	4	5
4. cautious	1	2	3	4	5	40. mad	1	2	3	4	5	66. sullen	1	2	3	4	5
5. cheerful	1	2	3	4	5	41. mean	1	2	3	4	5	67. sympathetic	1	2	3	4	5
6. complaining	1	2	3	4	5	42. merry	1	2	3	4	5	68. tame	1	2	3	4	5
7. cooperative	1	2	3	4	5	43. mild	1	2	3	4	5	69. tense	1	2	3	4	5
8. cruel	1	2	3	4	5	44. miserable	1	2	3	4	5	70. thoughtful	1	2	3	4	5
9. daring	1	2	3	4	5	45. nervous	1	2	3	4	5	71. tormented	1	2	3	4	5
20. devoted	1	2	3	4	5	46. panicky	1	2	3	4	5	72. trim	1	2	3	4	5
21. disgusted	1	2	3	4	5	47. peaceful	1	2	3	4	5	73. understanding	1	2	3	4	5
22. energetic	1	2	3	4	5	48. physical	1	2	3	4	5	74. unhappy	1	2	3	4	5
23. enraged	1	2	3	4	5	49. pleased	1	2	3	4	5	75. upset	1	2	3	4	5
24. fit	1	2	3	4	5	50. polite	1	2	3	4	5	76. whole	1	2	3	4	5
25. frightened	1	2	3	4	5	51. powerful	1	2	3	4	5	77. wild	1	2	3	4	5
26. furious	1	2	3	4	5	52. quiet	1	2	3	4	5	78. worrying	1	2	3	4	5

PLEASE TURN THE PAGE

CAPS-PTR

INSTRUCTIONS: Please think of yourself GENERALLY and circle the number that is most descriptive of how you are generally.

The numbers mean: 1 Not at all; 2 Very Little; 3 A Bit More; 4 Quite a Bit; 5 A Great Deal

1.	ambitious	1	2	3	4	5	30.	jolly	1	2	3	4	5
2.	appreciative	1	2	3	4	5	31.	lively	1	2	3	4	5
3.	attractive	1	2	3	4	5	32.	moody	1	2	3	4	5
4.	carefree	1	2	3	4	5	33.	natural	1	2	3	4	5
5.	changeable	1	2	3	4	5	34.	organized	1	2	3	4	5
6.	charming	1	2	3	4	5	35.	original	1	2	3	4	5
7.	clear-thinking	1	2	3	4	5	36.	outgoing	1	2	3	4	5
8.	considerate	1	2	3	4	5	37.	playful	1	2	3	4	5
9.	creative	1	2	3	4	5	38.	practical	1	2	3	4	5
10.	curious	1	2	3	4	5	39.	relaxed	1	2	3	4	5
11.	defensive	1	2	3	4	5	40.	reliable	1	2	3	4	5
12.	deliberate	1	2	3	4	5	41.	restless	1	2	3	4	5
13.	dependable	1	2	3	4	5	42.	sensitive	1	2	3	4	5
14.	dissatisfied	1	2	3	4	5	43.	serious	1	2	3	4	5
15.	easy-going	1	2	3	4	5	44.	sentimental	1	2	3	4	5
16.	excitable	1	2	3	4	5	45.	sincere	1	2	3	4	5
17.	forceful	1	2	3	4	5	46.	sociable	1	2	3	4	5
18.	forgiving	1	2	3	4	5	47.	soft-hearted	1	2	3	4	5
19.	friendly	1	2	3	4	5	48.	supportive	1	2	3	4	5
20.	generous	1	2	3	4	5	49.	temperamental	1	2	3	4	5
21.	gentle	1	2	3	4	5	50.	thorough	1	2	3	4	5
22.	growth-seeking	1	2	3	4	5	51.	touchy	1	2	3	4	5
23.	helpful	1	2	3	4	5	52.	trusting	1	2	3	4	5
24.	humorous	1	2	3	4	5	53.	wide interests	1	2	3	4	5
25.	imaginative	1	2	3	4	5							
26.	impulsive	1	2	3	4	5							
27.	individualistic	1	2	3	4	5							
28.	industrious	1	2	3	4	5							
29.	inventive	1	2	3	4	5							

Appendix B: Informed Consent Document

INFORMED CONSENT DOCUMENT

The Division of Psychology and Special Education at Emporia State University supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach.

You are asked to complete several surveys that measure various psychological attributes. It will take approximately 30 minutes to complete these surveys.

"I have read the above statement and have been fully advised of the procedures to be sued in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved and I assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach."

_____ _____

Participant Signature Date

Correlations Between Time 1 And Time 2 Retest For All Participants (N = 78)

	Ad2	Ch2	H/F2	O-C2	SS2	Pos2	Ag2	Ax2	D2	H2	S2	Neg2	A2	C2	E2	N2	O2
Ad1	**.54****	.49**	.49**	.29*	.31**	.47**	.08	-.04	-.15	.16	.03	-0.03	.26*	0.2	.48**	.03	.37**
Ch1	.28*	**.65****	.49**	.49**	.47**	.57**	.04	-.002	-.13	.09	.06	-.03	.47**	.47**	.48**	-.06	.35**
H/F1	.31**	.27*	**.70****	.28*	.35**	.49**	-.07	-.07	-.10	.04	.18	-.10	.18	.26*	.28*	-.12	.22*
O-C1	.32**	.33**	.37**	**.52****	.42**	.49**	-.03	-.03	-.10	-.04	.22	-.04	.54**	.52**	.41**	-.05	.46**
SS1	.30**	.56**	.54**	.52**	**.59****	.63**	-.18	-.16	-.29**	-.13	.17	-.22	.47**	.43**	.48**	-.17	.38**
Pos1	.44**	.61**	.68**	.56**	.88**	**.70****	-.08	-.09	-.22	-.02	.20	-.12	.48**	.47**	.54**	-.15	.44*
Ag1	.25*	.07	-.09	.09	-.21	-.01	**.55****	.47**	.37**	.60**	.03	.52**	.09	.05	.12	.62**	.01
Ax1	.08	.09	-.05	.15	.01	.08	0.21	**.49****	.29*	.28*	.09	.34**	.11	.07	.09	.33**	.07
D1	.10	-.14	-.17	.07	-.28*	-.13	.39**	.58**	**.58****	.41**	.24*	.59**	.12	.11	.07	.49**	.13
H1	.38**	.13	.05	.15	-.09	.12	.52**	.41**	.40**	**.70****	0.09	.53**	.07	.09	.24*	.58**	.10
S1	.15	.02	.14	.21	.20	.20	.10	.37**	.24*	.21	**.67****	.34**	.17	.26*	.04	.17	.16
Neg1	.24*	.001	-.09	.14	-.18	.001	.48**	.63**	.53**	.56**	.24*	**.62****	.13	.13	.12	.60**	.11
A1	.12	.33**	.30**	.60**	.49**	.46**	-.01	.23*	.05	.30**	.15	.07	**.62****	.45**	.46**	.06	.43**
C1	.20	.22	.23*	.40**	.28*	.35**	.03	.18	.13	.03	.48**	.17	.46**	**.68****	.32**	.11	.41**
E1	.40**	.53**	.48**	.51**	.43**	.58**	.18	.10	.05	.19	.05	.13	.47**	.41**	**.81****	.01	.62**
N1	.16	-.06	-.16	.02	-.18	-.07	.35**	.38**	.38**	**.44****	.24*	.45**	.03	.08	-.004	**.63****	.07
O1	.35**	.21	.28*	.27*	.27*	.35**	.26*	.17	.18	.22	.19	.24*	.28*	.40**	.55**	.10	**.63****

Note. Ad = Adventurous; Ch = Cheerfulness; H/F = Health/Fitness; O-C = Other-Centeredness; SS = Self-Satisfaction; Pos = Positive Total; Ag = Agitation; Ax = Anxiety; D = Depression; H = Hostility; S = Shyness; Neg = Negative Total; A = Agreebleness; C = Conscientiousness; E = Extraversion; N = Neuroticism; O = Openness.

*$p < .05$

**$p < .01$

Test-retest Correlations For Week 1 Interval Sample (N = 30)

	Ad2	Ch2	H/F2	O-C2	SS2	Pos2	Ag2	Ax2	D2	H2	S2	Neg2	A2	C2	E2	N2	O2
Ad1	**.52****	.34	.54**	.34	.26	.45*	.17	-.03	-.12	.19	.12	.02	.37*	.16	.53**	.08	.42*
Ch1	.31	**.51****	.50**	.44*	.38*	.50**	.41*	.34	.23	.34	.28	.37*	.25	.33	.48**	.11	.33
H/F1	.37*	.28	**.83****	.46*	.34	.58**	.13	.19	.01	.23	.31	.16	.42*	.28	.48**	.16	.25
O-C1	.47**	.30	.35	**.35**	.52**	.51**	.06	.12	-.13	-.03	.28	-.003	.39*	.40*	.45*	-.04	.53**
SS1	.49**	.59**	.71**	.64**	**.65****	.78**	-.07	.14	-.17	-.01	.36	-.03	.49**	.39*	.62**	-.09	.34
Pos1	.57**	.68**	.80**	.65**	.64**	**.80****	.09	.18	-.09	.10	.40*	.08	.53**	.42*	.67**	-.04	.44*
Ag1	.21	.05	.19	.03	-.20	.04	**.52****	.43*	.34	.69**	.18	.52**	.04	.12	.08	.56**	.05
Ax1	.10	.22	.22	.21	.001	.23	.05	**.42***	.08	.18	.13	.18	.39*	.32	.17	.13	.22
D1	.08	-.03	-.01	.12	-.17	-.03	.30	.62**	**.46***	.29	.31	.50**	.23	.30	.10	.46*	.23
H1	.31	.13	.23	.10	-.08	.16	.52**	.41*	.40*	**.74****	.28	.56**	.10	.14	.18	.64**	.14
S1	.35	.10	.31	.31	0.2	.34	.32	.70**	.40*	.39*	**.80****	.57**	.29	.49**	.18	.42*	.13
Neg1	.20	.09	.18	.18	-.07	.12	.40*	.64**	.42*	.52**	.36	**.56****	.22	.32	.15	.51**	.20
A1	-.07	.22	.33	.57**	.37*	.44**	-.27	.31	-.10	-.19	.15	-.07	**.47****	.43*	.38*	-.09	.26
C1	.23	.15	.15	.24	.08	.06	-.04	.38*	.13	.002	.52**	.20	.51**	**.72****	.23	.03	.35
E1	.39*	.50**	.56**	.54**	.54**	.60**	.40*	.26	.21	.37*	.16	.33	.43*	.50**	**.87****	.05	.63**
N1	.24	-.28	-.02	-.18	-.23	-.14	.60**	.35	.52**	.64**	.31	.61**	-.09	.22	.18	**.77****	.20
O1	.45*	.17	.30	.33	.33	.44*	.44*	.29	.32	.41*	.48**	.44*	.31	.69**	.62**	.35	**.75****

Note. Ad = Adventurous; Ch = Cheerfulness; H/F = Health/Fitness; O-C = Other-Centeredness; SS = Self-Satisfaction; Pos = Positive Total; Ag = Agitation; Ax = Anxiety; D = Depression; H = Hostility; S = Shyness; Neg = Negative Total; A = Agreebleness; C = Conscientiousness; E = Extraversion; N = Neuroticism; O = Openness.

*$p < .05$

**$p < .01$

Test-retest Correlations For Week 2 Interval Sample (N = 21)

	Ad2	Ch2	H/F2	O-C2	SS2	Pos2	Ag2	Ax2	D2	H2	S2	Neg2	A2	C2	E2	N2	O2
Ad1	**.66****	.05	.14	.19	.07	.25	.13	.22	.20	0.37	-.25	.21	.01	.003	.36	.33	.23
Ch1	0.13	**.80****	.39	.54*	.44*	.56**	-.14	-.17	-.28	-.12	-.12	-.22	.51*	.47*	.32	.11	.39
H/F1	0.1	-.06	**.51***	-.01	.18	.19	-.36	-.32	-.14	-.28	.12	-.27	-.20	.16	-.08	-.32	.15
O-C1	0.32	.39	.35	**.67****	.37	.54*	-.29	-.36	-.31	-.16	.08	-.31	.50*	.58**	.32	-.04	.58**
SS1	.01	.46*	.35	.37	**.53***	.44*	-.42	-.47*	-.48*	-.46*	-.06	-.51*	.38	.34	.27	-.19	.42
Pos1	.29	.47*	.53*	.47*	.50*	**.57****	-.39	-.41	-.36	-.29	-.04	-.40	.34	.45*	.32	-.12	.53*
Ag1	.38	.18	-.34	.12	-.17	.01	**.82****	.66**	.77**	.82**	-.09	.83**	.26	.14	.46*	.80**	.19
Ax1	.28	.01	-.38	.10	-.10	-.04	.43	**.72****	.66**	.46*	-.09	.77**	.19	.08	.35	.65**	.16
D1	.18	-.13	-.44*	.10	-.39	-.19	.61**	.53*	**.87****	.71**	.17	.79**	.15	.10	.30	.64**	.12
H1	.48*	.17	-.23	.23	-.10	.11	.70**	.58**	.81**	**.86****	-.03	.81**	.27	.15	.52*	.79**	.30
S1	-.15	-.10	-.20	-.16	-.05	-.14	-.15	-.20	-.18	-.24	**.50***	-.16	-.004	-.05	-.18	-.29	-.003
Neg1	.33	.02	-.43	.13	-.26	-.08	.72**	.66**	*88**	.79**	.08	**.86****	.23	.13	.42	.77**	.20
A1	.31	.53*	.36	.84**	.45*	.63**	.17	.14	.22	.15	.31	.22	**.79****	.64**	.55**	.39	.73**
C1	.05	.17	.09	.46*	.13	.24	-.02	-.13	.15	-.07	.39	.06	.41	**.62****	.31	.18	.49*
E1	.40	.63**	.28	.64**	.41	.58**	.17	.18	.27	.21	-.05	.23	.68**	.45*	**.79****	.53*	.66**
N1	.15	.24	-.08	.10	-.02	.07	.14	.21	.23	.30	.31	.26	.18	.06	.20	**.38**	.16
O1	.29	.30	.10	.39	.09	.28	.41	.18	.33	.21	-.22	.29	.31	.34	.47*	.25	**.38**

Note. Ad = Adventurous; Ch = Cheerfulness; H/F = Health/Fitness; O-C = Other-Centeredness; SS = Self-Satisfaction; Pos = Positive Total; Ag = Agitation; Ax = Anxiety; D = Depression; H = Hostility; S = Shyness; Neg = Negative Total; A = Agreebleness; C = Conscientiousness; E = Extraversion; N = Neuroticism; O = Openness.

*$p < .05$

**$p < .01$

Test-retest Correlations For Week 3 Interval Sample (N = 27)

	Ad2	Ch2	H/F2	O-C2	SS2	Pos2	Ag2	Ax2	D2	H2	S2	Neg2	A2	C2	E2	N2	O2
Ad1	**.54****	.66**	.60**	.34	.51**	.62**	-.09	-.22	-.38	-.06	-.04	-.28	.40*	.52**	.52**	0.22	.41*
Ch1	.34	**.73****	.51**	.57**	.57**	.65**	-.17	-.18	-.35	-.08	-.05	-.29	.60**	.63**	.60**	-.26	.41*
H/F1	.43*	.44*	**.68****	.30	.45*	.56**	.05	-.11	-.09	.11	.10	-.03	.38	.41*	.36	-.17	.31
O-C1	.08	.27	.35	**.63****	.33	.42*	-.06	.07	.09	.01	.25	.14	.76**	.67**	.44*	-.04	.35
SS1	.28	.60**	.50**	.54**	**.60****	.62**	.20	-.17	-.26	.03	.13	-.14	.61**	.65**	.55**	-.15	.44*
Pos1	.38	.62**	.62**	.56**	.58**	**.67****	-.002	-.14	-.22	.01	.12	-.12	.65**	.68**	.58**	-.19	.45*
Ag1	.21	-.001	-.21	.14	-.27	-.09	**0.26**	.35	.12	.20	-.09	.21	-.06	-.16	-.19	.59**	-.26
Ax1	.14	-.14	-.24	.02	-.17	-.12	.61**	**.38**	.25	.23	.07	.75**	-.27	-.36	-.24	.33	-.30
D1	.10	-.24	-.14	-.02	-.32	-.18	.21	.52**	**.45***	.29	.19	.47*	-.04	-.15	-.16	.29	-.04
H1	.37	.06	.04	.10	-.16	.05	.14	.19	-.06	**.30**	-.14	.06	-.14	-.14	-.10	.40*	-0.2
S1	.10	.06	.19	.33	.29	.26	.003	.36	.21	.26	**.62****	.33	.22	.29	.06	.09	.29
Neg1	.21	-.14	-.14	.08	-.26	-.10	.25	.52**	.32	.31	.17	**.42***	-.10	-.18	-.21	.47*	-0.1
A1	.29	.40*	.26	.53**	.29	.40*	.19	.29	.19	.08	.09	.24	**.62****	.33	.47*	.05	.42*
C1	.24	.36	.44*	.62**	.45*	.52**	.20	.12	.06	.14	.41*	.19	.52**	**.74****	.47*	.15	.44*
E1	.48*	.52**	.48*	.42*	.47*	.56**	-.07	-.08	-.20	-.11	-.02	-.16	.47*	.37	**.82****	-.29	.66**
N1	.10	-.02	-.22	.17	-.25	-.10	.78**	.57**	.31	.36	.14	.43*	-.07	-.04	-.35	**.72****	-0.2
O1	.25	.30	.34	.10	.29	.29	-.04	.01	-.10	-.14	.06	-.07	.26	.19	.56**	-.32	**.71****

Note. Ad = Adventurous; Ch = Cheerfulness; H/F = Health/Fitness; O-C = Other-Centeredness; SS = Self-Satisfaction; Pos = Positive Total; Ag = Agitation; Ax = Anxiety; D = Depression; H = Hostility; S = Shyness; Neg = Negative Total; A = Agreebleness; C = Conscientiousness; E = Extraversion; N = Neuroticism; O = Openness.

*$p < .05$

**$p < .01$

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Kristen M. Kennedy
Signature of Author

8-15-00
Date

Establishing Test-Retest Reliability of the Comprehensive Affect and Personality Scales
Title of Thesis

Mary Cooper
Signature of Graduate Office Staff Member

August 21, 2000
Date Received