A CONSTRUCT VALIDITY ANALYSIS OF THE WORK PERCEPTIONS PROFILE DATA

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As work environments become more complex and demanding, organizations are

becoming more interested in measuring the impact of their human resource development

programs and initiatives. With this increased attention on data and measurement, human resource

professionals have been encouraged to utilize data collection and data analysis techniques to

make more objective and rationale human capital decisions and to verify business impact. As a

result, the human resource profession has seen a significant increase in the use of surveys to

measure anything from training effectiveness to the efficacy of recruitment procedures.

The increase in the use of survey instruments requires that more focused attention is

placed on the reliability and validity of data from any instrument used to make important human

resource and business decisions. One instrument that is currently being used to measure career

plateaus and job fit is the Work Perceptions Profile. The purpose of this research study was to

conduct a construct validity analysis of the Work Perceptions Profile data and to determine the

factor structure of data from its items. The data in this analysis supported a two-factor model

structure with the first factor measuring work characteristics and a second factor measuring

performance. The results of this analysis will be helpful in exploring further how employees

perceive their work place, their careers and their relationships with others within the

organization.

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Introduction

Over the last decade, human resource professionals and businesses have sought to exploit the increase in access to data analysis tools to measure the impact of practices influencing their human capital. This focus has been driven by a marked increase in the number of software programs available to capture and measure employee-related data (Bersin, 2013). With over 60% of all organizations investing in and using data analytics (Bersin, 2013), it becomes even more critical for the survey instruments used to collect employee data to be analyzed for their reliability and validity. The Work Perceptions Profile (Pace, n.d.) instrument currently being used to help organizations determine which employees have hit career plateaus and to help in the selection of candidates is one such instrument.

The Work Perceptions Profile (WPP) aims to measure one component of a workplace dynamism model, work perceptions, that explores the relationships between an individual employee, their work and the organization (Pace, n.d.). In Pace's (2002) work dynamism model (see Figure 1), work systems include organization structures, the nature of work, individual employees, management practices, and organizational policies and procedures.

Figure 1: Work dynamism model.

These work systems lead to employee perceptions of their work environment, and from these perceptions, work goals are established. These work goals, in turn, lead to a level of work dynamism that Pace defined as energy, devotion to goals and accomplishment. Finally, these

various antecedents result in work outcomes including productivity, quality, innovation, and profit (Pace, 2002).

The Work Perception Profile (WPP)

The Work Perception Profile (WPP) is an instrument developed to help measure the work perceptions component of the work dynamism model. Specifically, this 42-item instrument is structured to explore the relationship between cognitive and affective employee perceptions of work and their performance. According to Pace (2002) "Employees who find their work interesting and fulfilling can also find ways to make their work more efficient and productive. Employees who experience the spirit of dynamism in the workplace are more resourceful and confident" (p. 8). The instrument was designed to measure four theorized constructs (Performance, Opportunity, Fulfillment, and Expectations), which are hypothesized factors that contribute to employee perceptions about work.

Pace (2002) described these four theorized constructs as being combinations of previously researched individual job attitudes and behaviors. Performance is concerned with the extent to which employees believe that they are able to demonstrate high levels of competence at work. Positive perceptions in this area represent a work-based optimism that allows employees to perform their work more effectively (Pace, 2002). Opportunity is believed to measure the degree to which employees feel that they have influence and impact on the job. Positive scores on this factor are theorized to contribute to employees' optimism with respect to their role and their ability to move up within the organization (Pace, 2002). Fulfillment is attained when employees believe that they have opportunities for self-direction and self-determination (Pace, 2002). Positive results in this area indicate that employees feel that they have a great deal of autonomy and independence in the workplace. Finally, when employees perceive that their aspirations are

being attained, their professional Expectations are met. Positive Expectations scores are an indicator of meaningful work and job and career satisfaction (Pace, 2002).

Theoretical Framework

Pace's (2002) dynamism model is based primarily on two theoretical models: the "interpretive" model of intrinsic task motivation (Thomas & Velthouse, 1990) and the model of intrapersonal empowerment in the workplace (Spreitzer, 1995). Both of these models explore the nature of empowerment in the workplace.

In Thomas and Velthouse's (1990) model, empowerment is operationalized within the context of task motivation. They defined intrinsic task motivation as the "positively valued experiences that individuals derive directly from a task" (Thomas & Velthouse, 1990, p. 668). The model explores four task assessments, or cognitions, that contribute to motivation and job satisfaction: impact, competence, meaningfulness, and choice.

Thomas and Velthouse (1990) defined impact as the degree to which an employee's behavior results in the accomplishment of a task. Competence describes the ability of the employee to execute a task skillfully. Meaningfulness, in the Thomas and Velthouse model, describes the value employees give to a task in light of their own ideals and standards. Finally, choice is defined as the causal responsibility of employees has their own actions. Fundamental to this model is an individual's performance capacity (ability and autonomy) and his/her perception of task value. The task assessment component of the intrinsic motivation model has found support in two studies (Lee, 1987; Tymon, 1988). However, no instrument has been validated that explores the relationship of these four constructs to intrinsic motivation.

A similar four-factor model exploring empowerment was posited by Spreitzer (1995), who expanded the intrapersonal empowerment in the workplace model beyond motivation to

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consider empowerment's antecedents (locus of control, self-esteem, access to information, and reward) and its outputs (managerial effectiveness and innovation), providing a broader context for the understanding of psychological empowerment. In this model, empowerment is derived from the four factors of meaning, competence, self-determination, and impact (Spreitzer, 1995).

Spreitzer (1995) used the Thomas and Velthouse (1990) definition of Meaning but ascribed slightly different definitions to competence and impact while introducing the new construct of self-determination in lieu of Thomas and Velthouse's choice factor. Competence in this model is seen as a work specific version of self-efficacy and is defined as the employees' belief in their capability to perform skillfully (Spreitzer, 1995). Impact is described as the degree to which employees can influence work outcomes. The last construct, self-determination, is defined as the employees' belief that they have choices in their work environment. Given the importance of the theorized antecedents to psychological empowerment, Spreitzer advocated for an understanding of employee motivation and empowerment that was contextual and influenced by the work environment. In particular, the nature of empowerment in Spreitzer's model involves a cognitive and psychological attitude that allows employees to feel both a willingness and an ability to change their work environment.

Spreitzer (1995) tested the psychological empowerment model using a survey designed from items adapted from previous research (Ashforth, 1989; Hackman & Oldham, 1980; Jones, 1986; Tymon, 1988). In the second-order confirmatory factor analysis conducted on two samples, Spreitzer reported mixed results. In the first sample, the data provided a good fit to the theorized model (AGFI = .92, RMSR = .05, NCNFI = .93). However, a less conclusive fit was found in the second sample (AGFI = .87, RMSR = .06, NCNFI = .92). While Spreitzer did not provide a rationale for the poorer model performance in the second sample, it is interesting to

note that the first sample was composed of mid-level managers in an industrial organization, whereas the second sample was comprised of lower level employees in an insurance company.

Pace's (2002) hypothesized four factors describing an individual's perception of work is similar to Thomas and Velthouse's (1990) task assessments and Spreitzer's (1995) four empowerment cognitions in both their proposed factor model structure and their theoretical framework (see Table 1). Like the Thomas and Velthouse and Spreitzer models, Pace theorized that self-efficacy was a contributor to performance. Bandura (1994) defined self-efficacy as the extent to which individuals believe that they are capable of organizing and executing actions required to handle particular situations. The impact factor in the intrinsic motivation model and the psychological empowerment model is theorized to reflect employees' ability to accomplish tasks or the extent to which they can influence outcomes. In Pace's dynamism model, this is most similar to the theorized construct of opportunity, which is thought to measure aspects of employees' self-esteem, aspirations, commitment, vigor, and problem solving.

Table 1

Comparison of the WPP's Proposed Factor Structure and Its Theoretical Contributors

Intrinsic motivation model (Thomas & Velthouse, 1990)	Empowerment model (Spreitzer, 1995)	Work dynamism model (Pace, 2002)
Competence	Competence	Performance
Impact	Impact	Opportunity
Meaningfulness	Meaning	Expectations
Choice	Self-determination	Fulfillment

Meaning, meaningfulness, and expectations are perhaps the most closely aligned theoretical constructs, as all three models define this construct as a measurement of an employee's individual attribution of value to a task or a job. The most dissimilar of the three constructs as evidenced by the words used to describe the factors are choice, self-determination, and

fulfillment. Because Pace used self-determination as a way to describe this factor, his understanding of this construct is more closely aligned with Spreitzer's factor.

Relationship Between the WPP Model and Other Research Models

While there are few research studies on any of the three models described above, a great deal of research has been done on the various job attitudes and behaviors that contribute theoretically to each of the models and their relationships to motivation, empowerment, performance, and engagement. For example, self-efficacy, a hypothesized contributor to Performance, was used as a key element in Stajkovic and Luthans's (2003) study exploring the connection between social cognitive theory and work motivation.

The hypothesized factor of opportunity is composed of self-esteem, aspirations, commitment, vigor, and problem solving. Self-esteem was defined by Blascovich and Tomaka (1991) as the overall affective evaluation of one's worth, value, or importance. Sherwood (1989) described aspirations, a second component of opportunity, as a goal that an individual is willing to invest time, effort, or money in achieving. Affective commitment was described by Allen and Meyer (1996) as the degree to which employees have an emotional attachment to their organization. Vigor has been defined by Seppälä et al. (2009) as "high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence in the face of difficulties" (p. 460). Problem solving captures the ability to use unique methods and integrative thinking to develop solutions to job-related problems (Pulakos, Arad, Donovan, & Plamondon, 2000). These varied constructs have been researched in several studies on motivation and empowerment. For example, vigor is used as one of the three factors in the Utrecht Work Engagement Scale (Seppälä et al., 2009) and in the engagement model proposed by Schaufeli and Bakker (2004).

The third scale of the WPP describes the fulfillment that employees find from their work. This construct is made up of autonomy and self-determination. Hackman and Oldham (1976) described autonomy as the extent to which employees believe they have the right to use independent judgment in their positions, and self-determination was described by Spreitzer (1995) in the psychological empowerment model. Autonomy has been studied in a variety of motivation, engagement, and passion models including the following: the job characteristics model of work motivation (Hackman & Oldham, 1976); Bakker and Demerouti's engagement model (Bakker, 2011); and the employee work passion model (Zigarmi, Nimon, Houson, Witt, & Diehl, 2011). Besides its use in the Spreitzer model, self-determination is used as an explanation for work motivation by Gagne and Deci (2005).

As noted, Pace's (2002) expectations scale is most closely aligned theoretically with the concept of meaningful work. Meaningful work has also been used to describe the extent to which employees perceive their job behaviors as important to others (Nimon, Zigarmi, Houson, Witt, & Diehl, 2011). As a construct, meaningful work has been important in the understanding of Hackman and Oldham's (1976) work motivation model, Kahn's (1990) understanding of the antecedents of engagement, and the work passion model of Zigarmi et al. (2011).

Purpose of the Study

The purpose of this study is to conduct a construct validity analysis of WPP data and to determine the factor structure of the resultant data. To date, while the instrument has been used to help determine career plateau status ($n = 584$) and for candidate selection by the author (Pace, n.d.), the resulting data have not undergone any reliability or validity analysis. Because this instrument purportedly measures constructs that have been linked to job attitudes, motivation,

empowerment, and engagement, it has the possibility of helping researchers further define the relationships between these constructs.

Given the theoretical contributors to the work dynamism model and the similarities to the four-factor models of both the intrinsic motivation model and the psychological empowerment model, the posited four-factor model of the WPP (see Figure 2) is a reasonable hypothesis. While the Spreitzer study (1995) found mixed results from the two studies done to explore the psychological empowerment model, the results of the industrial sample (AGFI = .93; RMSR = .04; NCNFI = .97) are strong enough to indicate that a second-order factor model with four first-order factors (Performance, Opportunity, Fulfillment, and Expectations) contributing to the higher order of work perceptions is probable.
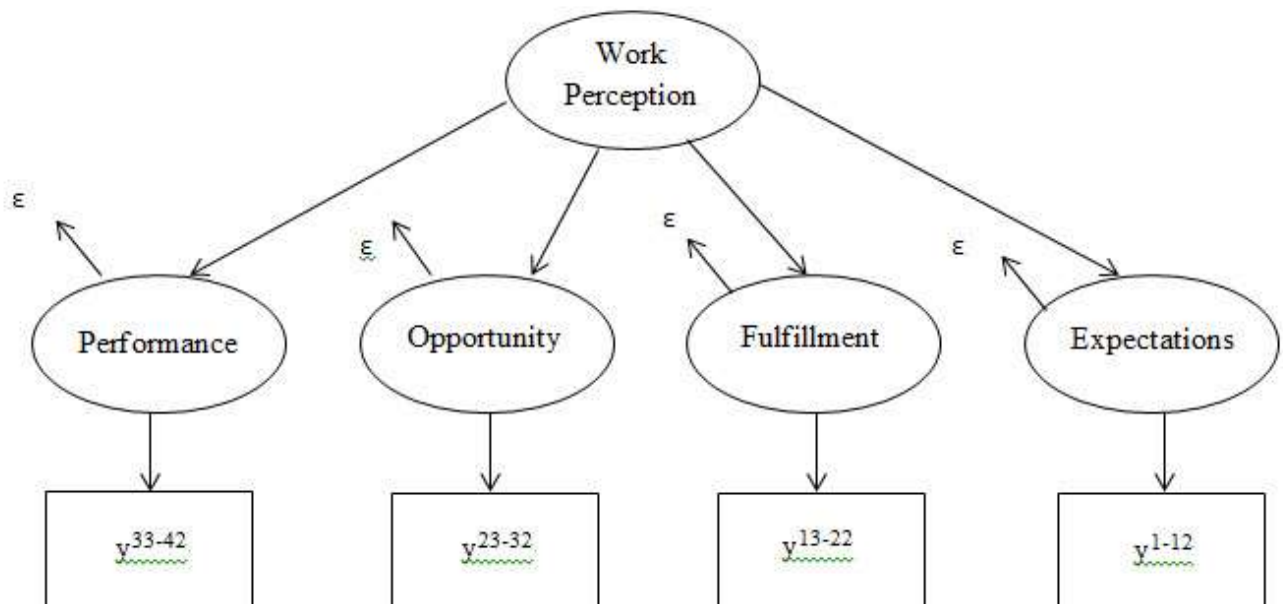
Note: y = WPP item numbers

Figure 2: Pace theoretical work perception model.

H1a: Performance, Opportunity, Fulfillment, and Expectations will be four independent first-order factors measuring a second-order factor of work perceptions.

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It is also possible that the data will show that the four independent first order factors do not indicate a second-order factor of any kind.

> *H1b: Performance, Opportunity, Fulfillment, and Expectations will be four independent first-order factors.*

To further explore the factor structure of the WPP and to help inform this particular study, the existing 42-item instrument was given to nine subject matter experts in the United States following a process based on recommendations of Sireci and Faulkner-Bond (2014) to determine content validity. This small cohort of experts was asked to determine whether or not the items were a measurement of the theorized job and employee characteristics as defined by Pace (2002). The possible item constructs provided to the subject matter experts included self-efficacy, self-confidence, self-esteem, self-determination, aspirations, commitment, energy, problem solving, autonomy, meaningful work, organizational support, and other. The respondents indicated that some of the items may measure additional constructs, including organizational justice, equity, peer support, collaboration, recognition, creativity, emotional intelligence, and leader support. Overall, the input from the nine subject matter experts was not conclusive and failed to demonstrate concrete support for the theorized four-factor structure. As such, it was clear that the data in this study might not support Pace's proposed factor model.

Given this possibility, recent work in the study of job characteristics and core self-evaluations pointed to a two-factor model as an alternative to the four-factor model. Recently, Judge and Kammeyer-Mueller (2011) have reintroduced the role that job attitudes play in engagement and the trait and state-like properties that they exhibit. Because of the known distinctions between affective, behavioral, and trait engagement (Judge & Kammeyer-Mueller, 2011; Macey & Schneider, 2008; Zigarmi, Nimon, Houson, Witt, & Diehl, 2009) and individual

and organizational characteristics (Wollard & Shuck, 2011), it was possible that the instrument measured in some way the two more general constructs of job characteristics and core self-evaluations (see Table 2).

Kahn (1990) described job characteristics as the attributes of a task that provide psychological meaningfulness to employees. In the job characteristics model, Hackman and Oldham (1976) listed skill variety, task identity, task significance, autonomy, and feedback as the core job dimensions influencing work motivation. Christian, Garza, and Slaughter (2011) added problem solving, job complexity, social support, physical demands, and work conditions to Hackman and Oldham's five characteristics, postulating that these all are antecedents to engagement. Given Kahn's definition of job characteristics, items in the WPP could be combined to reflect a single factor that is a reflection of the perception of work characteristics rather than the constructs of performance, opportunity, fulfillment, and expectations.

An additional second factor that could be supported by WPP data is the concept of core self-evaluations. The original definition described core self-evaluations as the key characteristics that differentiate people from one another by the way they fundamentally evaluate themselves and their relationship to their environment (Judge & Kammeyer-Mueller, 2011). Some of the individual characteristics typically used to describe core self-evaluation include self-efficacy, self-esteem, internal locus of control and emotional stability (Grant & Wrzesniewski, 2010; Judge, 2009; Judge & Kammeyer-Mueller, 2011). With this definition, it is possible that WPP items intended to measure self-efficacy, self-confidence, self-esteem, aspirations, commitment, and self-determination will be measured by one collective factor rather than the four factors of performance, opportunity, fulfillment, and expectations. The additional constructs identified through the content validity analysis provide some support for this.

Table 2

WPP Items and Theorized and Potential Constructs

Item	Theorized constructs	Potential job characteristic or core self-evaluation constructs
1. Today in this organization I am treated fairly.	Expectations	Job Characteristic
2. Today in this organization I am given regular assignments.	Expectations	Job Characteristic
3. Today in this organization I am given challenging work assignments.	Expectations	Job Characteristic
4. Today in this organization I am influential in affecting decisions.	Expectations	Job Characteristic
5. Today in this organization I am recognized for my contributions.	Expectations	Job Characteristic
6. Today in this organization I am highly respected by my superiors.	Expectations	Core Self-evaluation
7. Today in this organization I am improving my work skills.	Expectations	Job Characteristic
8. Today in this organization I am optimistic about the future.	Expectations	Core Self-evaluation
9. Today in this organization I am able to do some things in original, creative ways.	Expectations	Job Characteristic
10. Today in this organization I am able to take some risks.	Expectations	Job Characteristic
11. Today in this organization I am able to depend on the support of others.	Expectations	Job Characteristic
12. Today in this organization I am able to do some good things and achieve much.	Expectations	Job Characteristic
13. The work which I do can be done in unique and clever ways.	Fulfillment	Job Characteristic
14. I do have the ability to do my work in unique and clever ways.	Fulfillment	Job Characteristic
15. I like trying to do my job in unique, clever, different, and original ways.	Fulfillment	Core Self-evaluation
16. I would very much like to do my work in unique, different, original, and clever ways.	Fulfillment	Core Self-evaluation
17. The organization encourages me to do my work in unique and clever ways.	Fulfillment	Job Characteristic
18. This organization does reward employees for doing their work in unique and clever ways.	Fulfillment	Job Characteristic
19. I am very pleased with the support I receive from other employees when I try to do my work in unique and clever ways.	Fulfillment	Job Characteristic
20. I am encouraged by the challenges provided by the work I do.	Fulfillment	Job Characteristic
21. I am content with the originality and uniqueness with which I do my work.	Fulfillment	Core Self-evaluation
22. I am very fulfilled by the work I do in this organization.	Fulfillment	Job Characteristic
23. I believe that I am more than well enough known throughout the organization to be appointed to a special task force.	Opportunity	Job Characteristic
24. I believe that I have more than sufficient status in the organization to be consulted about important company problems.	Opportunity	Job Characteristic
25. I believe that my leader is a very strong advocate in helping me receive regular advancements in this organization.	Opportunity	Job Characteristic
26. I believe that many of my colleagues would support me for advancement within the next few years.	Opportunity	Job Characteristic
27. I believe that it is likely that I shall be advanced in this organization.	Opportunity	Core Self-evaluation
28. My leader feels that I have great potential to be advanced or recognized in my functional area in this organization.	Opportunity	Job Characteristic
29. My leader feels that I always perform my assigned duties well enough to receive special recognition this year.	Opportunity	Core Self-evaluation
30. My leader feels that my personality or style of interacting with others may be beneficial to me in getting regular advancements in this organization.	Opportunity	Core Self-evaluation
31. My leader feels that the quality of my relationships with others is adequate to receive special support this year.	Opportunity	Core Self-evaluation
32. My leader feels that I initiate more than enough new ideas to receive special recognition from the organization this year.	Opportunity	Core Self-evaluation
33. My leader feels that I almost always motivate other employees to do their very best.	Performance	Core Self-evaluation
34. My leader feels that I almost always suggest ways to improve our organization efficiency.	Performance	Core Self-evaluation
35. My leader feels that I almost always work very well on my own.	Performance	Core Self-evaluation
36. My leader feels that I almost always do quality work on time.	Performance	Core Self-evaluation
37. My leader feels that I almost always offer to help others complete work assignments.	Performance	Core Self-evaluation
38. My leader feels that I almost always manage time effectively.	Performance	Core Self-evaluation
39. My leader feels that I almost always make effective contributions when assigned to work in a group.	Performance	Core Self-evaluation
40. My leader feels that I almost always resolve conflict I have with other employees on my own.	Performance	Core Self-evaluation
41. My leader feels that I almost always use the resources given to me in a prudent manner.	Performance	Core Self-evaluation
42. My leader feels that I almost always handle the work skills and technical aspects of my job very well.	Performance	Core Self-evaluation

Note: Permission to reproduce the WPP instrument within the text of this research project was given by the author, Dr. R. Wayne Pace in 2014. (Pace, 2002).

A possible second-order factor model (see Figure 3) with two first-order factors identifying job characteristics and core self-evaluations as predictors of work perception is supported by related research considering the role of core self-evaluations and job autonomy on intrinsic motivation (Joo, Jeung, & Yoon, 2010). The two first-order factors are also supported by some of the work in employee engagement. Bakker (2011) developed a model of engagement that has job resources and personal resources as antecedents to work engagement. In this model, three personal resources (self-efficacy, organizational-based self-esteem, and optimism) and four job resources (social support, performance feedback, skill variety, and autonomy) begin a motivational process that results in engagement and then improved performance. Given this recent work in job characteristics and core self-evaluations, it is possible that the data collected in this study will support an alternative two-factor structure.
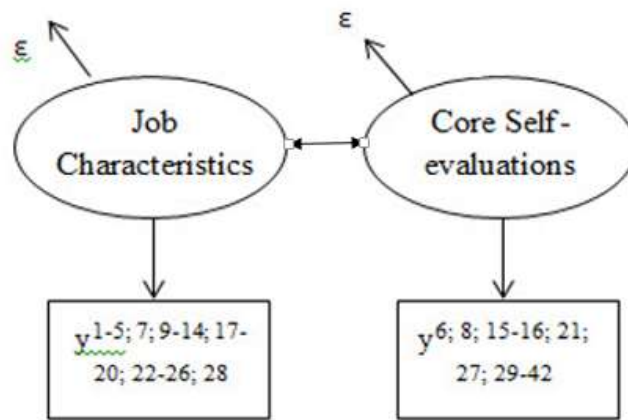
Note: y = WPP item numbers

Figure 3: Alternative theoretical work perception model.

H2: Job characteristics and core self-evaluations will be two independent first-order factors measuring work perceptions. (A second-order factor model measuring work perceptions would give the same fit as the above model.)

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In addition to the research questions regarding the appropriate model and constructs supported by the WPP data, a concern for the opportunity for social desirability response bias in the study was considered. The use of self-reported survey instruments exposes any research project utilizing this methodology to social desirability bias and impacts the overall validity of the instrument (King & Bruner, 2000). Social desirability is defined as "the tendency of subjects to respond to test items in such a way as to present themselves in socially acceptable terms" (King & Bruner, 2000, p. 81). The scale that is most commonly used to assess social desirability bias is the Marlowe-Crowne Scale (MCSDS) (King & Bruner, 2000). For the purposes of this study, a shortened version of the MCSDS (MC-2) was used to determine the presence of social desirability bias (Strahan & Gerbasi, 1972). In this study, intercorrelation measures between the MC-2 and the WPP were considered to determine the level of social desirability bias that existed in item responses.

> *H3: Data for all subscales of the WPP will demonstrate divergent validity with data*
> *from the short version of the Marlowe-Crowne Scale (MC-2), indicating low social*
> *desirability bias in item responses.*

Methods

To test the proposed hypotheses, this study used the methodological model demonstrated McLean, Yang, Kuo, Tolbert, and Larkin (2005) in their validation study of data from a managerial coaching skill instrument. Given the importance of establishing validity for data from an instrument currently being used in organizations as a tool in candidate selection, the rigor demonstrated by McLean et al. (2005) was deemed as methodologically appropriate. Because the WPP is an existing instrument, a formal content validity analysis was not conducted. Rather, this study immediately considered item reliability and factor structure through the conducting of

sequential exploratory-confirmatory factor analyses (Harrington, 2009) to consider both the second-order and first-order factor models that were hypothesized.

Population Demographics

The target population for this study was nonprofit professionals in Texas. Nationally, nonprofit professionals make up 10% of the U.S. workforce (Salamon & Sokolowski, 2006). This small but significant workforce population is made up primarily of women (67%) and Whites (83%) (Leete, 2006). In Texas, there are 403,196 nonprofit employees, representing 4.6% of the total private sector employment (Center for Nonprofit Management [CNM], 2012). North Texas is one of the areas with the largest number of nonprofit agencies in the state. There are over 28,000 registered charities in this region, bringing $27.2 billion in total revenue to the area (CNM, 2012). Many (74.85%) of those charities have budget sizes under $100,000, which indicates that they are agencies with working boards and no staff (CNM, 2012). However, there are 102,154 nonprofit employees in the area representing a total payroll of approximately $4 million (CNM, 2012). In general, nonprofit agencies are not studied in academic research at the same levels as other types of organizations. The analysis of potential contributors to employee motivation in this particular population is particularly important due to the services that nonprofit agencies offer their constituencies and the direct impact they make on their communities.

Two methods were used to solicit participation in this study at levels consistent with the research design requirements. First, a convenience sample of the nonprofit sector in North Texas was used through access to the Center for Nonprofit Management's (CNM) membership database. CNM has access to approximately 750 nonprofit agencies, representing about 10% of the charities in Dallas, Fort Worth, and the surrounding areas. An invitation to participate in the electronic survey was published in the organization's September newsletter and was sent to all

member email addresses in their database, which represents approximately 5,000 unique individuals. Second, a database of nonprofit organizations in Texas was obtained from GuideStar (2014) an organization that seeks to enhance transparency in the nonprofit sector by aggregating IRS and financial data on U.S. nonprofit agencies. The database contained information on a total of 76,439 nonprofit agencies in Texas. Of these, agencies with budget sizes less than $500,000 were eliminated from consideration because it would be difficult for an agency with these financial limitations to have employees beyond an executive director. The elimination of these agencies resulted in a total of 7,669 nonprofit organizations being contacted as potential survey respondents.

Survey Design

The electronic survey used was developed in Qualtrics and included the original 42 items of the WPP, along with 10 items from Strahan and Gerbasi's (1972) revised scale (M-C2), based on the original Marlowe-Crowne scale (Crowne & Marlowe, 1960). The scale data were used in the study to determine whether bias was prevalent and to consider the divergent validity of the WPP with the M-C2. Demographic data concerning age, gender, organizational size, and service area were also included. Descriptive statistics (mean, variance, standard deviation) were used to determine whether the sample was representative of the known population parameters with respect to gender and ethnicity.

Various strategies were employed to help improve response rates and to reduce respondent fatigue. These included inclusion of a progress bar, randomized items, page breaks, highlighted questions, response requirements, and consistent formatting. A test survey link was sent to 10 subject matter experts to solicit suggestions for improvement and to confirm the allotted time required to complete the survey. The potential for missing data was addressed by

requiring responses to all 52 items. In addition to these design considerations, each respondent was provided with an informed consent document to which they had to agree before participating in the survey. Two different links to the survey were created so that responses could be tracked based on which solicitation tool (newsletter or GuideStar database) was used by the respondent.

Data Collection

The sample size target for this study was 800 individual respondents. According to Stevens (1996), researchers should have between 5 and 20 respondents per variable. With 42 items in the WPP, a sample size of 800 would represent 19 respondents per item. A baseline of 5 respondents per item for the EFA (210) and 10 for the CFA (420) was established, representing a minimum total sample size of 630. These sample sizes were also consistent with the recommendations of Comrey and Lee (1992). A representative sample was determined by asking survey respondents for demographic information and comparing those responses with known population norms.

Individuals were incentivized to respond to the survey through the random selection of 3 respondents to receive $50 MasterCard gift certificates. (Random selection of these 3 individuals was conducted through SPSS®). An additional incentive for this sample was the publication of a White Paper reflecting general conclusions from the study that was shared with the Center for Nonprofit Management membership. Copies of this White Paper were also made available to any respondent who requested it directly. Reminder emails were sent to all targeted solicitations from the GuideStar database.

All of the possible responses to the WPP items used a 7-point Likert scale and the 10 items from the abbreviated Marlowe-Crowne Scale used a true/false format. No items in the WPP required reverse scoring, while Items 6 through 10 from the M-C 2 were reverse coded.

Any incomplete surveys (respondents that did not include answers for all 52 test items) were deleted from the database and removed from consideration for the purposes of this study. While respondents were told that the survey would take between 15 and 20 minutes, over half of the respondents (54.59%) were able to finish the entire survey in 10 minutes or less, indicating that the preliminary survey design considerations were helpful.

Results

The request for participation to CNM's membership was published in the September 2014 newsletter, published electronically on September 5, 2014. Email solicitations were sent to 8,678 potential respondents using the GuideStar (2014) database on September 15, 2014. As a result of the two efforts, 11 complete responses to the survey were obtained using the newsletter solicitation, and 892 complete responses were collected from the direct email solicitations. Of the 8,678 solicitations, 29% (2,582) opened the survey, 49% of those (1,287) started the survey, and 56% of those who started the survey completed it (769). In the email solicitation, respondents were encouraged to forward the survey to other nonprofit professionals that might be interested in completing the survey. These additional peer-based solicitations resulted in another 123 completed surveys.

While nonprofit employment demographic data is not often reported, based on previous research in the sector (Leete, 2006; Themudo, 2009), there were more women respondents (78%) than might be expected (67%). However, White respondents (80%) were similar to previously published national norms (83%). The sample was well educated, with 98% of the sample attending at least some college and 48% completing a secondary degree of some kind. Health and human services (29%) and education and research (23%) were the largest mission areas represented, paralleling the expected response rates found by CNM (2012) in North Texas,

and with education being slightly larger than the targeted population (19%). According to Salamon, Skolowski, and Geller (2012), this sample did not represent as many respondents from health and human services as might be expected nationally ($n = 57\%$).

A significant majority of the survey respondents worked for organizations that had employee populations below 500 (92%). Organizational size results in this study are similar to the demographics found by the National Organizations Survey in 2002 (Mastracci & Herring, 2010), in which the average number of organizational employees was 195. The sample was made up entirely of nonprofit professionals from the state of Texas. Table 3 provides the demographic characteristics of the different samples in this study.

Phase 1: Data Analysis

SPSS® version 22 and SPSS® AMOS version 20 were used to conduct all analyses in this study. Using SPSS®, 250 responses for an exploratory factor analysis (EFA) were pulled at random for the first phase of this analysis. The data were screened for missing data and normality. Any incomplete response was removed from analysis, eliminating the problem of missing data ($n = 47$). Normality was assessed using Kline's (2005) recommendations with respect to skew (> 3.0) and kurtosis (> 20.0). All of the 42 items had negative skew values, indicating means on the higher end of the scale. However, all skew and kurtosis values were below Kline's (2005) suggested thresholds, indicating that they were appropriate for analysis. Variables in the WPP were treated as continuous due to the fact that the WPP used a 7-point Likert item structure (Norman, 2010). The sample size was sufficiently large (1:5.9 item to respondent ratio) for an EFA analysis (Bentler & Chou, 1987).

Table 3

Demographic Characteristics of Samples Used in Study

	Total sample	Total sample percentages	EFA sample	EFA sample percentages	CFA sample	CFA sample percentages
n	903		250		600	
Gender						
Female	695	77%	198	79.2%	458	76.3%
Male	196	21.7%	47	18.8%	135	22.5%
Generations						
Traditional	13	1.4%	3	1.2%	10	1.7%
Baby Boomers	336	37.2%	88	35.2%	222	37%
Gen X	280	31%	84	33.6%	181	30.2%
Millennials	273	30.2%	75	30%	186	31%
Education						
Less Than HS	1	.1%	0	0%	0	0%
High School/GED	18	2%	5	2%	12	2%
Some College	87	9.6%	19	7.6%	57	9.5%
2 Yr Degree	37	4.1%	9	3.6%	26	4.3%
4 Yr Degree	395	43.7%	116	46.4%	259	43.2%
Masters	313	34.7%	88	35.2%	210	35%
Doctorate	24	2.7%	7	2.8%	15	2.5%
Prof Degree	24	2.7%	6	2.4%	17	2.8%
Ethnicity						
White	723	80.1%	202	80.8%	473	78.8%
African American	62	6.9%	21	8.4%	40	6.7%
Hispanic	75	8.3%	18	7.2%	56	9.3%
Asian	14	1.6%	4	1.6%	9	1.5%
Native American	4	.4%	0	0%	12	2%
Pacific Islander	3	.3%	0	0%	3	.5%
Other	13	1.4%	1	.4%	3	.5%
Mission						
Health/Hum Svcs	260	28.8%	70	28%	175	29.2%
Education	208	23%	70	28%	138	23%
Religion	42	4.7%	6	2.4%	30	5%
Environ/Animals	19	2.1%	5	2%	13	2.2%
Public Svcs	168	18.6%	50	20%	114	19%
International	4	.4%	0	0%	2	.3%
Not Nonprofit *	25	2.8%	0	0%	0	0%
Other	165	18.3%	48	19.2%	119	19.8%
Employees						
Less Than 10	71	7.9%	17	6.8%	45	7.5%
10 – 19	154	17.1%	42	16.9%	104	17.3%
20 – 49	212	23.5%	59	23.7%	146	24.3%
50 – 99	176	19.5%	50	20.1%	121	20.2%
100 – 499	209	23.1%	55	22.1%	144	24%
500 – 999	27	3%	8	3.2%	14	2.3%
1,000 – 4,999	29	3.2%	12	4.8%	14	2.3%
5,000 – 9,999	9	1%	3	1.2%	3	.5%
Over 10,000	10	1.1%	3	1.2%	4	.7%
State						
Texas	855	94.7%	248	99.2%	597	99.5%
US / Non-Texas *	39	4.3%	0	0%	0	0%
International *	4	.4%	0	0%	0	0%

Note: * Individuals working outside of the state of Texas and at for profit organizations were removed from the EFA and CFA studies.

While previous studies using the WPP have not been published, Pace (n.d.) in unpublished documents, indicated that mean responses (using a 5-point Likert scale) from his original studies were: performance = 3.97, opportunity = 3.03, fulfillment = 3.88 and expectations = 3.60. These means were used, in addition to the sample demographics, to determine whether the sample collected was representative of previous norms. This particular sample had higher means for all four theorized constructs (performance = 6.16; opportunity = 5.41; fulfillment = 5.62; and expectations = 5.73) even relative to the fact that Pace's previous studies used a 5-point Likert scale as opposed to the final 7-point scale recommend later (Pace, 2002).

Previous reliability coefficients of the M-C 2 Scale were used to compare with the study respondents to ensure consistency. Strahan and Gerbasi (1972) found diverse reliabilities, depending on sample demographics (Cronbach alphas: university males = .62; university females = .75; college females = .49; and British males = .62). Loo and Loewen (2004) found consistent reliability coefficients using the shortened version of the full Marlowe-Crowne Scale (α = .66, r = .88). Using the full sample from this study (n = 903), the Cronbach alpha for the M-C 2 scale was found to be similar to those in previous studies (α = .63) (Beretvas, Meyers, & Leite, 2002).

The data were initially assessed to determine the appropriateness of an EFA analysis. Following the recommendations of Tabachnick and Fidell (2001), the correlation matrix was analyzed to determine the existence of coefficients of sufficient size (r >.3). In general, the correlation matrix had values over the expected threshold of .3. However, there were some items in the fulfillment and opportunity sub-scales had lower values. Because the obtained determinant was less than the recommended level of 0.00001 (4.336E-14), multi-collinearity was assessed using variance inflation factors (VIF). VIF data indicated that all items had VIF values below 5;

these levels were within acceptable range (O'Brien, 2007). Bartlett's test of sphericity (p<.05) and the Kaiser-Meyer-Olkin (>.59) measure of sampling adequacy were also used to determine the appropriateness of using a factor analysis (Pallant, 2006). The KMO and Bartlett's test findings were very positive (KMO = .924; Bartlett's p<.00), indicating that factor analysis was a valid methodological approach.

EFA, as opposed to a confirmatory factor analysis (CFA), was considered an appropriate initial response to analyzing the data, given the lack of clarity on best model fit (Schmitt, 2011). Henson and Roberts's (2006) recommendations with respect to making decisions in an EFA were followed. In this study, three specific factor models were considered: a data-driven model based on suggested factor structure, the four-factor model, and the two-factor model. Confirmation of the likely number of factors in the data-driven model was determined through a combination of measurements including eigenvalues over 1.0 (Huck, 2012), scree tests, parallel analysis, and Velicer's MAP test (O'Conner, 2000). The use of multiple measurements is recommended by Henson and Roberts (2006), who state that "researchers are advised to use both multiple criteria and reasoned selection" (p. 399).

Because Thompson (1992) determined that there is little difference between the practical interpretation of results between a principle component analysis (PCA) and a principle axis factoring (PFA), this study extracted factors using the PFA, mimicking the McLean et al. (2005) construct validity analysis used as a template for this study. Henson and Roberts (2006) also recommend that the selected factor rotation be rationalized. In this case, because of the potential for correlated factors, an oblique rotation (Direct Oblimin, delta = 0) was used. In light of this decision, factor pattern matrix and structure matrix are reported for the best two- and four-factor model possibilities.

Items with loading values above .50 were retained for the factors identified (Brown, 2009; Huck, 2012; Tabachnick & Fidell, 2001). Item reliability was assessed using Cronbach's alphas. A cut off value of .70 was used for determining reliability given the high number of items in the WPP (Hair, Anderson, Tatham, & Black, 2010). Constructs with less than three retained values were considered for removal (Harrington, 2009).

An initial EFA using all of the data from the 250 sample indicated that between five and eight factors should be retained (see Table 4). However, pattern and structure matrices were not obtained because the data failed to converge after 25 iterations. Because of the lack of clarity in suitable factors from the data driven factor analysis, the hypothesized four- and two-factor models were considered better possibilities.

Table 4

Recommended Factors and Reliabilities

	Data driven model	Four factor model	Two factor model
Recommended Factors			
Eigenvalues	8	4	4
Scree	5	4	2
MAP	5 – 7	4	3
Parallel Analysis	5	3	2
Variance Explained	60.273%	59.89%	55.387%
Reliabilities (Cronbach's Alpha)			
Factor 1	.843	.918	.933
Factor 2	.918	.763	.910
Factor 3	.763	.858	
Factor 4	.811	.909	
Factor 5	.812		

Data driven model. Given the findings of the various factor structure analyses (see Table 4), a data driven five-factor model considered and eliminated as a viable factor model. After eliminating all items that had loading values below .50, the data driven model had 25 items with

7 items on the first factor, 6 on the second, and 4 items on each of the three remaining factors. However, Factors 4 and 5 were negatively correlated with the first three factors which did not support the hypothesized relationship of the items and each of the hypothesized sub-scales loaded on multiple factors (expectations on Factors 1, 4 and 5; performance on Factors 2 and 4; fulfillment on Factors 1 and 3; and opportunity on Factors 1 and 4).

Four-factor model. The original four-factor model was first considered. Using a loading of .5 or above as acceptable factor loads (Brown, 2009; Huck, 2012; Tabachnick & Fidell, 2001), the following items were deleted from consideration: E2, E6, F17, F18, F19, F20, F21, F22, O25, O26, O27, O28, O29, O30, O31, O32, P33, P34, and P40. The removal of these 19 items reduced the instrument to 23 items. The strongest hypothesized constructs were expectations and performance with only 2 and 3 items, respectively, needing to be removed. However, with a specified four-factor model, items thought to measure fulfillment and opportunity demonstrated either high loadings on the first factor or cross loading on multiple factors. While the resulting model with the 19 items removed exhibited a clear factor structure, the factor hypothesized to represent opportunity had only 2 items affiliated with it, indicating that it was a weaker factor that could be considered for elimination (Harrington, 2009). The factor correlation matrix had values ranging from .119 to .395, indicating that while there was correlation among the four factors, they were not large enough to suggest a second-order factor structure.

Two-factor model. The hypothesized two-factor model was then considered. Again, using the threshold of .5 or above as suitable factor loads, the following items were deleted from consideration: E2, E6, F13, F14, F15, F16, O23, O24, O26, O28, O30, and O31. In addition, 3 items with factor loadings above .5 were deleted because they did not load on the hypothesized construct of core self-evaluation (E8, F21, and O27). A subsequent factor analysis was run with

23

the remaining items, and 2 additional items were found to have poor factor loadings and were deleted (O29 and O32). With these deletions, the model exhibited two strong factors (see Table 5), mirroring the hypothesized two-factor structure with 15 items on job characteristics and 10 items on core self-evaluations. The factor correlation between the two factors was .477, indicating that only 22.75% of shared variance was explained by the two factors. While there was support for both the four and two hypothesized factors, the two-factor model was selected as the strongest model given the larger number of retained items, the stronger reliability results, and the parsimony of the model.

Phase 2: Data Analysis

With the remainder of the collected responses from the survey ($n = 600$), a CFA was conducted to ascertain the fit of the best model based on the results of the first phase of the study. The purpose of this second study was to confirm the two-factor model found in the EFA and to determine construct and divergent validity. As in the first study, data normality was considered and the data set was found to be suitable for factor analysis. All items were negatively skewed but had both skew and kurtosis values below the recommended threshold (Kline, 2005). Item means ranged from 4.47 to 6.03, indicating higher values than found in Pace's (n.d.) studies but with more variance than in the data set from Phase 1 of this study. Both factors had strong reliability, with job characteristics having a Cronbach alpha of .94 and core self-evaluation having an alpha of .93. Based on the recommendation of McLean et al. (2005), the comparison of reliability evidence indicates that the second sample was a more reliable sample than the one used in Phase 1 of this study.

Table 5

EFA Pattern and Structure Matrices for Two- and Four-Factor Models

| | Two Factor | | | | Four Factor | | | | | | | |
| | Pattern | | Structure | | Pattern | | | | Structure | | | |
	Job	Core	Job	Core	Exp	Perf	Fulf	Opp	Exp	Perf	Fulf	Opp
E1	**.615**	.157	**.690**	.451	**.635**	.201	-.086	-.079	**.667**	.420	.097	.160
E3	**.562**	.047	**.584**	.315	**.568**	.019	-.009	.110	**.609**	.268	.152	.295
E4	**.654**	.089	**.696**	.401	**.676**	-.024	-.135	.329	**.737**	.298	.072	.523
E5	**.619**	.088	**.661**	.383	**.660**	.091	-.090	-.012	**.669**	.335	.091	.209
E7	**.605**	.149	**.676**	.438	**.653**	.151	.093	-.135	**.693**	.391	.266	.119
E8	--	--	--	--	**.816**	.008	-.034	-.004	**.809**	.324	.175	.254
E9	**.822**	-.085	**.781**	.307	**.717**	-.124	.351	.048	**.773**	.224	.521	.290
E10	**.833**	-.140	**.766**	.257	**.760**	-.198	.160	.168	**.776**	.165	.363	.383
E11	**.725**	.087	**.766**	.432	**.700**	.113	.021	-.047	**.735**	.382	.211	.205
E12	**.787**	.100	**.835**	.476	**.814**	.081	-.011	.042	**.856**	.411	.213	.319
F13	---	---	---	---	.253	-.139	**.579**	.065	.367	.065	**.630**	.183
F14	---	---	---	---	.279	.200	**.542**	-.055	.478	.380	**.637**	.145
F15	---	---	---	---	-.075	.101	**.752**	.017	.162	.191	**.751**	.106
F16	---	---	---	---	-.161	.047	**.739**	.002	.047	.097	**.705**	.050
F17	**.851**	-.114	**.796**	.292	---	---	---	---	---	---	---	---
F18	**.641**	-.085	**.600**	.220	---	---	---	---	---	---	---	---
F19	**.678**	.051	**.703**	.374	---	---	---	---	---	---	---	---
F20	**.569**	.056	**.595**	.327	---	---	---	---	---	---	---	---
F22	**.746**	.014	**.753**	.370	---	---	---	---	---	---	---	---
O23	---	---	---	---	-.033	.162	.061	**.794**	.299	.342	.172	**.828**
O24	---	---	---	---	.053	.061	-.025	**.876**	.350	.281	.102	**.904**
O25	**.617**	-.027	**.605**	.267	---	---	---	---	---	---	---	---
P33	.130	**.550**	.393	**.612**	---	---	---	---	---	---	---	---
P34	.142	**.527**	.394	**.595**	---	---	---	---	---	---	---	---
P35	-.134	**.815**	.255	**.751**	-.084	**.804**	.013	.044	.251	**.783**	.120	.205
P36	-.136	**.853**	.270	**.788**	-.096	**.850**	.006	.096	.273	**.836**	.124	.264
P37	.024	**.591**	.306	**.603**	.058	**.518**	.092	.026	.294	**.561**	.189	.176
P38	-.061	**.817**	.329	**.788**	.011	**.845**	-.045	-.006	.331	**.841**	.087	.188
P39	.161	**.731**	.509	**.807**	.227	**.666**	.019	.043	.509	**.769**	.184	.273
P40	.137	**.535**	.392	**.601**	---	---	---	---	---	---	---	---
P41	.065	**.778**	.436	**.809**	.141	**.740**	.017	-.004	.436	**.797**	.166	.215
P42	.025	**.845**	.428	**.857**	.101	**.768**	.042	.043	.429	**.824**	.191	.258

Common method bias, the variance that is attributed to the measurement model rather than the factors, was tested using multiple methods, including the unmeasured latent method factor procedure (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). Self-reported data are especially vulnerable to common method variance (CMV) when respondents tend to provide

consistent answers to survey items that are not related (Chang, van Witteloostuijn, & Eden, 2010). Podsakoff et al. (2003) describe four main sources of CMV in academic studies: the use of a common rater; the way that the items are presented in the survey; the context in which the items are used; and the contextual influences on the survey (time, location, and media). For the purposes of this study, ex post remedies to common method variance were used. First Harman's single-factor test, a method that loads all items into an EFA to see if a single factor model explains the data, was conducted (Chang et al., 2010). The results showed that 41.661% of the variance was explained by the single factor. However, since this measurement alone is deemed to be insufficient (Podsakoff et al., 2003), standardized regression weights were considered to determine whether there was evidence of bias (see Table 6) and summary fit indices of those same models were analyzed (see Table 7). This multiple approach is recommended to address any concerns related to CMV (Chang et al., 2010). The results of these tests were mixed. When social desirability was used as a marker variable, there was little evidence of common method bias. However, when the common method variance model alone was considered, there were indicators of bias, particularly with respect to the second factor.

Model fit (see Figure 4) was determined using six general model-fit indices: the ratio of χ^2 to degrees of freedom (*df*), comparative fit index (CFI), Tucker-Lewis Index (TLI), relative fit index (RFI), normalized fit index (NFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMSR). Table 8 reflects the desired values sought in the CFA analysis. Items with factor loading values less than .60 were considered for elimination (Hair et al., 2010).

Table 6

Summary of Standardized Regression Weights in Various Models Used to Determine Presence of Common Method Bias

Items	2 factor model	Common method variance model	Difference in standard regression weights	model	Difference in standard regression weights
E1	.703	.480	.223	.675	.028
E3	.664	.372	.292	.644	.020
E4	.754	.467	.287	.729	.025
E5	.771	.568	.203	.714	.057
E7	.745	.461	.284	.704	.044
E9	.771	.537	.234	.756	.015
E10	.734	.525	.209	.730	.004
E11	.723	.564	.159	.702	.021
E12	.826	.569	.257	.811	.015
F17	.741	.533	.208	.733	.008
F18	.668	.575	.093	.630	.038
F19	.660	.457	.203	.615	.045
F20	.605	.408	.197	.564	.041
F22	.760	.526	.234	.735	.025
O25	.690	.581	.109	.655	.035
P33	.634	-.248	..882	.586	.048
P34	.666	-.025	.691	.644	.022
P35	.774	.229	.545	.764	.010
P36	.815	.245	.570	.813	.002
P37	.741	.036	.705	.707	.034
P38	.761	.185	.576	.732	.029
P39	.836	.095	.741	.811	.025
P40	.610	-.054	.664	.562	.048
P41	.789	.149	.640	.780	.009
P42	.794	.208	.586	.777	.017

However, no items required deletion. Item F20 had the lowest factor loading (.603), and Item E12 had the highest (.840). The squared multiple weight (R^2) values ranged from .364 to .706, indicating that all items adequately measured their corresponding latent construct. Modification indices for the covariances were considered to determine best model fit. To confirm the findings of the EFA, additional CFA analyses using the items from the four-factor model were conducted. Given the fit indices found in the CFA analyses, two of the three models achieved good model fit measurements (first-order four-factor model: $\chi^2 = 2.883$; CFI = .959;

TLI = .948; RFI = .922; NFI = .939; RMSEA = .056; and SRMSR = .0463). However, the fit

indices for the two-factor model were stronger than the four-factor model indices. This, along

with the findings of the EFA, supports *H2* over both *H1a* and *H1b*.

Table 7

Summary of Fit Indices in Common Method Bias Analyses

Goodness-of-fit measures	Target value	Two-factor model	With common method latent variable	With latent
χ^2/df	< 3.00	2.607	2.457	1.930
CFI	> 0.95	.965	.968	.957
TLI	> 0.95	.954	.959	.948
RFI	> 0.95	.928	.932	.900
NFI	> 0.90	.944	.947	.918
RMSEA	< 0.06	.052	.049	.040
SRMSR	< 0.08	.054	.038	.047

Construct validity for the two-factor model was measured using construct reliability (CR)

and average variance extracted (AVE). Divergent validity was assessed by comparing the shared

variance between the different constructs against minimum AVEs. AVE was calculated as the

mean variance extracted for the items on a factor. An AVE value of .5 or above indicates

adequate convergence (Hair et al., 2010). CR is computed from the squared sum of the factor

loadings for each construct and the sum of the error variance terms for the construct. A CR value

of .7 or higher is generally considered to be an example of good reliability (Hair et al., 2010).

The CR for job characteristics was .94 and the CR for core self-evaluations was .93. The AVE

values for the two factors were .524 and .566, respectively.

With standardized loading estimates in the two-factor model all over .6, CR values over

.7, and AVE values for both constructs over .5 (Hair et al., 2010), the model exhibits adequate

evidence of convergent validity. In addition, evidence of divergent validity was demonstrated
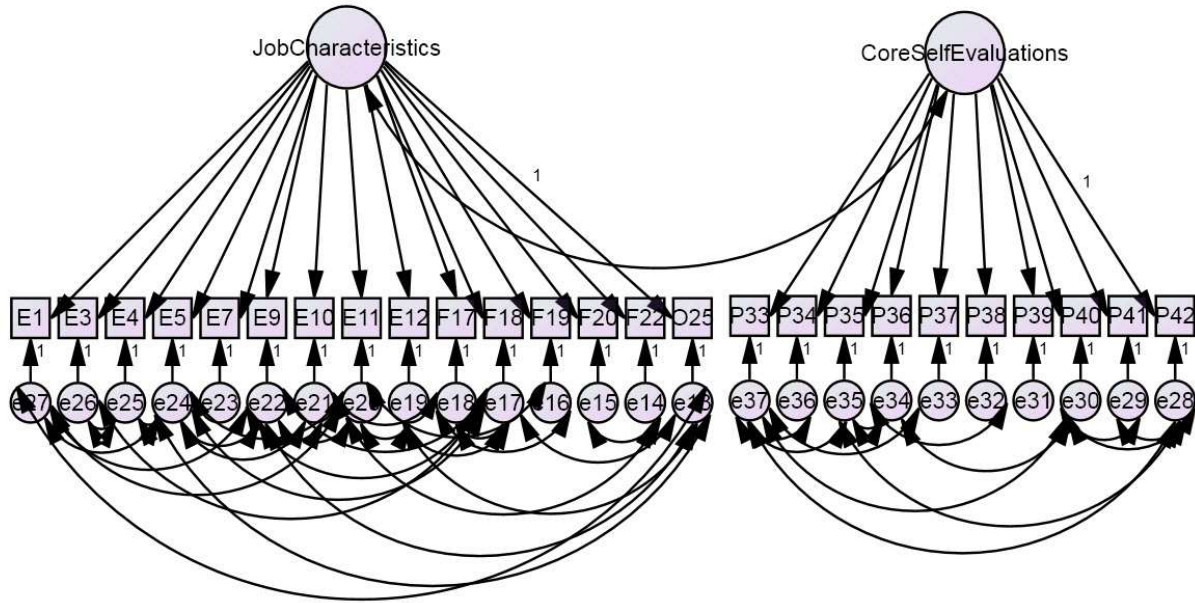
Figure 4: Two factor CFA model.

In this case, the SIC was .386, and the AVE findings were .524 and .566, indicating that the two factors were measuring distinct constructs. To confirm the evidence of divergent validity, a chi-square difference test was conducted (Segars, 1997). The uncorrelated model had a chi-square of 866.575 with 236 degrees of freedom, and the correlated model's chi-square was 626.736 with 235 degrees of freedom. The difference between the two ($\chi^2 = 239.839$) was significant, indicating that the constructs were unique.

Using the CFA model created for the marker variable social desirability to determine the presence of common method bias, the relationship between the constructs of job characteristics and core self-evaluations was explored by measuring CR, AVE, a maximum shared variance (MSV), and average shared variance (ASV). Divergent validity exists when MSV and ASV are smaller than AVE and if the square root of the AVE is greater than the inter-construct correlations (Hair et al., 2010). Table 8 provides the results that demonstrate evidence of divergent validity in support of *H3*. In all three constructs, the MSVs and ASVs were smaller

than the AVE and the square roots of the AVEs (core self-evaluation = .752; job characteristics = .724; and social desirability = .382) were all greater than the interconstruct correlations. With this sample, there were some validity concerns with the subscale. CR was below the desired level of .7 and AVE was less than .5. Despite these poor findings with respect to validity for the M-C 2 subscale, there was evidence of divergent validity among the three scales.

Table 8

Summary of Construct and Divergent Validity Measures

	CR	AVE	MSV	ASV	IC CSE	IC JobChar	IC
Core self-evaluation	.928	.566	.386	.226	*.752		
Job characteristics	.943	.524	.386	.225	.621	*.724	
Social desirability	.578	.146	.067	.065	-.258	-.252	*.382

* Represents the square root of the AVE

Note: CR represents construct reliability; AVE represents average variance extracted; MSV represents maximum shared variance; ASV represents average shared variance; IC represents the various inter-construct correlations.

Discussion

The purpose of this study was to determine the model structure of data collected through a survey instrument theorized to measure employees' perceptions about their work. The strong reliabilities, factor loadings and fit indices found in Phase 1 and Phase 2 of this study support the theory that the items in the instrument were a measurement of an employee's assessment of two distinct constructs. The reduced instrument supported in this study has a total of 25 items, with 15 items measuring one aspect of an employee's perception about their work and the other 10 items measuring a related but distinct second construct. While it was originally hypothesized that these two latent constructs measured by the instrument were job characteristics and core self-evaluations, a closer consideration of the remaining items creates some ambiguity with respect to what the items specifically measure. (The subscales and items retained are reflected in Table 9.)

Rather than the hypothesized constructs of job characteristics and core self-evaluations, the items might be more descriptive of work characteristics and performance. Because several of the items solicit perceptions of the organization overall rather than of individual tasks, work characteristics is a more descriptive explanation of the latent construct of the first factor than job characteristics. While Spreitzer (1995) described competence, the theoretical kin to Pace's performance construct, as a work specific version of self-efficacy, it is not clear that the items measured in the revised instrument are a true measurement of core self-evaluations as defined by Judge and Kammeyer-Mueller (2011). As all of the items in the second factor ask respondents to reflect on how their leaders perceive their work, it is not clear that the responses given are a true reflection of how the individual respondents evaluate themselves. Because of this, it is postulated that the second factor is a measurement of the latent construct of performance as defined by Pace (2002). According to this definition, performance is concerned with the extent to which employees believe that they are able to demonstrate high levels of competence at work.

Revised Instrument Analysis

While work characteristics and performance appear to be descriptive explanations of the survey instruments, a clear understanding of what is being measured by the items is perhaps limited by the nature of the item structures. In the bulk of the survey items, restrictive phrases were added to the item that complicated the understanding of what was being observed. In the first subscale, the phrase used is "today in this organization." This phrase could potentially limit a more holistic interpretation of a particular job or workplace by restricting the respondent's focus to a single point in time. The even more problematic phrase "my leader feels that" was added to the items in the second factor. With the addition of this phrase, respondents to these

items could be answering based on the health of their relationship with their manager rather than in response to their own perceptions of their work performance.

The 25 remaining items in the revised instrument come primarily from Pace's (2002) expectations and performance subscales. Expectations in Pace's model was seen as being similar to the construct of meaningful work in both the Thomas and Velthouse (1990) and Spreitzer (1995) motivational and empowerment models. However, in light of the 15 items in the new sub-scale of the WPP, the items do not appear to be exclusively measuring meaningful work. For example, Item 1 seems to be more reflective of fairness and Item 7 seems more reflective of autonomy. And, while the items in the second subscale do measure a reflection of performance, it is not clear if the items measure an individual's assessment of his/her own performance or the leader's assessment of performance.

Future Research and Limitations

Because the latent constructs in the instrument are still not clearly defined, it is recommended that further study be done to determine the constructs measured by the remaining items. The Work Cognition Inventory (Nimon et al., 2011) may be an appropriate instrument to provide further clarification. The Work Cognition Inventory has eight subscales: Autonomy, Collaboration, Connectedness to Colleagues, Connectedness to Leader, Distributive Fairness, Feedback, Growth, and Meaningful Work. The first subscale in the WPP may be similar to autonomy, collaboration, connectedness to colleagues, distributive fairness, growth, and meaningful work. With the focus on leader evaluation in the second sub-scale, the items in this construct may be a reflection of feedback and connectedness to leader.

Table 9

Revised Instrument Based on EFA and CFA

Item		Hypothesized subscale	Revised subscale
1	Today in this organization I am treated fairly.	Job Characteristic	Work Characteristics
2	Today in this organization I am given challenging work assignments.	Job Characteristic	Work Characteristics
3	Today in this organization I am influential in affecting decisions.	Job Characteristic	Work Characteristics
4	Today in this organization I am recognized for my contributions.	Job Characteristic	Work Characteristics
5	Today in this organization I am improving my work skills.	Job Characteristic	Work Characteristics
6	Today in this organization I am able to do some things in original, creative ways.	Job Characteristic	Work Characteristics
7	Today in this organization I am able to take some risks.	Job Characteristic	Work Characteristics
8	Today in this organization I am able to depend on the support of others.	Job Characteristic	Work Characteristics
9	Today in this organization I am able to do some good things and achieve much.	Job Characteristic	Work Characteristics
10	The organization encourages me to do my work in unique and clever ways.	Job Characteristic	Work Characteristics
11	The organization does reward employees for doing their work in unique and clever ways.	Job Characteristic	Work Characteristics
12	I am very pleased with the support I receive from other employees when I try to do my work in unique and clever ways.	Job Characteristic	Work Characteristics
13	I am encouraged by the challenges provided by the work I do.	Job Characteristic	Work Characteristics
14	I am very fulfilled by the work I do in this organization.	Job Characteristic	Work Characteristics
15	I believe that my leader is a very strong advocate in helping me receive regular advancements in this organization.	Job Characteristic	Work Characteristics
16	My leader feels that I almost always motivate other employees to do their very best.	Core Self-evaluation	Performance
17	My leader feels that I almost always suggest ways to improve our organization efficiency.	Core Self-evaluation	Performance
18	My leader feels that I almost always work very well on my own.	Core Self-evaluation	Performance
19	My leader feels that I almost always do quality work on time.	Core Self-evaluation	Performance
20	My leader feels that I almost always offer to help others complete work assignments.	Core Self-evaluation	Performance
21	My leader feels that I almost always manage time effectively.	Core Self-evaluation	Performance
22	My leader feels that I almost always make effective contributions when assigned to work in a group.	Core Self-evaluation	Performance
23	My leader feels that I almost always resolve conflict I have with other employees on my own.	Core Self-evaluation	Performance
24	My leader feels that I almost always use the resources given to me in a prudent manner.	Core Self-evaluation	Performance
25	My leader feels that I almost always handle the work skills and technical aspects of my job very well.	Core Self-evaluation	Performance

In the original dynamism model, Pace (2002) postulated that how employees perceived

their work was an antecedent to the energy and devotion that individuals exhibited towards goal

accomplishment. The revised WPP could be used to further explore the connections between individual contributor perceptions about their work and work environment with motivation (Hackman & Oldham, 1976) and engagement (Kahn, 1990). In addition, given the connections between resources (personal and job) and performance that have been theorized by Bakker (2011), the revised WPP may be helpful in further supporting the relationship that exists between employee perceptions and performance. This instrument has the potential to be used by researchers and practitioners to further explore the relationships between work characteristics and performance and their impact on other areas of interest in workplace research. However, future research should be conducted to determine whether the theorized nomological network is supported.

In addition, future studies should be done to consider alternative populations. Given the high percentage of women in the nonprofit sector, the revised instrument should be given to a sample more representative of the overall general population to determine whether the results of this study can be generalized beyond this sample. Given the unique demographics of this nonprofit sample, additional studies should be conducted to determine whether the higher means found in this study are replicated or whether this is a characteristic more reflective of the nonprofit sector. Without these additional studies, the generalizability of the results of this study is limited. Given the lack of previous research on the WPP, the findings of this study should be considered as more exploratory than definitive.

Additional studies might be done to explore the impact that the item phrases "today in this organization" and "my leader feels that" have on overall results and whether or not performance evaluations are influenced by perceptions of the leader-follower relationship. In particular, if the phrase "my leader feels that" can be removed from the items in the performance

factor without damaging the reliability and validity of the instrument, it is recommended that the phrase be removed so that the survey instrument is viable for individuals with no formal leaders (e.g., executives, members of self-managed work teams).

While the four-factor model was less strong than the two-factor model, the model did demonstrate adequate fit. It is recommended that future research considers creating additional items that could measure the theorized constructs of opportunity and fulfillment to determine whether the original theory could be supported with stronger factors than was seen with the original items from these two subscales. With these additional items, a more accurate analysis of the instrument as compared to its theoretical roots in motivation could be conducted.

Finally, given the poor reliability findings of social desirability in the CFA analysis, it is recommended that either the full Marlowe-Crowne Scale or a different short version be used to determine the existence of common method bias and evidence of divergent validity. With the reduced survey instrument found in this study, the concern for the length of the test is reduced and the use of an expanded scale would not greatly impact survey response rates. If that concern persists, researchers should consider using multiple methods for soliciting responses, including both electronic and paper surveys.

Conclusion

The results of this study provide good initial support for a two-factor model of a survey instrument that measures work characteristics and performance, supporting the second hypothesis of this research project. The data from this study also provided evidence of divergent validity in support of the third hypothesis. While further study is needed to determine the extent to which this survey can be used effectively both in research and in practice, the study does provide future researchers with a baseline that can be used for comparative purposes. As

employers and researchers continue to seek to understand how performance and work

characteristics influence motivation, this revised instrument has the potential to provide further

insight into these complex relationships.

APPENDIX A

PERMISSIONS

A.1 Permissions to use Work Perceptions Profile Instrument

Original permission to use the Work Perception Profile Instrument in the study. As a condition,

Dr. Pace requested a copy of the results (sent in October 2014).

8/3/14

Dear Susan, you're right, I thought maybe you had given up completely, but as I studied the beautiful design, I was convinced that you have been busy and productive. I think you've done great job and I look forward to getting a copy of the results.

I formally give you permission to use the Work Perceptions Profile (WPP) in your research. The only condition is that I receive a copy of the results, even a copy of the dissertation, if possible.

Cordially, R. Wayne Pace, Ph.D.

A second request to detail the Work Perception Profile items within the text of the dissertation

was obtained later. The WPP items are published in Pace (2002).

8/5/14

Dr. Pace,

I met with Kim today and we are putting on the final touches to my proposal. One thing that she noted was that I need to get your copyright permission to use the WPP items in Table 2.

Would you feel comfortable with me using that table in my proposal and dissertation? If not, we can adjust the table to reflect the item number rather than the content.

...
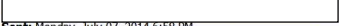
wpace@infowest.com
to me 🔽

8/6/14

Susan, you have my permission to use Table 2 and the items listed.

Cordially, R. Wayne Pace

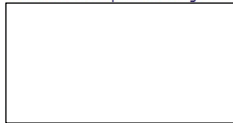## A.2 Permission to Use Center for Nonprofit Management's Newsletter

Sent: Monday, July 07, 2014 6:58 PM
To: Natalie Ward
Cc: Frear, Susan
Subject: Susan Frear Project

Hi Natalie,

I spoke to Susan Frear today about her dissertation and need for assistance with nonprofit data. What we agreed to was to let her include a blurb about the research she is doing in Coffee Talk and include a link for members to take the survey or not, as they wish. Let me know if you have any questions about this. Otherwise, feel free to connect with Susan on next steps.

Thanks!
Tina
--

Tina K. Weinfurther
President and CEO
Center for Nonprofit Management

A.3 Permission to Use the Short Version of the Marlow-Crowne Scale

APPENDIX B

IRB RELATED DOCUMENTS

B.1 IRB Certificate of Completion

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Susan Frear** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 11/23/2013

Certification Number: 1332934
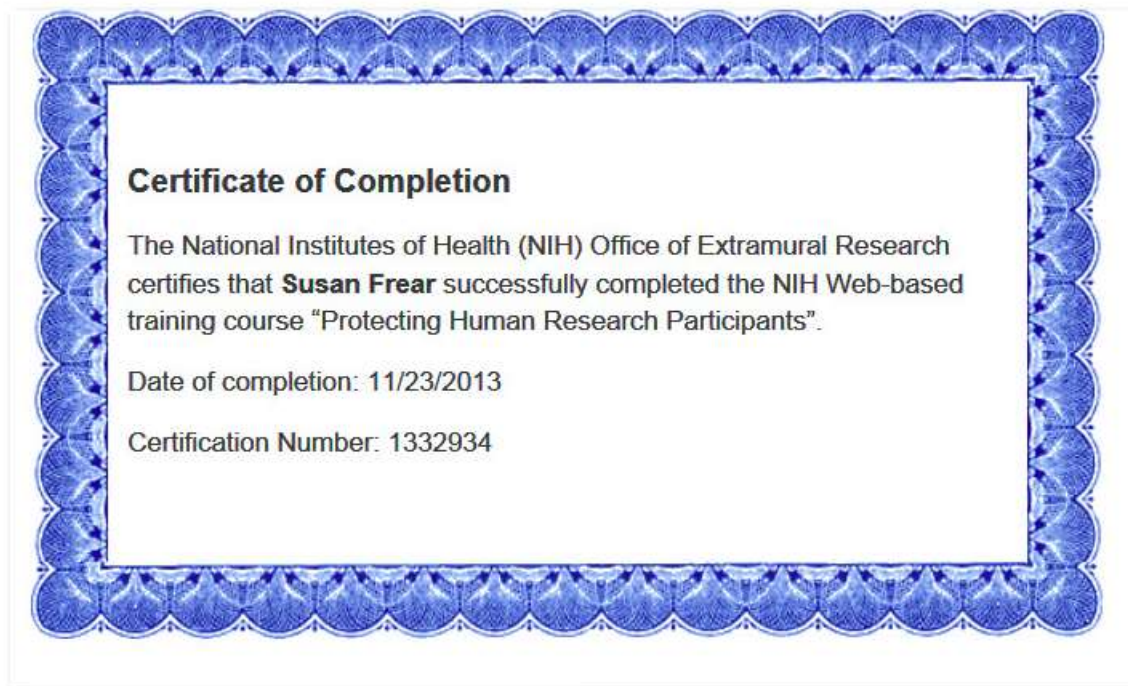
B.2 Letter of IRB Approval

UNT
A green light to greatness.

THE OFFICE OF RESEARCH INTEGRITY AND COMPLIANCE

August 21, 2014

Dr. Kim Nimon
Student Investigator: Susan Frear
Department of Learning Technologies
University of North Texas
RE: Human Subjects Application No. 14-282

Dear Dr. Nimon:

In accordance with 45 CFR Part 46 Section 46.101, your study titled "A Construct Validity Analysis of the Work Perceptions Profile Data" has been determined to qualify for an exemption from further review by the UNT Institutional Review Board (IRB).

No changes may be made to your study's procedures or forms without prior written approval from the UNT IRB. Please contact Jordan Harmon, Research Compliance Analyst, ext. 4643, if you wish to make any such changes. Any changes to your procedures or forms after 3 years will require completion of a new IRB application.

We wish you success with your study.

Sincerely,

Bud Herden for PLK

Patricia L. Kaminski, Ph.D.
Associate Professor
Chair, Institutional Review Board

PK:jh

B.3 Informed Consent Form Included in Qualtrics Survey

Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: A Construct Validity Analysis of the Work Perceptions Profile Data

Student Investigator: Susan Frear, University of North Texas (UNT) Department of Applied Technology and Performance Improvement.

Supervising Investigators: Kim Nimon and Jeff Allen

Purpose of the Study: You are being asked to participate in a research study which involves analyzing the validity of an instrument that considers the perceptions employees have about their work and their organization.

Study Procedures: You will be asked to answer 52 questions that will take about 15 to 20 minutes of your time. This questionnaire will be conducted using an online Qualtrics-created survey.

Foreseeable Risks: There are no foreseeable risks involved in this study.

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you, but we hope to learn more about the reliability and validity of the data in this instrument so that it may be used effectively by organizations in a variety of human resource decisions. In addition, a white paper with aggregated data from the responses will be shared with the Center for Nonprofit Management in Dallas, TX. This data may help nonprofit organizations understand the work perceptions that their employees have.

Compensation for Participants: None. However, three individual respondents will be randomly selected to receive a $50 MasterCard gift certificate.

Procedures for Maintaining Confidentiality of Research Records: The confidentiality of your individual information will be maintained in any publications or presentations regarding this study. After the random selection of the gift certificate recipients, all personal contact information will be deleted from the database. Confidentiality will be maintained to the degree possible given the technology and practices used by the online survey company. Your participation in this online survey involves risks to confidentiality similar to a person's everyday use of the Internet.

Questions about the Study: If you have any questions about the study, you may contact *Susan Frear at* _____ or *Kim Nimon at* _____ or *Jeff Allen at* _____

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 369-7428 with any questions regarding the rights of research subjects.

Research Participants' Rights:

Your participation in the survey confirms that you have read all of the above and that you agree to all of the following:

1. Susan Frear has explained the study to you and you have had an opportunity to contact her with any questions about the study. You have been informed of the possible benefits and the potential risks of the study.
2. You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
3. You understand why the study is being conducted and how it will be performed.
4. You understand your rights as a research participant and you voluntarily consent to participate in this study.
5. You understand you may print a copy of this form for your records.

.

APPENDIX C

SURVEY INSTRUMENT

C.1 Short Version of Marlowe-Crowne Scale

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

	True	False
I never hesitate to go out of my way to help someone in trouble	○	○
I have never intensely disliked anyone	○	○
When I don't know something I don't at all mind admitting it	○	○
I am always courteous, even to people who are disagreeable	○	○
I would never think of letting someone else be punished for my wrong doings	○	○
I sometimes feel resentful when I don't get my way	○	○
There have been times when I felt like rebelling against people in authority even though I knew they were right	○	○
I can remember "playing sick" to get out of something	○	○
There have been times when I was quite jealous of the good fortune of others	○	○
I am sometimes irritated by people who ask favors of me	○	○

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