

Running Head: DEVELOPMENT OF AN AFFECT ORIENTED JOB ANALYSIS

Initial Development and Validation of an Affect Oriented Job Analysis Measure
for Use in the Workplace

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Abstract

In recent years, research examining the relationship between affective constructs (ACs) and workplace behaviors and outcomes has greatly increased (e.g., Ilies, Scott, & Judge, 2006; Cropanzano). In response to encouraging findings, many researchers have called for the use of ACs in personnel selection (Beal, Weiss, Barros, & MacDermid, 2005; Morris & Feldman, 1996; Muchinsky, 2000; Rafaeli & Sutton, 1987). However, the current inability of researchers and human resource professionals to easily identify the jobs for which specific ACs are important is a major impediment to their use in organizations. As such, the current study describes the development of an initial version of the Affective Job Analysis (AJA) measure. Drawing on multiple conceptualizations and theories of affect including trait affectivity, emotional intelligence, emotional labor and emotional contagion; a series of affect-related behaviors suitable for job analysis were generated. The 104 items representing 10 constructs were administered to a convenience sample of 287 working adults and university students. Item content of the initial AJA was refined using an iterative approach based on scale development procedures adopted from Jackson's (1970) construct oriented approach. Final results suggest that the 10 AJA scales assess several distinct but related constructs. Further development and validation efforts are suggested as are implications for research and practice.

Keywords:

Affect, Job Analysis, Emotion

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For decades, researchers examining workplace behaviors and outcomes underestimated the role of affective constructs (ACs; e.g., emotions & moods) in the workplace. However, in recent years, growing interest in this area has emerged (e.g., Ilies, et al., 2006; Cropanzano, et al., 2003). This decades old neglect is often traced back to the beliefs of influential scholars who maintained that emotions should be viewed as ephemeral phenomena best described as nuisances and sources of bias for rational thought (Muchinsky, 2000). One of the primary reasons for this resurgence of interest is due to the emergence of several innovative theories (e.g., Forgas, 1995; Weiss & Cropanzano, 1997) that provide rich conceptual frameworks for understanding and researching affective phenomena in organizational life.

The movement to incorporate affective constructs into our understanding of other fundamental psychological systems (e.g., cognitive, motivational), is spurred on by several studies explicating the relevance and complexity of affect as a predictor of work performance. In light of these and similar evidence, numerous calls have been made to incorporate ACs into personnel selection systems (Beal, Weiss, Barros & MacDermid, 2005; Morris & Feldman, 1996; Muchinsky, 2000; Rafaeli & Sutton, 1987). Given this, current efforts to incorporate ACs into personnel systems are limited by the limited guidance offered as to how to accomplish this in a way that is ethical, professional, and legally defensible. As such, the development of a tool to provide some guidelines for accomplishing this task is both timely and warranted. The following sections provide reviews of: (a) widely accepted definitions of affect and its components, (b) several core theories and models detailing the processes through which affect influences behavior, (c) empirical findings describing the nomological network to which affect belongs.

Understanding the Nature of Affect

Researchers have studied affect for over 100 years and during this time, they have developed a variety of definitions and taxonomies to enhance the classification and conceptualization of these constructs (Brief & Weiss, 2002; Frijda, 1993; Lazarus, 1991; Weiss & Kurek, 2003). Weiss (2002) provides a useful framework for classifying the broadest constructs that fall within the conceptual domain of affect. In his framework, affect is the label used to describe all emotion or feeling-related terms. This general term is then divided into three subcategories (mood, stress, & discrete emotions). While discrete emotions and moods are frequently identified using the same label (e.g. happiness, anger, fear etc.), they are distinguishable via differences in duration, intensity and the extent to which they are the product of specific causal events. Whereas moods are more enduring, diffuse and resistant to change, emotions are acute reactions to specific environmental stimuli (e.g., objects, people, & events). Stress is an immediate negative psychological and or aroused physiological state deriving from an individual's experience of an environmental challenge (Jex, 2002; Weiss, 2002), and is considered to be sufficiently distinct from both mood and emotions to warrant separate consideration. In part due to a better understanding of the nature of affect and the critical role that it plays in determining human behavior, the myth of the rational man has given way to a new view of human functioning based around distinct but inter-related affective cognitive systems.

Over the past 12 years, numerous theories and models, which expand our knowledge of the process and the role of affect, emerged. The Affect Infusion Model's (AIM) impact on decision-making (Forgas & George, 1995) and Seo, Barrett, and Bartunek's (2004) model of affect's influence on motivational provide clear rationales for integrating affective influences into these critical processes. Moreover, Beal et al.'s (2005) episodic process model of job performance, and Tett and Burnett's trait activation theory offer new ways of understanding the role of affect in determining work performance. Each of these models is described in detail below.

Affect infusion model. In developing the AIM, Forgas & George (1995) took a cognitive processing approach to the understanding the influence of affect on work-relevant behaviors. The fundamental concept underlying this model is that affective states differentially influence cognitive possessing given distinct combinations of task, person, and situation variables. These variables constrain the individuals' choice of processing style and determine the extent to which affect will influence different types of information. In his model, Forgas highlights four broad categories of cognitive processes (i.e., two processes that reduce the opportunity of affect-relevant information to infuse and two processes that allow for the possibility of affect infusion).

Affective information is unlikely to have much opportunity to influence cognitions under two conditions. The first occurs during automatic (i.e. unconscious) retrieval of simple information and the second occurs when the process is constrained by powerful and specific goals, which limit the breadth of decisions that an individual can make. On the other hand, affect is likely to have the opportunity to influence cognitions under two conditions. First, affect is an additional source of information when an individual must cope with extensive amounts of information that he or she must process quickly. Second, affect influences the retrieval and manipulation of information when an individual encounters new situations in which he or she must learn or evaluate information in a broader context.

Influence of Affect on Motivation. Seo, Barrett, and Bartunek (2004) identify three direct and five indirect paths through which affect influences three work-relevant behavioral outcomes defining motivation (i.e., direction, intensity and persistence). The direct paths explain the effects of hedonic tones (i.e., pleasantness or unpleasantness) and activation (e.g., high energy or lethargy) on the components of motivation. Positive hedonic tone serves to direct actions toward the attainment of a given end state, whereas negative hedonic tone serves to direct actions away a given end state. The more pleasant the hedonic tone the more persistent an individual will be in achieving that end state. Finally, higher activation will lead to higher levels of effort put forth toward achieving a goal.

Indirect paths explain how beliefs and judgments mediate the effects of hedonic tone on components of motivation. Positive hedonic tone leads to higher judgments of expectancy and utility, both of which drive an individual towards or away from a given end state. If an individual perceives an experience as more pleasant, the individual will have a higher level of expectancy. Higher expectancy leads to the establishment of higher goal levels, which, in turn leads to greater effort (i.e., intensity) directed toward accomplishing that goal. More pleasantness creates higher perceived utility, which creates greater goal commitment and thus, greater effort (i.e., intensity). Finally, more pleasantness leads to decreased frequency and thoroughness of progress evaluation, and more lenient evaluations of goal attainment, which lead to more persistence.

Episodic process model. Beal et al. (2005) propose a model of job performance designed to link immediate affective experiences to within-person performance through individuals' self-regulatory mechanisms. Beal et al. (2005) describe the subdivision of broad workplace activities

into discrete performance episodes across the day. The authors describe these performance episodes as groups of behaviors, which target specific goals. These episodes are punctuated by periods where the individual is focused on the specific task (i.e. allocating resources to the achievement of a given goal); as well as, periods where the individual is not focused on completing that task (i.e. attending to other issues). Thus, the authors posit that task performance may be determined by the percentage of time that an individual focuses on a given task during a particular performance episode. The higher the proportion of time attention resources are devoted to task performance, the closer that individual is to achieving maximal performance throughout that episode. In this model, self-regulatory mechanisms function as critical influences on the proportion of time delegated to on-task focus. The authors state that on-task focus is a joint function of the resource level and resource allocation. Thus, self-regulation determines task focus. In turn, off-task attention demands, regulatory resources and the task attention pull determine self-regulation.

Finally, Beal et al. (2005) outline how momentary affective experiences (e.g. moods and emotions) may act as a primary influence on the aforementioned regulatory mechanisms. That is to say, they propose that cognitive aspects of affective experiences, task-relevant affect, affect regulation, and affect regulation replenishment impact episodic task performance. Affective states may span multiple performance episodes and the cognitive and regulatory consequences of these states positively or negatively influence subsequent episodes. For instance, affect regulation depletes the ability to ignore off-task attention demands. Additionally, because earlier emotional regulation impacts resources needed to regulate future attention focus, affect regulation may have consequences on subsequent performance. Moreover, cognitive aspects of affective experience, namely the cognitive strategies (e.g. appraisal, rumination, and arousal), determine whether off-task attention demands will consume affect regulation resources. If cognitive demands are high, then attention regulation is more difficult and taxing. Thus, task-relevant affect regulation predicts that affective experiences will have a greater impact on performance when the task is more cognitively complex.

Trait Activation. In their 2003 theory, Tett and Burnett offer a model explaining the relationship between traits and work-relevant behaviors. Their model outlines three components as key determinants of work behaviors: (1) the individual's level of a given trait; (2) trait relevant situational cues; (3) rewards. The individual's trait level is expressed in his or her work behaviors; however, this relationship is mediated by numerous situation relevant cues (i.e., organizational, social, and task level characteristics) that influence the extent to which a given trait will be expressed in work behaviors. The work-relevant behaviors directly affect the trait relevant cues and the evaluation of the individual's performance. The trait relevant characteristics also influence the evaluation of the individual's performance via a relationship that is partially moderated by the work relevant behaviors. Job performance is then assessed as either positive or negative, which results in reward or punishment (i.e., extrinsic motivators) respectively. These extrinsic motivators work in combination with intrinsic motivators (e.g., which are the result of being able to express one's traits at work) to determine subsequent work behaviors.

These models offer a multifaceted view of affect and how it influences work-relevant outcomes. Given the supportive evidence for these models, personnel selection incorporating stable-affective traits are likely to create value by enhancing the motivation, decision-making strategies, amount of task-relevant focus, and perceptions of job-related intrinsic rewards within workers, across jobs and throughout an entire organization. The trait activation model works as

a meta-theory to show how situational features, cognition and dispositional characteristics combine to form work-related behaviors. Building on the previous definition of affect and discussion of several theoretical frameworks for understanding its impact on behavior, the following section provides a brief review of empirical findings establishing the relevance and potential utility of affect in the workplace.

Affect-Work Performance Research. Empirical research on the relationship between ACs and workplace behaviors is appearing at an increasing rate and already represents a substantial body of research. In a recent meta-analysis examining the relationship between positive and negative affect and work behaviors, over 300 articles investigating this relationship were identified (Stewart, Fox, Maloney, & Smit, 2008). Numerous studies reported significant correlations between positive affect (PA), negative affect (NA; Watson, Clark, & Tellegen, 1988) and work outcomes (e.g., George & Zhou, 2002; Lee & Allen, 2002; Van Scotter & Motowidlo, 1996). The relationship between affect and work performance has been extended to incorporate numerous methodologies including longitudinal research such as a recent study by Ilies et al., (2006) who reported a strong relationship between daily positive moods and daily contextual job performance ($r = .61$). Additionally, there is an emerging body of empirical findings focusing on new constructs such as Emotional Intelligence (EI). Wong and Law (2002) reported that leader's level of EI is related to their subordinate's contextual performance ($r = .21$) and job satisfaction ($r = .26$), however they found that it was not related to subordinate's task performance ($r = .13$, *ns*). Conversely, Carmeli and Josman (2006) reported finding strong positive relationships between EI and task performance ($r = .47$). Although generally encouraging, a definitive understanding of EI's relationship with work performance is still to be determined and critics of the construct are both numerous and vocal (Locke, 2005). Illustrating the potentially complex relationship between EI and work behaviors, Elfinbein and Ambaday (2002) reported that depending on the context, certain facets of EI were detrimental to performance. This viewpoint is consistent with Tett and Burnett's (2003) trait activation model's supposition that traits are differently valued in distinct contexts. However, given degree of supportive findings on the affect-work behavior relationship, there is appears to be sufficient evidence to warrant further the belief that a meaningful relationship exists, and research that enables the identification of which context specific ACs are most strongly related to work performance in a given environment would be of substantial value to both practitioners and researchers.

Job Analysis

A job analysis is a systematic set of actions for gathering information about work, knowledge, skills and abilities are necessary for an individual to perform adequately, the duties and responsibilities of a job (Sackett & Laczo, 2003). The ethos of the modern form of job analysis stems from Fredrick Taylor's call for the consideration of the whole worker and how he adjusts to the environment, as well as the detailed study of measurable work movement. Throughout the World Wars, numerous methods of formalized job analysis techniques were developed and implemented. This trend continued in civilian business as new techniques improving on many of the earlier job analyses methods were developed (Primoff & Fine, 1988).

Impact of the Changing Legal environment

With the passage of the Civil Rights Act (1964) prohibiting unfair discrimination, the United States government underwent dramatic changes with regard to the standards and regulations enforcing fair treatment of all people. Individuals were provided some protection from

constitutional amendments (i.e., the fifth and 14th amendments) prior to the passage of the 1964 Civil Rights Act. However, litigious action was rarely pursued with regard to employment disputes due to the difficulties inherent in invoking such vague laws. Thus, new legislation (e.g., Title VII of the Civil Rights Act, 1964; Age Discrimination Act, 1967; Americans with Disabilities Act, 1990), and changing legal precedence created a substantially different legal environment for modern personnel practitioners (Sanchez & Levine, 2001).

Adverse Impact. The primary goals of many of these changes are to ensure that personnel practices do not adversely influence people of a protected class and that those tools are relevant to actual job performance. The Equal Employment Opportunity Commission (EEOC) operationalizes adverse impact via the 4/5th rule. The 4/5th rule states that when the selection rate for one group of people in a protected class is less than four-fifths of the selection rate for another group in that class, then there is discrimination against the lower scoring group (Viswesvaran & Ones, 2002).

In circumstances when groups have real differences on both the predictor and criterion, adverse impact created by these instruments cannot be removed from the test scores without reducing the predictive validity of the measures (Hunter & Hunter, 1984). This issue was discussed at length by Thorndike (1971; as cited by Hunter and Hunter, 1984), who claimed that a test that is fair to individuals might be unfair to groups. Thus, if an organization intends to use a selection instrument that creates group differences between members of a protected class, whether intentional or not, legislation requires that they must be able to establish its criterion validity with respect to job performance.

Unintended Consequences. While no federal law uses the term “job analysis”, several laws (e.g., ADA) do require job-specific information that cannot be gathered without some form of systematic evaluation of the job. Furthermore, decisions about the enforcement of these laws are driven mostly by the Uniform Guidelines on Employee Selection Procedures (Section 60-3, UGESP, 1978) established by the EEOC. These guidelines set out principles for gathering data to determine the usefulness of a test in making hiring decisions. More specifically, they dictate the type of information required when these practices result in adverse impact (Section 60-3, U.G.E.S.P., 1978). The guidelines state that the choice of a selection procedure should be based on an understanding of the job resulting through the use of some form of job analysis. Moreover, the job analysis should provide information appropriate for the validation (e.g., criterion, content or construct validity) of that measure for a specific job. Thus, given the potential for creating group differences present in some performance predictors, as well as the realization that this inequity may not be eliminated without attenuating the validity of an assessment, an unintended consequence of recent civil rights legislation is the resurgence of interest in job analysis and the development of a number of new techniques.

Job Analysis Classification

The extensive numbers of job analysis methods that exist to date have been categorized in various ways (Gale, 1988; Lopez, Kesselman, & Lopez, 1981; Sackett & Laczko, 2003; Sanchez & Levine, 2001). A widely accepted taxonomy, classifies these methods into three broad types: (1) task; (2) worker; (3) trait. Task job analysis focuses on producing information typically found in a job description by documenting the title, the working conditions, and the activities of a given position (Cascio, 1991). A second type, worker-oriented job analysis, focuses on necessary worker characteristics to accomplish job duties. Worker-oriented job analysis provides generalized information regarding the knowledge, skills, and abilities required for a job. While very useful, both of these techniques have notable limitations. On one hand, job analysts

must design new task-oriented tools for each job, these tools cannot be generalized to other jobs and they lack information about requirements needed by the incumbent to perform the tasks. On the other hand, the worker-oriented job analysis does not identify job tasks or dispositional factors that contribute to job performance (Cascio, 1991).

A third and the most recent job analysis type to reach wide-spread use is the trait-oriented approach. This approach identifies individual traits and the levels and weights necessary to perform a job (Lopez, et al., 1981). Examples of the trait-oriented approach include “Trait Threshold Analysis” (TTA; Lopez, et al., 1981), as well as a number of personality-based measures such as the “NEO Job Profiler” (Costa, McCrae, & Kaye, 1995), the “Performance Improvement Characteristics” (PIC; Hogan & Rybicki, 1998) and the “Personality-Related Positions Requirement Form” (PPRF; Raymark, Schmidt, & Gouion, 1997). The TTA, which encompasses elements of the physical, mental, motivational and social domains, can be clearly distinguished from the personality-based measures, which include the five-factor and seven-factor models of personality. Likewise, the personality-based measures differ subtly from each other in the level of abstraction of the items. The more pure trait based analyses such as the “NEO Job Profiler” and the PIC, ask subject matter experts (SMEs) to rate the extent to which aspects of traits influence performance. On the other hand, the PPRF asks SEMs to rate how workplace behaviors, which are conceptually linked to these traits, are related to performance. Because it is conceptually based on abstract traits but uses observable behaviors to operationalize these traits, the PPRF is a hybrid between the pure worker-oriented job analysis and the trait-oriented job analysis methods.

Summary. Results reported in the literature offer a basis for establishing that affective traits are related to a wide array of job outcomes; however, conflicting evidence and the complex relationship between work performance and affect present problems that must be reconciled. Moreover, it is critical that employers link these traits with job-related outcomes before using them in an applied setting. Since the primary purpose of this study is to build evidence for the use of specific traits, it is imperative that one use rigorous methods of job analysis to build evidence that successful job performance requires workers to have these characteristics. As SMEs may not realize how traits can influence job performance, the worker-trait oriented hybrid approach exemplified by Raymark et al. (1997) may yield accurate information regarding the true role of affective traits in determining job performance.

Affective Job Analysis

The question of how to incorporate the use of ACs into personnel practices (e.g., employee selection), depends on the ability to determine which ACs are relevant to important aspects of employee performance. As such, it seems critical that a technique for determining this information be developed. Job analysis is a logical starting point for determining the potential job-relevance of any construct and in the case of affect, a hybrid approach seems like the most appropriate strategy for gathering information.

Identification of Constructs.

In the development of this job analysis tool, it is critical that constructs are included or excluded in a systematic manner. I identified ACs through review of extant research on affect and workplace behavior. Specifically, I considered constructs for inclusion if they met the following standards: (1) there is a clear definition of the construct and it is affective in nature; (2)

there is a clear theoretical rationale for explaining how the construct influences workplace behaviors; (3) there is a measure with evidence of adequate construct validity and internal consistency published in a peer reviewed journal, and (4) the construct has been shown to be related to a number of important work-related outcomes.

Using these rules to guide the selection process, a list of 10 ACs that meet all four criteria are presented below (tables 1 & 2). The following sections provide a brief justification for each of the constructs identified for inclusion in the AJA. Given the wide breadth of this area, the construct review is not presumed to be comprehensive, but rather reflective of the relative prominence of the constructs in the recent literature. In making the decision of whether to include a construct, effort was made to only consider constructs that have a reasonable level of empirical support for their workplace relevance or are currently receiving noteworthy attention.

Trait Affect. Based largely on Watson, Clark, and Tellegen's (1988) concept of trait and state affectivity, the concepts of trait Positive Affect (PA) and trait Negative Affect (NA) represent the first two constructs to be included in the AJA (table 1). Over the past 20 years, there has been a wealth of empirical research examining the effect of trait affectivity on various work-related behaviors and attitudes. Thoresen, Kaplan, Barsky, Waren, and de Chermont's (2003) meta-analysis quantitatively summarizes substantial support for the relationship between trait affect and work-targeted attitudes. However, unlike the affect-attitude relationship, results from affect-performance relationships have remained somewhat more controversial. For instance, some researchers report moderate positive relationships between PA and task performance (e.g., Van Yperen, 2003) while other researchers fail to support a consistent relationship (e.g., Cropanzano, James, & Konovsky, 1993). Additionally, some have proposed that PA is positively related to creativity (Isen, Daubman & Nowiki, 1987) and others have provided evidence that it may be negatively related (George & Zhou, 2002). Given the extensive amount of research on trait affectivity and the considerable controversy surrounding the affect-performance relationship, it would be useful to include these constructs in order to determine their potential utility across a wide number of specific jobs. Furthermore, Watson et al.'s original Positive Affect Negative Affect Schedule (PANAS) provide evidence that items may be written for these constructs. Numerous validation studies support the construct, and criterion-related validity as well as the internal consistency of these measures (table 2).

Emotional Intelligence. Drawing on Salovey and Mayer's EI framework (1990), six core components that deal with interpersonal and intrapersonal cognitive, motivational, and regulatory processes were selected. Each of the six core facets of EI (e.g., recognition of emotions in the self, recognition of emotions in others, regulation of emotion in the self, regulation of emotion in others, empathy, and nonverbal emotional expression) is clearly defined and published measures of trait EI have shown adequate reliability and validity (table 1). Despite strong claims about the potential of EI, evidence suggests situational specificity of these measures and thus, the exact relationship between EI and a number of outcomes remains unknown. Although evidence suggests EI does measure emotion-laden constructs (Law, Wong & Song, 2004) and is relatively distinct from constructs such as personality (Rubin, Munz, & Boomer, 2005), the exact relationships between EI facets and work-related outcomes are not clear. While, strong relationships between EI and task performance as high as $r = .47$ (Carmeli & Josman, 2006) have been reported, other studies have indicated a different relationships. Wong and Law (2004) found that the relationship was moderated by emotional labor. Elfenbein and Ambaday (2002) reported that depending on context, certain facets of EI might be detrimental to performance. Moreover, while some have found EI to be a significant predictor of contextual performance

(Law, et al., 2004), others have found no relationship (Day & Carroll, 2004). Although current understanding of EI is muddled by definition and measurement arguments, there is building support for its validity in a wide variety of organizational situations (table 2).

Emotional Labor. Over the past 25 years, emotional labor (EL) has been examined in a number of occupations and from a number of varying perspectives; however there is still considerable confusion over its structure and its workplace relevant consequences. Although various models of EL have been proposed (e.g., Beal, Trougakos, Weiss, & Green, 2006; Brotheridge & Lee, 2003; Cote, 2005; Morris & Feldman, 1996) there are three critical aspects that have appeared across the majority of writing in this field. Namely, the concept of emotional labor (EL) refers to a number of closely related emotion-laden constructs that involve: (1) felt emotion regulation (2) control of emotional display (3) performance of emotional behavior in exchange for organizational rewards (Barsade & Gibson, 2007). Additionally, several self report measures targeting these components have been created. Brotheridge & Lee's (2003) emotional labor scale (ELS) is an example of a measure with acceptable levels of internal consistency as well as evidence supporting its construct and criterion related validity (tables 1 & 2).

In as much as work relevant outcomes are concerned, emotional labor has been linked to negative health (Schaubroeck & Jones, 2000), as well as emotional exhaustion and depersonalization (Brotheridge & Lee, 2003). Despite claims by some that EL is uniformly damaging to employees, anecdotal and empirical evidence suggests that EL may be beneficial to some workers or in some occupations (c.f., Morris & Feldman, 1996). For instance, Pugh (2001) provided support for the notion that employee emotional expressiveness was positively related to employee display of emotion ($B = .22$), customer PA ($B = .19$) and customer evaluations of service quality ($B = .23$). Moreover, Glomb, Kammeyer-Mueller, & Rotundo (2004) propose that EL may be most demanding on employees whose jobs require high cognitive demands; however, in routine jobs, it may actually make the task more enjoyable. Thus, given conflicting findings regarding EL and the theoretical support for its use in the workplace, the inclusion of this construct in the current study should add value to understanding affect in the workplace.

Emotional Contagion. Research on small groups and team performance have generated a substantial body of knowledge and with the increasing trend towards using teams in organizations in the past 20 years, research examining the role of affect in groups has become a burgeoning area (Kelly & Barsade, 2001). Likewise, the concept of emotional contagion, which has been referred to as one of the principle routes through which emotions are transferred (Barsade & Gibson, 2007), has garnered significant attention. Hatfield, Cacioppo, and Rapson (1994) define susceptibility to primitive emotional contagion (EC) as an individual's predisposition to unconsciously receive and replicate the nonverbal emotional cues from those around them, which results in the formation similar emotional experiences (table 1).

Evidence suggests the self report measures of EC (e.g., Doherty, 1997) are related to affect and relevant work-related outcomes (table 2). Moreover, individual differences in EC have been shown to vary across employees in a variety of jobs (Doherty, Orimotto, Hebb, & Hatfield, 1995). However, the critical question of when it is desirable to catch others' emotions and when it is desirable to resist their influence remains unanswered (Hatfield et al., 1994). Thus, due to the limited understanding of EC, knowledge as to when it is helpful or detrimental to job performance would be of substantial value.

The Current Study

With a broad array of affect-related constructs identified, a set of work relevant behavioral items tapping into each affective construct were generated and then analyses were conducted for an initial construct validation of each scale.

Method

Item Generation.

Guidelines were developed to ensure the clarity and quality of behaviors written. Good items were: (1) as concise as possible; (2) written at an eighth-grade reading level; (3) avoided the use of double-negatives (e.g. not inattentive); (4) did not use of overtly desirable or undesirable behaviors (e.g. it is important to be despised by ones' coworkers); (5) avoided the use of "double-barreled" items (e.g. resolves disputes and excels at performance of assigned tasks); (6) clearly representing the specific construct intended and applicable to a wide range of jobs (e.g. it is important to stay calm in stressful situation); (7) focused on the job and not the person (e.g. "It is important to the job" versus "I enjoy"). Item writers were contact via email with a request to help generate a comprehensive set of work relevant behaviors related to affect, mood and emotions. Due to the large number of constructs, not all item writers wrote items for each construct. The item generation form included a background of the current study, demographic information, instructions for how to return the form and directions for the item generation task. Item writers were given a week to create their items.

Sample. Item writers included Psychology professors, practitioners, graduate students, and undergraduate students. Of the 33 people contacted, 15 responded, representing a response rate of 45.5%. The average age of item writers was 24 years 47% were female and 80% were Caucasian. The modal education level was a master's degree and all item writers' degrees were in Psychology. On average, item writers reported some familiarity with item generation and job analysis and reported the area of affect, moods and emotions as an area of competence.

Results. Item writers produced an average of 18.73 items with 27.9 items written per construct, for a total of 279 initial items. Items were consolidated and items that did not meet the guidelines were removed in two phases. First, items were removed if they did not match the conceptual definition of the construct. Second, items that were judged to be overly desirable (e.g., will not engage in emotional outbursts) or undesirable (e.g., thinks in an overly critical way about co-workers); as well as items containing overly broad content (e.g., Knows how to respond to other's emotional states) or narrow content (e.g., Can pretend to like something to get the sale) were removed (table 3). This process resulted in 104 usable items.

Scale Development.

The 104 items were administered using an online survey. Participants rated the extent to which each behavior is important to the work role with which they are most familiar; responses were made on a seven-point Likert scale from strongly agree to strongly disagree. Work roles could be defined as a position held in any type of organization (e.g., corporate, religious, educational) including unpaid positions. In order to confirm the reliability of each of the ten scales, a convenience sample of working professionals and undergraduate students was recruited through two methods. First, Psychology students at a private midwestern university were given the opportunity to complete the survey in partial fulfillment of a course requirement. Second, the investigators emailed invitations to their professional networks. The invitations included a brief description of the project and a link to a secured website to complete the survey.

Sample. Participants included 287 adults with at least a year of experience in the work role

they rated. Sixty-two percent ($n = 179$) were students and the remainder ($n = 108$) were working adults. Average age was 25 years and 69.7% of participants were female. The majority of the sample was Caucasian (80.1%), while Asians (7.7%), Hispanics (4.2%), and African Americans (3.5%) comprised the remainder. Sixty-nine percent of participants report experience as a subordinate, 97% reported experience as an incumbent, and 27% reported experience as a supervisor for the position they rated. Of those who reported experience as a supervisor ($n = 78$), the average tenure was 2.89 years ($SD = 3.97$). Of the 97% of participants who reported experience as an incumbent in the position, the average tenure was 4.01 years ($SD = 5.05$), and 198 were supervised by someone in the position for an average of 3.75 years ($SD = 4.71$).

Item Analyses. Individual items and scales were examined using a two-step process. In step one, construct scales were examined iteratively for evidence of internal consistency. If internal consistency of any construct scale could be increased by removing an item, that item was removed and reliabilities were reexamined. In step two, each item was correlated with the sum of the remaining items from its scale and the scale scores for the other constructs. Items that correlated more strongly with other scales than with its original scale were removed. Remaining items formed the basis of the initial version of the AJA measure.

Results. The means standard deviations, scale intercorrelations and internal consistency reliabilities are reported for each of the 10 construct scales (table 4). Overall, reliabilities were adequate, ranging from .77 to .90. Although many of the scales are expected to correlate moderately, over one third of the correlations were between .68 and .81 warranting concern for the degree to which the scales represented targeted constructs (table 4). Results of the first stage of the item analysis, Cronbach's alpha's for each of the construct scales before and after stage one item removal are reported in table 5. After each item was removed, reliability statistics for the remaining items in that scale were reexamined this process continued until no further increase in reliability could be obtained by removing additional items. In stage two, the Corrected Item Total correlation (CITr) between each item and the remaining items on its intended scale was compared with the correlation between that item and each of the remaining nine scales. Any item that correlated more highly with another scale than with its intended scale was removed in an iterative fashion until all remaining items loaded more highly on their intended construct than on any other construct. This process resulted in four items removed from Recognition of Emotions in the Self, six items from Nonverbal Emotional Expression, three items from Recognition of Emotions in Others, one item from Empathy, seven items from Regulation of Emotion in the Self, seven items from Regulation of Emotion in Others, three items from Positive Affect, nine items from Negative Affect, two items from Emotional Contagion, and five items from Emotional Labor. The final version of the scale is reported in table 6.

Discussion

The successful development and validation of the AJA is intended to meet an important need of both practitioners and researchers. With regard to practitioners, the AJA has potential to provide a relatively easy and quick way for personnel managers to gather information regarding the utility of including ACs in their employee management systems (e.g., selection & training). Despite the enthusiasm of many regarding the potential value of a broad variety of ACs for employee selection purposes (Beal, et. al., 2004; Muchinsky, 2000), little guidance exists for individuals and organizations interested in doing so. Moreover, conflicting findings from several areas of research indicate that the value of using ACs is context specific. This information,

coupled with the costs (e.g., time and money) of conducting a full-fledged validation study may inhibit the inclusion of valuable constructs into personnel management systems. As such, one primary benefit of the AJA will be to establish a quick and low cost method for determining which ACs are more likely to be important to a specific job.

For academics, such an instrument would also be of substantial value. This tool will allow researchers to refine their theories explaining the psychological processes underlying specific relationships. It will aid in determining the job characteristics that determine whether ACs will have a significant impact on job performance. As such, the AJA may act not only as a descriptive tool, but also a hypothesis generating instrument, offering insight into where specific ACs have previously shown contradictory or ambiguous relationships.

Limitations

There are two principal limitations to the current study. First, the sample is not entirely representative of the working population. Despite the fact that ages ranged from 18 to 72 and tenure as an incumbent ranged from 0.5 years to 32 years, the sample was predominately young college students ($N = 179$) with limited work experience. In the future, it would be useful to replicate these findings in a sample that is older and more experienced. Moreover, the participants came from a wide range of jobs and work in a variety of industries. In order to test the predictive validity of this instrument, it would be useful to build normative samples of specific jobs.

Second, there is very limited domain coverage of several construct scales. For instance, nonverbal emotional expression and Negative Affect are composed of only one item and two items respectively. One possible reason for this reduced item content is the possibility that these constructs are either unrelated to positive work outcomes (in the case of NA) or distal to the process of determining behaviors (in the case of nonverbal emotional expression). Additional work needs to be done in an effort to determine whether behavioral items can capture the positive impact of either of these constructs in the workplace.

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Table 1: Construct Definitions, Descriptions, and Reliability

Label	Abbreviation	Definition	Measure		
			Name	Description	Internal Consistency
Positive affectivity	PA	An elevated level of enthusiasm, alertness and focused concentration covering a variety of engaging mood states, including excitement, and eagerness	PANAS	One scale Ten items	alpha from .83 to .90 ¹
Negative affectivity	NA	A general dimension of subjective distress and displeasing engagement comprised by a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness	PANAS	One scale Ten items	alpha from .85 to .93 ¹
Recognition of Emotion in the Self	RecSlf	The degree to which one has insight into his or her feelings and their ability to describe those feelings in words	MEIA	One scale Twelve items	alpha from .75 to .82 ²
Recognition of Emotion in Others	RecOth	The degree to which one can detect and understand others' feelings	MEIA	One scale Twelve items	alpha from .81 to .83 ²
Regulation of Emotion in the Self	RegSlf	Management of one's feelings, comprised of the various aspects emotional control and adjustment	MEIA	One scale Twelve items	alpha from .82 to .89 ²
Regulation of Emotion in Others	RegOth	Various aspects of influence over others' emotional states involving encouraging persistence, providing hope, and inspiring patience	MEIA	One scale Three items	alpha from .81 to .82 ²
Empathy	Emp	The degree to which a person is able to sympathize with and subsequently, handle others' feelings	MEIA	One scale Twelve items	alpha from .69 to .78 ²
Nonverbal Emotional Expression	NvExp	The degree to which one communicates his or her feelings to others through body language	MEIA	One scale Twelve items	alpha from .62 to .85 ²
Emotional Labor	EL	The degree to which an individual regulates his or her emotion or emotional display in order to comply with occupational requirement	ELS	Six scales Fifteen items	alpha from .74 to .91 ³
Susceptibility to Emotional Contagion	EC	An individuals' predisposition to unconsciously receive and replicate the nonverbal emotional cues from those around them, which results in the formation similar emotional experiences.	ECS	One Scale Fifteen items	alpha .90 ⁴

References included in the review: 1 Watson & Clark (1994); 2 Tett, Wang & Fox (2006); 3 Brotheridge & Lee (2003); 4 Doherty (1997)

Table 2: Construct and criterion validity

Abbreviation	Construct Validity	Criterion Validity
PA	Between subjects convergent validity with PA (from .93 ^b to .94 ^a) ¹ and Extraversion (.51) ⁶ and discriminant validity with NA scales (from -.10 ^b to -.08 ^a) ¹ and Neuroticism (-.31) ⁶	Related to job satisfaction (.34) ⁵ , organizational commitment (.35) ⁵ , emotional exhaustion (-.32) ⁵ , Organizational citizenship behaviors (from .18 to .24) ⁶
NA	Between subjects convergent validity with NA ($r = .93^{ab}$) ¹ and Neuroticism (.58) ⁶ discriminant validity with PA from (-.12 ^a to -.01 ^b) ¹ and extraversion (-.25) ⁶	Related to job satisfaction (-.34) ⁵ organizational commitment (-.27) ⁵ emotional exhaustion (.54) ⁵ turnover intentions (.28) ⁵
RecSlf	Correlates with emotional stability ^c , negative affectivity ^d and the managerial scale ^f (.61 and -.6 and .37 respectively) ²	Significantly related to loyalty (.22) ² , and life satisfaction ^g (.40) ⁷
RecOth	Significant Correlations were found with extroversion ^c (.51) ² positive affectivity ^d (.5) ² , and self-monitoring ^e (.36) ²	Related to cross-cultural adaptability ^h (.31 to .51) ⁷ , and loyalty (.16) ²
RegSlf	Correlates with Adjustment ^c (.7) ² , stress tolerance ^f (.66) ² , service orientation ^f (.45) ² , clerical scale ^f (.46) ² reliability scale ^f (.32) ² , and managerial scale ^f (.35) ²	Related to professionalism (.19) ² , positive thinking (.23) ² , contextual performance (.19) ² , and overall performance (.15) ²
RegOth	Correlates with self-Monitoring ^e (.31) ² , and managerial scale ^f (.37) ²	Correlates with cross-cultural adaptability ^h (.31 to .45) ² productivity (.19) ² task, contextual and overall performance (.23, .25 and .26 respectively) ²
Emp	Significant Correlations were found with agreeableness ^c (.57) ² , and self-monitoring ^e ($r = -.28$) ²	Related to satisfaction with other students ^g (.27) ² , flexibility ^h (.39) ² , perceptual acuity ^h (.38) ² , and loyalty (.24) ²
NvExp	Correlates significantly with the managerial scale ^f (.26) ²	Correlates with project management (.17) ² , flexibility (.17) ² , loyalty (.29) ² , task (.17) ² , and contextual (.18) ² and overall performance (.19) ²
EL	Correlates with emotional suppression (.25 to .35) ³ , self monitoring (.21) ³ positive affect (-.22) ³ and negative affect (.17) ³	Related to physical symptoms (.43) ⁸ , organizational identification (-.23) ⁸ and job involvement (-.18) ⁸ .
EC	Significantly correlates with member-team mood correlation (.46) ⁹ , attraction to social activities (.35) ⁹ , and sensitivity to others (.42) ⁴	Correlates with cooperative behavior (.21) ¹⁰ , task performance (.17) ¹⁰ and team commitment (.50) ⁹

References included in the review: 1 Watson & Clark (1994); 2 Tett, Wang & Fox (2006); 3 Brotheridge & Lee (2003); 4 Doherty (1997); 5 Thoresen, Kaplan, Barsky, Warren & de Cermont (2003); 6 Watson, Wiese Vaidya & Tellegen (1999); 7 Tett, Fox & Wang (2005); 8 Schaubroeck & Jones (2000); 9 Totterdell (2000); 10 Barsade (2002)

Note: superscript a represents constructs from Tellegen's 60 mood descriptors; superscript b represents Watson & Clark's 60 PANAS - X mood descriptors; superscript c represents constructs from Saucier's (1994) Mini-Markers; superscript d represents constructs from Positive and Negative Affect Schedule (Watson, Clarck & Tellegen, 1988); superscript e represents items from Gangestad and Snyder's (1985) self monitoring scale; superscript f represents items from Hogan & Hogan's (1995) Hogan personality inventory; superscript g represents items from the Diener, Emmons, Larsen, & Griffin's (1985) satisfaction with life scale; superscript h represents items from Kelley & Meyer's (1994) cross-cultural adaptability inventory.

Table 3: Iterative Item Removal Statistics

Construct Scale	Phase 1			
	Original Items	1st Item Removal	Remaining Items	% of items Retained
Recognition of Emotion in the Self	25	12	13	52.00%
Nonverbal Emotional Expression	24	12	12	50.00%
Recognition of Emotion in Others	25	7	18	72.00%
Empathy	25	4	21	84.00%
Regulation of Emotion in the Self	25	8	17	68.00%
Regulation of Emotion in Others	25	6	19	76.00%
Positive affectivity	25	10	15	60.00%
Negative affectivity	25	9	16	64.00%
Emotional Contagion	40	20	20	50.00%
Emotional Labor	40	28	12	30.00%
Total	279	116	163	58.42%

Construct Scale	Phase 2			
	2nd Item Removal	Final Items	% of Phase 1 items retained	% of Original Items Retained
Recognition of Emotion in the Self	4	9	69.23%	36.00%
Nonverbal Emotional Expression	5	7	58.33%	29.17%
Recognition of Emotion in Others	8	10	55.56%	40.00%
Empathy	9	12	57.14%	48.00%
Regulation of Emotion in the Self	5	12	70.59%	48.00%
Regulation of Emotion in Others	8	11	57.89%	44.00%
Positive affectivity	2	13	86.67%	52.00%
Negative affectivity	5	11	68.75%	44.00%
Emotional Contagion	10	10	50.00%	25.00%
Emotional Labor	3	9	75.00%	22.50%
Total	59	104	63.80%	37.28%

Table 4: Scale means, Standard Deviations, Correlations and Reliabilities

	Mean	SD	RecSlf	NvEE	RecOth	EMP	RegSlf	RegOth	PA	NA	EC	EL
RecSlf	38.17	8.35	.81									
NvEE	30.33	6.73	.69	.77								
RecOth	44.14	9.98	.74	.74	.87							
EMP	56.00	10.95	.73	.68	.77	.90						
RegSlf	59.66	9.20	.54	.46	.46	.54	.87					
RegOth	51.89	9.31	.69	.68	.69	.81	.64	.85				
PA	63.69	10.72	.62	.51	.49	.63	.81	.73	.89			
NA	48.76	9.09	.62	.51	.55	.52	.64	.56	.67	.80		
EC	49.05	8.74	.58	.46	.42	.59	.62	.68	.71	.56	.87	
EL	42.82	7.00	.48	.57	.59	.60	.66	.60	.58	.47	.44	.77

Reliabilities are listed in the diagonal, N = 287, all correlations are significant at the $p < .05$ level

Table 5.
Construct Scale Reliabilities Before and After Phase One item removal

Before			After		
Scale	α	# of items	Scale	α	# of items
RecSlf	.8057	9	RecSlf	.8102	8
NvEE	.7693	7	NvEE	.7693	7
RecOth	.8680	10	RecOth	.8705	9
EMP	.9044	12	EMP	.9044	12
RegSlf	.8720	12	RegSlf	.8763	11
RegOth	.8545	11	RegOth	.8545	11
PA	.8945	13	PA	.8953	12
NA	.8000	11	NA	.8000	11
EC	.8698	10	EC	.8698	10
EL	.7727	9	EL	.7766	8

Table 6: Final Items Included in the AJA

Item	Construct Scale Correlation										
	RecSI _f	NvEE	RecOth	EMP	RegSI _f	RegOth	PA	NA	EC	EL	CITR _a
RecSI _f 2	Effectively communicates personal feelings about workplace topics.	-.21	.40	.47	.22	.30	.39	.20	.41	.09	.53
RecSI _f 4	Accurately describes own emotions and feelings in words	-.17	.42	.50	.24	.31	.38	.29	.34	.07	.65
RecSI _f 7	Clearly explains personal feelings to others.	-.14	.44	.46	.08	.24	.23	.43	.22	.08	.54
RecSI _f 9	Acknowledges when behavior seems overly zealous.	-.21	.42	.36	.26	.27	.34	.28	.30	.17	.47
NvEE1	Communicates effectively without having to speak.	.24	-.29	.29	.22	.37	.34	.10	.28	.35	-
RecOth1	Watches how others react to what is happening.	.46	.20	-.64	.23	.40	.41	.27	.30	.14	.74
RecOth2	Accurately interprets how others feel.	.52	.21	-.70	.23	.43	.38	.19	.30	.20	.72
RecOth3	Changes strategy based on others' non-verbal reactions.	.39	.22	-.45	.16	.26	.23	.22	.12	.20	.66
RecOth5	Modifies behavior because of how others are feeling.	.45	.26	-.56	.18	.42	.33	.24	.23	.21	.60
RecOth7	Pays attention to minor changes in other people's body-language.	.45	.21	-.57	.21	.36	.30	.26	.24	.25	.68
RecOth9	Knows whether to engage someone or whether to leave them alone.	.32	.25	-.47	.23	.32	.31	.20	.25	.20	.62
EMP1	Sees things from other peoples' point of view.	.44	.18	.43	-.27	.47	.46	.15	.45	.23	.65
EMP2	Considers the impact of personal actions on others.	.42	.24	.50	-.28	.51	.39	.15	.33	.23	.58
EMP3	Displays interest in what other people are feeling.	.42	.20	.50	-.22	.52	.35	.09	.28	.25	.65
EMP4	Understands others' point of view.	.36	.23	.44	-.38	.39	.54	.10	.42	.25	.65
EMP6	Encourages people to share what they think and how they feel.	.52	.19	.53	-.28	.39	.49	.21	.39	.11	.61
EMP7	"Identifies" with others' experiences.	.37	.22	.59	-.15	.39	.30	.16	.23	.17	.66
EMP8	Relate others' experiences to own experiences.	.45	.13	.53	-.17	.31	.39	.28	.36	.04	.59
EMP9	Sympathizes with the problems and feelings of others.	.38	.17	.58	-.14	.51	.30	.11	.28	.21	.68
EMP10	Understands other's emotions by relating them to one's own experiences.	.48	.30	.43	-.17	.54	.37	.13	.36	.29	.60
EMP11	Considers others' situation when making decisions affecting them.	.30	.24	.56	-.40	.41	.49	.13	.37	.20	.64
EMP12	Considers others' feelings when expressing opinions, observations, or experiences.	.43	.18	.51	-.26	.53	.48	.12	.46	.38	.70
RegSI _f 7	Avoids becoming distracted	.21	.12	.15	.21	-.20	.51	.38	.32	.17	.70
RegSI _f 9	Avoids procrastination	.20	.08	.16	.22	-.25	.58	.30	.41	.12	.61
RegSI _f 10	Recovers quickly from negative feelings.	.27	.28	.40	.48	-.37	.58	.15	.42	.28	.62
RegSI _f 12	Maintains focus, even during boring activities	.17	.26	.16	.21	-.21	.53	.30	.35	.18	.66
RegOth3	Cheers up other people.	.23	.15	.33	.48	.09	-.24	-.09	.27	.22	.56
RegOth5	Creates favorable impressions.	.26	.38	.39	.48	.24	-.34	.10	.33	.40	.51
RegOth6	Encourages others to be patient and persistent.	.35	.29	.41	.49	.33	-.51	.12	.40	.33	.53
RegOth7	Fosters a sense of optimism in the workplace.	.28	.32	.29	.47	.32	-.45	.04	.43	.26	.61
PA1	Actively engages all aspects of the job.	.31	.31	.42	.44	.46	.38	-.25	.48	.24	.62
PA3	Expresses a positive outlook towards work.	.26	.26	.27	.44	.49	.43	-.24	.49	.27	.52
PA4	Puts forth a great deal of effort.	.26	.26	.24	.40	.42	.40	-.14	.46	.26	.62
PA6	Seeks opportunities to get involved in new projects.	.44	.25	.27	.37	.42	.25	-.33	.55	.14	.56
PA7	Maintains concentration across all job activities.	.25	.20	.23	.35	.56	.34	-.26	.46	.30	.62
PA8	Projects a sense of confidence about work.	.27	.27	.41	.55	.42	.46	-.19	.43	.32	.59
PA10	Constantly displays a high level of effort.	.18	.13	.28	.38	.58	.38	-.19	.42	.22	.65
PA11	Expresses eagerness to take on all new challenges.	.42	.23	.27	.39	.54	.30	-.32	.48	.18	.67
PA12	Accepts difficult assignments.	.35	.21	.25	.39	.47	.28	-.25	.46	.18	.64
NA1	Critically examines others' work.	.33	.05	.21	.12	.27	-.03	.29	-.32	-.04	.36
NA11	Scrutinizes every aspect of performance.	.32	.12	.27	.22	.32	.10	.29	-.20	.14	.36
EC1	Puts in extra effort when the team is working hard.	.29	.20	.17	.35	.41	.28	.55	.30	-.20	.67
EC2	Shares in the excitement when a coworker accomplishes a goal.	.43	.22	.34	.45	.24	.32	.49	.23	-.10	.56
EC3	Feels motivated to help the organization meet its goals.	.20	.25	.15	.31	.34	.42	.51	.18	-.30	.52
EC4	Feels inspired by efforts of coworkers.	.27	.18	.14	.34	.28	.41	.39	.18	-.14	.58
EC6	Encourages collaborative work relationships.	.33	.14	.36	.39	.33	.30	.51	.24	-.10	.57
EC8	Works well as part of a team.	.23	.21	.15	.27	.33	.27	.46	.15	-.16	.63
EC9	Fosters an environment of teamwork.	.31	.17	.18	.32	.41	.27	.42	.27	-.15	.67
EC10	Develops and maintains good relationships with coworkers.	.27	.23	.23	.41	.33	.36	.47	.21	-.15	.64
EL1	Limits personal expressions to comply with organizational rules.	.20	.22	.25	.28	.20	.25	.24	.16	.18	-.36
EL4	Displays the emotions needed to do the job regardless of actual feelings.	.13	.29	.25	.29	.17	.41	.24	.00	.18	-.48
EL5	Acts as required by the job, regardless of personal feelings	-.03	.27	.06	.09	.13	.23	.24	-.02	.14	-.39

a = CITR cannot be calculated for NvEE because it is represented by only one item