ABSTRACT

PETERS, JAMES CARL. From Theory to Measurement: Development and Validation of a Measure of Praise. (Under the direction of Dr. Adam Meade).

No psychometrically tested measure currently exists to assess praise in a work context, despite the potential benefits of praise behavior for the workplace environment (Delin & Baumeister, 1994). This study describes the development of a multidimensional scale intended to measure praise in workplace settings. Building on the theoretical underpinnings of what is conceptually known (e.g., Henderlong, 2001; Henderlong & Lepper, 2002) and empirically tested (e.g., Kamins & Dweck, 1999; Mueller & Dweck, 1998) regarding the praise construct, this research conceptualizes praise as having three distinct dimensions: person praise, product praise, and process praise. The study followed Hinkin's (1998) scale development process, including item generation, content validation, exploratory and confirmatory factor analyses, and convergent and discriminant validity testing. A sample of 351 full-time workers were recruited via a crowdsourcing platform. The proposed measure's factor structure, reliability, and validity were evaluated using various statistical techniques. This research aimed to address a significant gap in the literature by providing researchers and practitioners with a valid tool to assess praise in organizational settings, potentially informing future studies on the role of praise behavior in workplace dynamics and employee outcomes.

From Theory to Measurement:
Development and Validation of a Measure of Praise

by
James Carl Peters

A thesis submitted to the Graduate Faculty of
North Carolina State University
in partial fulfillment of the
requirements for the degree of
Master of Science

Psychology

Raleigh, North Carolina
2025

APPROVED BY:

_______________________________ _______________________________
Lori L. Foster S. Bartholomew Craig

____
Adam W. Meade
Chair of Advisory Committee

DEDICATION

This body of work is dedicated to my Nanna, whose ten-year battle with Alzheimer's disease serves as a constant reminder to cherish the beauty and joy in both the mundane and extraordinary moments of life, no matter how challenging circumstances may become. Nanna, although your memory fades, your love and care for your husband, daughters, and grandchildren will forever remind me of the virtues humanity can and should strive for in relationships with oneself, others—whether family or friend—and God. The memories we share of you—your radiant, joyful smile and playful, tender love—will forever live in the hearts and minds of those who know and love you. Thank you for reminding me that the challenges I encountered while completing this thesis, and those I may face in life, should never replace my empathy for others nor overshadow life's joyous moments, however small. Your concern for the well-being of those you love will be a value I forever cherish. Thank you, Nanna. I love you.

BIOGRAPHY

James C. Peters was born on December 1, 1997, in Meriden, Connecticut. He is the son of Frank Peters from Meriden, Connecticut, and Emma Peters from Swansea, Wales. His parents currently reside in Durham, Connecticut.

James attended Coginchaug Regional High School in Durham, Connecticut. After graduating in 2016, he enrolled at the University of New Hampshire (Go Wildcats!), where he pursued a Bachelor of Arts in Psychology. While completing his undergraduate studies, James served as a research assistant in the Personality Laboratory under the supervision of Dr. John D. Mayer and the tutelage of Dr. Hannah Lightcap. This experience fostered his interest in psychological research, as he gained valuable experience conducting qualitative coding across multiple studies, assisting with a meta-analytic study, and completing an Honors Thesis on workplace-oriented laboratory research.

After graduating *Magna Cum Laude* in 2020 with a B.A. in Psychology and minors in Business Administration and Leadership, James returned home and joined the teaching staff at Frank Ward Strong School, supporting classroom instruction during the COVID–19 pandemic. He later relocated to Raleigh, North Carolina, to pursue a Master of Science degree in Industrial and Organizational Psychology at North Carolina State University.

During his graduate studies, James served as a research assistant in the Psychometrics Laboratory under the supervision of his advisor, Dr. Adam W. Meade. He was involved in research on scale development and validation, and he presented laboratory research on Rapid Response Measurement, a novel measurement technique developed by Dr. Adam W. Meade. Additionally, James collaborated with Poole College of Management faculty members Dr. Roger C. Mayer, Dr. Paul W. Mulvey, and Dr. Leigh Shamblin to develop and validate an adapted measurement instrument with industry partner InHerSight, resulting in publication in *Fast Company*.

In the summer of 2023, James further participated in research with the *Laboratory for Analytic Sciences* (LAS) at the Summer Conference on Applied Data Science. His efforts in this academic-industry-government partnership led to the publication of his team's findings in *Analytics*, an international, peer-reviewed journal. He later interned at the LAS, where he led a multi-disciplinary research team in conducting a future-oriented job analysis with the U.S. Intelligence Community while contributing to research on cognitive load assessment.

Throughout his time at North Carolina State University, James also worked as a teaching assistant for an introductory psychological research course for four semesters, supporting more than 400 undergraduate students.

Currently resides in Durham, Connecticut, James conducts research with the National Counterterrorism Innovation, Technology, and Education Center to develop a risk assessment tool for K–12 schools. He also serves as Lab Manager for Dr. Sydney Reichin's Squid Laboratory, overseeing multiple research projects conducted by undergraduate research assistants, while staying actively engaged in research advancing criterion theory in and beyond the organizational sciences. Upon completing his M.S. degree, James plans to pursue a doctoral degree in Industrial and Organizational Psychology. His research interests include criterion theory and development, occupational safety and health, and performance management.

When James is not working or engaged in research, he likes to maintain an active lifestyle through running, yoga, and Pilates. He enjoys watching sports, particularly his UConn Huskies (Go Huskies!), as well as reading about U.S. and world history and spending time with family and friends.

ACKNOWLEDGMENTS

This thesis was made possible through the commitment, guidance, and effort of many individuals who have supported me throughout my journey.

I would like to begin by thanking my committee chair, Dr. Adam W. Meade, and committee members, Dr. Lori L. Foster and Dr. S. Bartholomew Craig, for their precious time, effort, and energy devoted to this project. In particular, I would like to thank my advisor, Adam, whose teachings made this project possible. Additionally, I would like to thank Dr. Roger C. Mayer, Dr. Paul W. Mulvey, and Dr. Leigh Shamblin whose inspiration and encouragement were instrumental in my pursuit of this work.

I would also like to thank all my peers, who supported me when I needed a friend or just a shoulder to lean on. In particular, I am grateful to my fellow graduate students who served as raters for content validation, a thankless and tedious task. Thank you, Ian Siderits, Alex Stewart, Sean Chin, Cory Moore, Dr. Quin Kidder, and Luke Priest for your service.

Finally, I would like to thank my parents, Emma and Frank, who have always supported my education and growth and who taught me the priceless value of hard work. I am grateful to my siblings, Rhiannon and Thomas, whose uplifting joy and understanding helped make this all possible. I would also like to thank my dogs, Molly and Mojo, for making me smile and giving me a reason to step outside and enjoy the sunshine when I needed it most.

TABLE OF CONTENTS

LIST OF TABLES viii
LIST OF FIGURES ix
EPIGRAPH x
Introduction 1
Limitations of Current Measures of Praise 2
A Multidimensional Praise Conceptualization 3
Person Praise 4
Product Praise 4
Process Praise 5
Development of a Multidimensional Measure of Praise 5
Psychometric Properties 5
Convergent and Discriminant Validity 6
Phase 1: Item Generation and Content Validity 9
Method 10
Results 11
Phase 2: Psychometric Properties 13
Method 13
Sample 13
Procedure 14
Measures 14
Data Analysis 16
Results 17
Factor Structure 18
Phase 3: Convergent and Discriminant Validity 20
Method 20
Results 20
Convergent Validity 20
Discriminant Validity 21
Discussion 21
Limitations and Future Direction 23
Conclusion 24
References 26
TABLES 35
FIGURES 39
FOOTNOTES 40
APPENDICIES 41
Appendix A: Rater Instructions 42
Appendix B: Encouragement (Wong et al., 2019) 44
Appendix C: Favorable Feedback (Steelman et al., 2004) 45
Appendix D: Unfavorable Feedback (Steelman et al., 2004) 46
Appendix E: Social Support (Morgeson & Humphrey, 2006) 47
Appendix F: Emotional Support (Vaux et al., 1987) 48
Appendix G: Open-Mindedness (Soto & John, 2017) 49

Appendix H: Jobs in General (Ironson et al., 1989) 50
Appendix I: Turnover Intentions (Mitchell et al., 2001) 51
Appendix J: Demographic Measures 52
Appendix K: Thesis Proposal 54

LIST OF TABLES

Table 1: Praise Items 35
Table 2: Praise Item Properties 36
Table 3: Correlations, Means, and Standard Deviations of Praise Measure Development 38

LIST OF FIGURES

Figure 1: Confirmatory Factor Analysis of 6-Item Praise Measure 39

EPIGRAPH

Be hearty in your approbation and lavish in your praise.

—Dale Carnegie, *How to Win Friends and Influence People*

From Theory To Measurement:

Development and Validation of a Measure of Praise

The United States is in the midst of an unprecedented mental health crisis affecting individuals across all age groups. According to a recent report by Reinert et al. (2024), 23.08% of adults—equivalent to nearly 60 million Americans—reported experiencing a mental health issue in the past year. These statistics are supported by the 2021 National Survey on Drug Use and Health, which found that over 57 million U.S. adults are living with a mental health condition (National Institute of Mental Health, n.d.). Of the over 57 million U.S. adults, approximately 5.5%, or about 14 million people, were classified as having a serious mental health issue that substantially interfere with or limit one or more major life activities.

In the U.S. workplace, the prevalence of poor mental health and well-being has numerous and cascading impacts for the health of employees, organizational productivity, the bottom-line for businesses, and the broader U.S. economy (Office of the Surgeon General, 2022). Furthermore, the impact of workplace well-being can influence the quality, pace, and performance of employees' work (Bouwmans et al., 2014). Additionally, failure to support employee mental health can result in higher turnover rates (Umland, 2018). Therefore, addressing the mental health and well-being organization-wide is not simply a "moral imperative" or the "right thing" to do, but also necessary for mitigating its detrimental effects on important business outcomes.

Research has shown that employees who feel supported by their supervisor's experience higher job satisfaction, lower levels of emotional exhaustion, and fewer physical symptoms (Mathieu et al., 2019). However, some supportive actions have been found not to be universally helpful (Bavik et al., 2020; Mathieu et al., 2019). In response to these findings, Gray et al. (2023)

raised a pertinent question: How can organizational leadership effectively support employees during particularly stressful times? Their research identified 'tone' as one critical factor. That is, they found a leader's ability to foster positivity, convey gratitude, hope, and fun can significantly buffer the natural negativity and fear associated with stressful circumstances. Beyond setting the tone, it has been acknowledged that organizations and organizational leaders can further support employees' capacities to manage stress by building a culture of appreciation, recognition, and engagement (O'Flaherty et al., 2021, March 29; UKG, 2021, June 22).

One potential mechanism through which organizational leaders might support employees and foster a positive environment is through the provision of praise (Delin & Baumeister, 1994). While the research literature on praise suggests mixed effectiveness—with some studies indicating that it can often be ineffective and sometimes even dysfunctional (e.g., Hitz & Driscoll, 1988; Kelly & Daniels, 1997)—there is empirical evidence that some forms of praise can lead to positive outcomes such as enhanced motivation and improved self-esteem (Kamins & Dweck, 1999; Mueller & Dweck, 1998), particularly when compared to a neutral feedback group or control (Henderlong, 2001).

Limitations of Current Measures of Praise

Despite the potential of praising behavior to help address workplace well-being, there exists no measure of praise that meets the necessary psychometric and construct validity requirements for assessing the construct in employment settings. For example, the praise scale used in Mayer et al. (2011) raises questions about whether its unidimensional conceptualization fully captures the domain of the construct. Another related measure of praise concerns the widely employed Leadership Practices Inventory (LPI; Kouzes & Posner, 1988). Specifically, one of its five dimensions, *Encouraging the Heart*, includes items assessing praise (e.g., "Praises people for a job well done”) and encouragement (e.g., “Makes a point to let people know about his/her confidence in their abilities”), which scholars recognize as related but distinct constructs (Henderlong & Lepper, 2002; Wong, 2015; Wong et al., 2019). The theoretical and measurement issues associated with these scales complicate the validity of the measurement instruments, thereby affecting the interpretation of assessment results and our understanding of the relationship between praising behavior and important workplace outcomes.

Outside of employment contexts, praise has been extensively studied in educational settings, particularly with children (Brummelman et al., 2014; Burnett, 2002; Butler, 1987; Diener & Dweck 1978, 1980; Henderlong, 2001; Kamins & Dweck, 1999; Kelly & Daniels, 1997; Koestner et al., 1989; Mueller & Dweck, 1998) and university students (Baumeister et al., 1990; Catano, 1975, 1976; Kennedy, 1977; Koestner et al., 1987). However, this body of research primarily focuses on younger populations and may not translate well to employment settings, raising concerns about its ecological validity. Additionally, these studies often utilize experimental or lab-based research designs, further underscoring the need for a construct-valid, psychometrically sound measure of praise that can be employed across employment settings.

A Multidimensional Praise Conceptualization

Currently, no theoretically driven measure of praise exists in work contexts or elsewhere, resulting in limited empirical evidence about its dimensionality. However, understanding the boundaries of the full construct domain remains critical to ensure the items in the measure reflect the intended content domain (i.e., content validity). Henderlong and Lepper’s (2002) comprehensive review and synthesis of literature on praise and intrinsic motivation identified explicit *attributions* associated with the reception of praise statements. These findings, including those reported in Henderlong (2001), suggest that praise can represent multiple orientations or dimensions. Specifically, a review of the literature indicates that the *attributional labeling* of praise statements can orient towards the person (trait-oriented), the product (outcome-oriented), or the process (effort-oriented) of the individual receiving the praise (Henderlong, 2001; Henderlong & Lepper, 2002).

Person Praise

The first dimension of praise focuses on statements that explicitly attribute an individual's ability as the reason for the given praise. These statements, which highlight internal abilities or fixed traits, differentiate person praise from other forms, such as process praise (Henderlong, 2001; Henderlong & Lepper, 2002; Kanouse et al., 1981). The attributional focus of this dimension conveys a stronger message of perceived competence (Henderlong & Lepper, 2002; Koestner et al., 1987). However, attributing praise to the recipient's inherent abilities, such as intelligence, may produce unintended negative effects. That is, it could instill a contingent sense of self-worth, leading to helplessness when faced with difficulties, setbacks, or failures (Diener & Dweck, 1978, 1980; Dweck & Leggett, 1988; Kamins & Dweck, 1999; Mueller & Dweck, 1998). This contrasts with the effects of other praise forms, such as product and process praise. Experimental studies have shown that these forms of praise can lead to different behavioral and belief outcomes. Specifically, individuals praised for their abilities are more likely to attribute failures to a lack of ability compared to those praised for effort (Kamins & Dweck, 1999; Mueller & Dweck, 1998).

Product Praise

The second dimension of praise focuses on statements that attribute another's product as the reason for the given praise. This form of praise emphasizes the outcomes or products created by the individual, contrasting with person praise, which directs attention to the individual's inherent abilities (Henderlong, 2001; Hitz & Driscoll, 1988; Kamins & Dweck, 1999). Kanouse et al. (1981) noted that product praise shifts focus outward, emphasizing the results of tasks. Early research often categorized this type as “performance” praise (e.g., Ginott, 1965). However, more contemporary studies have clarified distinctions within performance praise, specifically separating praise for products (e.g., “What a beautiful painting.”) from praise for processes (e.g., “What careful brushstrokes you must have used.”; Henderlong, 2001; Kamins & Dweck, 1999).

Process Praise

The third dimension of praise involves statements that explicitly attribute another’s process as the reason for the given praise. Statements made of one’s process, directly attribute success to the individual’s efforts or perseverance (Henderlong, 2001; Kamins and Dweck, 1999). Although process and product praise share commonalities—each attributing aspects of an individual’s task performance—there is a conceptual distinction: process praise emphasizes the individual’s effort, while product praise focuses on the outcome (Henderlong, 2001; Henderlong & Lepper, 2002; Kamins & Dweck, 1999; Kanouse et al., 1981; Mueller & Dweck, 1998).

Development of a Multidimensional Measure of Praise

Although Mayer et al. (2011) offer a unidimensional assessment of praise, conceptual and empirical research suggests person praise, product praise, and process praise each represent distinct dimensions. This indicates the need for a multidimensional measure that includes all three forms. Such a measure would allow for more definitive conclusions about the relevance of praise and its dimensions when assessing important workplace outcomes.

Psychometric Properties

To accurately measure a construct, it is essential to use an instrument specifically designed to capture that variable in question. Praise, as defined in our study, is an individual’s perception of "positive evaluations made by a person of another's products, performances[1], or attributes, where the evaluator presumes the validity of the standards on which the evaluation is based" (Kanouse et al., 1981, p. 98). To reflect the multidimensional nature of praise, items must be carefully crafted to reflect whether positive evaluations pertain to another's products, processes, or attributes. The measure developed by Mayer et al. (2011) captures only parts of this multidimensional conceptualization as defined by Kanouse et al. (1981). Therefore, a new measure, driven by theoretical foundations and sound psychometric properties, is necessary to accurately assess praise.

This study seeks to examine praise as a multidimensional construct, assessing individuals' perceptions of receiving person, product, and process praise from an evaluator at work. I propose that a multidimensional assessment of praise will demonstrate acceptable fit according to traditional indices (Hu & Bentler, 1999).

Hypothesis 1: A three-dimensional measure of praise will demonstrate acceptable goodness-of-fit.

Convergent and Discriminant Validity

Construct validity is assessed by examining correlations between constructs with similar theoretical presuppositions. To test the convergent validity of praise, I explore constructs within its nomological network that I believe are theoretically proximate to praise and its dimensions, such as encouragement, forms of support, and feedback.

Encouragement is comparable to praise in that both involve the expression of affirmation, yet they differ in intent; encouragement aims to instill strength and enhance motivation, while praise focuses on positively evaluating past actions (Henderlong & Lepper, 2002; Wong, 2015; Wong et al., 2019). In this way, encouragement is distinct from praise as it is considered to be more future-focused and often used in response to negative outcomes (Henderlong & Lepper, 2002). Despite these differences, it is plausible that recipients of praise at work also perceive their workplace offers higher levels of encouragement. Since no existing measure of praise has assessed this relationship, empirical evidence to distinguish them as independent constructs is limited, despite theoretical support (e.g., Henderlong & Lepper, 2002; Wong, 2015).

Other forms of support related to but distinct from praise include social and emotional support. Social support, defined as "the degree to which a job provides opportunities for advice and assistance from others" (Morgeson & Humphrey, 2006, p. 1324), is considered because praise extends beyond the simple reception of support; rather, it is described as a "complex social communication" (Henderlong & Lepper, 2002, p. 775), where the content and context of the praise statement distinguish it from general social support. Moreover, specific types or "modes" of support (Mitchell & Trickett, 1980), such as emotional support, defined as "expressing concern, affection, or caring, providing comfort or encouragement" (Vaux et al., 1987, p. 216), are considered related to but distinct from praise. Emotional support was specifically selected as it presented a more explicit *affective* specification of support. Considering the theoretical differences between these constructs, I believe recipients of praise may perceive that their workplace offers higher levels of social and emotional support, whereas those who do not receive praise may perceive their job or workplace as offering less support in these areas.

Feedback, another concept related but distinct from praise, is considered a more neutral form of recognition (Henderlong & Lepper, 2002). However, favorable feedback, or "the perceived frequency of positive feedback such as compliments from supervisors and/or coworkers when, from the feedback recipient's view, his or her performance does in fact warrant positive feedback" (Steelman et al., 2004, p. 168), occurs relatively independent of negative feedback (Greller & Parsons, 1992). Although similar to praise, favorable feedback is distinct from praise because of its attributional labeling—where the evaluator assigns praise to specific products, processes, or attributes, setting it apart from positive, yet general feedback statements, such as compliments.

Given the theoretical proximity of encouragement, social support, emotional support, and favorable feedback to praise, I anticipate significant correlations among these constructs. Thus, I predict that these variables will positively correlate with praise.

Hypothesis 2: Praise and its dimensions will be positively correlated with (a) encouragement, (b) favorable feedback, (c) social support, and (d) emotional support.

In a similar vein, the theoretical proximity to praise may represent contrasting relationships such that praise is expected to negatively correlate with opposing theoretical constructs. An example of this is unfavorable feedback, defined as "the perceived frequency of negative feedback such as expressions of dissatisfaction and criticism from supervisors and/or coworkers when the feedback recipient's performance warrants such feedback" (Steelman et al., 2004, p. 168). Unfavorable feedback does not merely represent the absence of positive feedback but indicates the active provision of *negative* feedback. Given that praise constitutes a 'positive evaluation' of another, it inherently opposes negative evaluations or feedback. Therefore, I propose that recipients of high levels of praise may inversely relate to the reception of unfavorable feedback. Consequently, I predict a negative correlation between praise and unfavorable feedback.

Hypothesis 3: Praise and its dimensions will be negatively correlated (i.e., convergent validity) with unfavorable feedback.

I also aim to establish discriminant validity by assessing constructs not within praise's nomological network. While a very strong reception or dearth of praise may indicate broader concerns with key work outcomes, neither turnover intentions nor job satisfaction should be inherently related or proximal to praise. Both turnover intentions and job satisfaction are more general yet relevant variables that reflect the larger context in which the individual operates at work. Additionally, certain personality traits, such as open-mindedness—defined as a preference for a broad versus narrow range of experiences, particularly in an individual's mental rather than social life (Soto & John, 2017)—are expected to be unrelated to the reception of praise at work. Given that personality traits are considered stable (Oswald & Hough, 2011), praise perceptions should not influence self-reported open-mindedness scores, nor should an individual's openness to experience impact their reception of praise. Thus, I hypothesize that these constructs—turnover intentions, job satisfaction, and open-mindedness—will exhibit weaker relationships with praise than constructs like encouragement, social support, emotional support, favorable feedback, and unfavorable feedback.

Hypothesis 4: Praise and its dimensions will be less correlated (i.e., demonstrate discriminant validity) with (a) open-mindedness, (b) job satisfaction, and (c) turnover intentions.

Phase 1: Item Generation and Content Validity

The study followed a traditional scale development process as outlined by Hinkin (1998), with additional recommendations set forth by Zickar (2020). This process involved item generation, questionnaire administration, initial item reduction, content validity assessment and exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and the establishment of convergent and discriminant validity. For clarity, this process was condensed into three main phases: 1) item generation and content validation, 2) psychometric properties (i.e., EFA and CFA), and 3) convergent and discriminant validity.

As recommended by Zickar (2020), a greater number of items were written than those ultimately selected for the final scale. The intended final length of the praise scale was around 12-items long, and over three times as many items (37 total) were written prior to item reduction. All items were newly written and can be found in Table 1. Items were written to be accompanied by a five-point Likert scale with the following anchors: Strongly Disagree (1), Somewhat Disagree (2), Neither Agree nor Disagree (3), Somewhat Agree (4), and Strongly Agree (5). To write items, I applied deductive reasoning based on Kanouse et al.'s (1981) definition of praise: "positive evaluations made by a person of another's products, performances, or attributes, where the evaluator presumes the validity of the standards on which the evaluation is based" (p. 98). To incorporate the attributional nature of praise, items were written to allow recipients to discern the focus of the praise: a) the individual's inherent qualities (i.e., person praise), b) their achievements (i.e., product praise), or c) their efforts they employ (i.e., process praise).

Method

In phase 1, I developed items designed to capture the construct of praise and assess content validity using Colquitt et al.'s (2019) *htc* index. The items were developed following the guidelines outlined by Haladyna and Rodriguez (2013), which emphasize using concise wording, labeling response categories, using straightforward language, minimizing ambiguity wherever possible, and avoiding double-barreled questions, slang, and colloquial expressions. The scale was designed as a Likert scale with the anchors described above. Five was chosen as the number of anchors to provide a balanced range of response options, allowing participants to express varying degrees of agreement or disagreement. This choice aimed to reduce the cognitive load for respondents, as five points are generally easier to differentiate and use than more granular scales, such as those with seven anchors, which can lead to more fatigue, potentially compromising the quality of the data collected (Cox, 1980).

The appropriateness of the items for measuring praise was evaluated using the *htc* index, a method developed by Colquitt et al. (2019). This index offers a standardized coefficient for content validity, facilitating comparisons across studies. It builds upon traditional content validity methods, as outlined by Hinkin and Tracey (1999), and is influenced by earlier established methods, including Anderson and Gerbing’s (1991) substantive validity index and Lawshe's (1975) content validity ratio.

Since the attributional distinctions of praise were to be assessed in a work setting, I recruited doctoral students specializing in industrial-organizational psychology to review items for content validity. In total, seven individuals were asked via email to evaluate the content validity of the items.

To rate items, raters followed detailed instructions on how to rate each item’s suitability for capturing the construct using a seven-point Likert scale, ranging from Extremely Bad (1) to Extremely Good (7). The detailed instructions, shown in Appendix A, aimed to gather an *htc* index for the construct. The language in Colquitt et al. (2019) was maintained as much as possible, with alterations made to simplify and to accommodate the subject matter of the current scale. The instructions also included an example of a well-suited and poorly-suited item. Following these instructions, raters evaluated each item with the provided definition, “Positive evaluations made by a person of another’s products, performances, or attributes, where the evaluator presumes the validity of the standards on which the evaluation is based.” This process helped them determine the extent to which each item accurately represented the construct. Table 2 presents the mean rating and standard deviations for each item as determined by the raters.

Results

The *htc* index is calculated as the average definitional correspondence rating (i.e., the mean ratings of items) divided by the number of anchors (*a*). This number can then be used as a percentile-based comparison with other *htc* values delineated in Colquitt et al. (2019), which uses the *htc* values from construct development research published in top-tier journal studies. Additionally, using this metric to determine its percentile requires estimating the theoretical strength of the construct's correlation with variables within its nomological network. Since praise has not been previously examined in relation to variables in its nomological network, the evaluation criteria for interpreting the *htc* value in this study were not adjusted based on the average relationship between the focal scale of interest and orbiting scales (see Table 5 in Colquitt et al., 2019, for evaluation criteria).

Six raters completed the survey, resulting in a response rate of 86%. The *htc* index was calculated by dividing the average rating of appropriateness across all items by seven. Table 1 provides the average *htc* value of each item across all six raters, with *htc* values ranged from a low of .50 to a high of 1.00. The mean *htc* value for all 37 praise items was .76. Comparing this to Colquitt et al.'s (2019) criteria for interpreting *htc* values, that would be considered a moderate *htc* index. Despite this, all 37 items were retained for phase 2, considering the potential removal of items during the psychometric evaluation process (i.e., factor analysis). This strategy enables the possibility of recalculating the *htc* index using a reduced set of items, to verify if the *htc* values meet more acceptable standards.

Phase 2: Psychometric Properties

Method

The next step was to develop a survey to evaluate the psychometric properties of the 37 praise items. The results of this survey were used to examine the factor structure and model fit of a measure of praise. To gather data efficiently, measures for future assessments to evaluate convergent and discriminant validity were also included in this survey.

Sample

A total of 504 participants clicked on the link to the survey via Amazon's Mechanical Turk (MTurk), an online service that provides compensation for study participants. To participate in the study, individuals were required to work full-time, defined as 35 hours a week or more in a business or organization they do not own. Although part-time workers can also receive praise, only full-time workers meeting the aforementioned criteria were sampled. Full-time workers spend more time working and thus have greater opportunities to recall the reception and type of praise they received in their interactions with colleagues at work. Participants were also required to be 18 years of age or older, reside in the United States, not be employees of the university where the research was conducted to receive compensation, and have an approval rating greater than 95% (the approval rating is also known in MTurk parlance as the Human Intelligence Task, or HIT, percentage). The approval rating ensured that only participants whose work usually had been approved by other researchers could participate.

Among the participants included in the analyses, approximately 64% were between the ages of 25 and 35, 51% identified as male, 48% as female, and 1% as genderqueer, non-binary, or genderfluid. With respect to race and ethnicity, approximately 96% identified as White. Less than 1% identified as Black or African American, Asian, Hispanic, Latinx, Spanish, Native

American or Alaskan Native, Middle Eastern or North African, with a small number preferring not to specify.

Procedure

Participants were recruited through Amazon's MTurk, where they read a study description informing them that the researcher was seeking participants for a study assessing different forms of social support in the workplace. Participants completed the study via Qualtrics, starting with an informed consent that outlined the study's objectives. The survey was comprised of 121 items, including four attention checks and the measures detailed in the following section.

Measures

The following measures, except for job satisfaction and demographics, were assessed using a 5-point Likert scale with Strongly Disagree (1), Somewhat Disagree (2), Neither Agree nor Disagree (3), Somewhat Agree (4), and Strongly Agree (5) response options.

Praise. To measure praise, I used the 37 items written in phase 1 (see Table 1; $\alpha = .78$). An example item is, "The person I am thinking about has complimented the strategies I used to complete important tasks."

Encouragement. To measure encouragement, I used the 10-item *Academic Encouragement Scale* from Wong et al. (2019; $\alpha = .79$), adapted to assess encouragement in a workplace context. Each item was modified to reflect experiences of receiving encouragement in the work context. An example item is, "In the past year, the person I am thinking about has expressed confidence in me by telling me to keep trying at work, even though it was hard" (see Appendix B).

Favorable Feedback. To measure favorable feedback, I used a 4-item subscale from Steelman et al. (2004; α = .57). An example item is, "This person generally lets me know when I do a good job at work." (See Appendix C).

Unfavorable Feedback. To measure unfavorable feedback, I used a 4-item subscale from Steelman et al. (2004; α = .61). An example item is, "On those occasions when my job performance falls below what is expected, this person lets me know." (See Appendix D).

Social Support. To measure social support, I used a 6-item subscale from Morgeson and Humphrey's (2006; α = .68). An example item is, "My supervisor is concerned about the welfare of the people that work for him/her." (See Appendix E).

Emotional Support. To measure emotional support, I used a 10-item subscale from Vaux et al. (1987; α = .75). An example item is, "Listened when I needed to talk about my feelings." (See Appendix F).

Open-Mindedness. To measure open-mindedness, I used 12 open-mindedness items from Soto and John's (2017; α = .73) *Big Five Inventory-2* (BFI-2). An example item is, "Is curious about many things" (See Appendix G).

Turnover Intentions. To measure turnover intentions, I used the 3-item *Intentions to leave* scale by Mitchell et al. (2001; α = .88). An example item is, "I feel strongly about leaving my employer" (See Appendix H).

Job Satisfaction. To measure job satisfaction, I used the 18-item *Jobs in General Scale* by Ironson et al. (1989; α = .83). Each item included a short phrase or adjective describing the job overall and respondents were instructed to select either 'Yes,' 'No,' or 'Undecided.' An example adjective is, "Worthwhile" (See Appendix I).

Demographics. Demographic data were also collected as part of the survey (See Appendix J).

Data Analysis

Prior to testing hypotheses, the data were screened to exclude respondents who did not consent to participate in the survey, non-responders, and those who exhibited signs of extreme inattention. Of the 504 respondents who clicked the link to participate in the online survey, two declined to consent, and 35 were identified as non-responders, defined as answering five percent or fewer of the survey questions. This left 467 participants.

Participants' responses were subsequently examined for signs of extreme inattention. Among the remaining 467 responses, 66 were flagged for answering two or fewer of the four attention check items correctly. Additionally, 45 respondents endorsed a single alternative more than eight times (i.e., 67%) on Soto and John's (2017) Open-Mindedness scale or more than twelve times (i.e., 67%) on Ironson et al.'s (1989) Jobs in General measure. Five participants were also flagged for completing the survey in under 4.03 minutes—a threshold determined by allocating two seconds for each of the 121 closed-ended questions, in line with Curran's (2016) recommendations. The final sample consisted of 351 participants. Data were randomly divided into EFA and CFA subsamples in a proportional manner, utilizing the random assignment function detailed below. Scales measuring praise, encouragement, emotional support, open-mindedness, turnover intentions, and job satisfaction demonstrated acceptable internal consistency, defined as a Cronbach's alpha of greater than .70 (Cortina, 1993). Conversely, the scales measuring favorable feedback, unfavorable feedback, and social support did not meet this threshold, with Cronbach's alpha values recorded at .59, .61, .68 respectively.

Results

To evaluate the goodness-of-fit of the praise measure and test Hypothesis 1, a series of factor analyses were conducted. Since EFA and CFA require separate samples, as recommended by Hinkin (1998), I created a reproducible split of the data into two randomized and proportionate subsamples using a specific random seed. Following Hinkin's (1998) guidelines, which suggest a minimum of 150 responses for EFA and 200 for CFA, the subsamples were divided into proportions of 43% for EFA (*n* = 150) and 57% for CFA (*n* = 201) based on the total sample size.

Following Zickar's (2020) recommendations, I first conducted parallel analysis to determine the optimal number of factors. This analysis compared eigenvalues from the actual data against eigenvalues from randomly generated data. The first two eigenvalues from the actual data were 10.31 and 1.05, respectively. The corresponding 95th percentile random data eigenvalues were 1.19 and 0.84. Since only the first eigenvalue from the actual data exceeded its random counterpart, this analysis suggested that a single-factor solution was most suitable (Ledesma & Valero-Mora, 2007).

I then conducted the EFA using principal axis factoring and oblique rotation to verify whether a single-factor solution was appropriate. To minimize erroneous conclusions, I also explored two- and three-factor solutions. Items were considered to load onto a factor if their factor loading was .40 or greater and did not cross-load onto another factor at .40 or above (Hinkin, 1998). The results showed that all 37 praise items consistently loaded onto a single factor, confirming the appropriateness of a single-factor solution. Neither a two- nor three-factor solution aligned conceptually with the theorized facets of praise that guided item writing. Thus, Hypothesis 1 was rejected.

Factor Structure

I conducted a CFA on a single-factor model using the remaining subsample (n = 201). An initial CFA of a 37-item factor of praise demonstrated insufficient goodness-of-fit: χ^2 (629) = 1278.995, p < .001; RMSEA = .072; CFI = .785, TLI = .772; SRMR = .063. This was unsurprising as models with many indicators per factor typically require larger sample sizes to demonstrate acceptable goodness-of-fit (Wolf et al., 2013). While item parceling is a common approach in such circumstances to reduce the number of indicators, I opted against this technique as it can mask underlying measurement issues (Marsh et al., 2013). Instead, I revisited the *htc* content validity assessment from phase 1 to guide item selection for the subsequent CFA factor structure. This process involved evaluating the factor structure by selecting items with the highest *htc* ratings. Specifically, I tested items that averaged an *htc* value of .85 or above, using the items with the highest *htc* ratings. Fifteen items achieved an *htc* average of .85 or higher, while ten items achieved an *htc* average of .90 or above. From these, I removed five items based on feedback from raters in phase 1. Specifically, one rater raised concerns about whether certain items directly expressed forms of admiration or merely implied them, noting that implied admiration may not qualify as the reception of acted-out praise behavior. Additionally, another rater highlighted ambiguity regarding whether another item represented actual praise behaviors or merely perceptions of held beliefs. Three items were further removed based on feedback concerning the complexity and extremity of item wording, with the latter having the potential to dampen respondents' agreement with the statement (see Spector et al., 1997). Of the remaining nine items, I further removed three with similar positive framing to reduce potential acquiescence bias, which can artificially inflate correlations among same-valenced items, particularly in low-stakes survey contexts (Kreitchmann et al., 2019).

The remaining six items exhibited an *htc* index of .93, indicating a very strong level of content validity (see Table 5 in Colquitt et al., 2019, for evaluation criteria). After calculating the *htc* index for these six items, I independently confirmed the items conceptually aligned with Kanouse et al.'s (1981) definition of praise. Each retained item appropriately emphasized positive evaluations of others' products, performances, or attributes, including the presumption that each praise statement was validly attributed to the recipient. Additionally, each item retained was evaluated against Haladyna and Rodriguez's (2013) comprehensive item-writing guidelines (see Table 9.2, p. 155), which I confirmed satisfied their standards.

Next, I conducted the CFA with the six items. Model fit is often assessed using the chi-square statistic, where a non-significant result suggests a well-fitting model. However, this approach presents two significant issues: (a) it inherently aims to confirm the null hypothesis, and (b) it may inadvertently encourage the use of smaller sample sizes to reduce the chi-square statistic's sensitivity to sample size (Kline, 2016). Given these limitations, researchers have developed alternative goodness-of-fit indices to assess factor structure. For this study, model fit was evaluated using the criteria proposed by Hu and Bentler (1999): Root Mean Square Error of Approximation (RMSEA) below 0.06, Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) above 0.95, and Standardized Root Mean Squared Residual (SRMR) below 0.08. In this analysis, the CFA of the six-item structure demonstrated clear goodness-of-fit: $\chi^2 = 7.83$, $p = .551$; RMSEA = .00; CFI = 1.00, TLI = 1.01; SRMR = .03 (see Figure 1).

While the fit indices generally indicate excellent model fit, the TLI value of 1.01 exceeding one warrants further explanation. The TLI, unlike the CFI, is not normed and can occasionally produce values greater than one, especially in cases with small sample sizes or when the model degrees of freedom are small relative to the sample size (Hu & Bentler, 1999).

This phenomenon is not uncommon and does not necessarily indicate a problem with the model. In fact, Anderson and Gerbing (1984) reported that such out-of-range values are relatively common for smaller sample sizes. Additionally, the CFI of 1.00 and RMSEA of 0.00 suggest a perfect or near-perfect fit, which can occur in models with low complexity relative to the sample size (Kenny & McCoach, 2003). While these values indicate excellent fit, it is important to interpret them cautiously and in conjunction with other fit indices and theoretical considerations. The SRMR of 0.03, which is well below the recommended threshold of 0.08, provides further support for the model's good fit. Overall, these results suggest that the six-item structure fits the data very well, though the exceptionally high fit indices may also reflect the model's simplicity relative to the sample size.

Phase 3: Convergent and Discriminant Validity

Method

Next, convergent and discriminant validity were tested using the entire cleaned data set (N = 351) from phase 2. Specifically, I analyzed participants' responses to the six-item praise measure, encouragement, favorable feedback, unfavorable feedback, social support, emotional support, open-mindedness, turnover intentions, and job satisfaction.

Results

To test Hypothesis 2 through 4, I utilized a series of bivariate correlations examining the relationship between the measure of praise and the variables chosen to determine convergent and discriminant validity. Table 3 shows the bivariate correlations between each of these variables.

Convergent Validity

To test Hypothesis 2 and 3, I conducted five bivariate correlations between praise and encouragement, favorable feedback, unfavorable feedback, social support, and emotional support (see Table 3). Results indicated that Wong et al.'s (2019) adapted measure of encouragement (H2a; $r = .73$, $p < .01$), Steelman et al.'s (2004) measure of favorable feedback (H2b; $r = .61$, $p < .05$), Morgeson and Humphrey's (2006) measure of social support (H2c; $r = .73$, $p < .001$), and Vaux et al.'s (1987) measure of emotional support (H2d; $r = .55$, $p < .05$) were all correlated with praise. This result, however, did not extend to Steelman et al.'s (2004) measure of unfavorable feedback (H3; r = .40, p = .28). Thus, Hypothesis 2 was supported while Hypothesis 3 was not.

Discriminant Validity

I next tested Hypothesis 4 by conducting three bivariate correlations between praise and open-mindedness, turnover intentions, and job satisfaction. Results revealed that praise was not significantly related to open-mindedness ($r = .29$, $p = .64$), turnover intentions ($r = –.02$, $p = .24$), or job satisfaction ($r = .24$, $p = .86$; see Table 3). Thus, Hypothesis 4 was supported.

Discussion

In the U.S. workplace, poor mental health and well-being can adversely affect key business outcomes, including organizational productivity, business profitability, and the broader U.S. economy (Office of the Surgeon General, 2022). During particularly stressful times, Gray et al. (2023) found that organizational leadership can effectively support employees through their 'tone' or ability to foster positivity, convey gratitude, hope, and fun. Their research builds upon research that found employees who feel supported by their supervisor's experience higher job satisfaction, lower levels of emotional exhaustion, and fewer physical symptoms (Mathieu et al., 2019). Given these implications, a case could be made that organizations and their decision-makers should assess praise behavior as it has been experimentally tested and proven to lead to positive outcomes, such as motivation and self-esteem (Kamins & Dweck, 1999; Mueller &

Dweck, 1998). The current study represents the development and validation of a scale designed to establish a theory-driven, psychometrically robust measure of praise. This measure enables researchers and organizations to assess employees' perceptions of praise received at work. The scale was developed by writing several items following best practice techniques (Haladyna & Rodriguez, 2013; Zickar, 2020) and collecting data from raters and a sample of workers to establish the measure's content and construct validity.

Results revealed that the measure of attributional praise developed for this study was unidimensional, contrary to the multidimensional structure proposed in the literature. This unexpected finding may have occurred because the items developed for each of the three dimensions did not effectively differentiate between person, product, and process praise statements. Consequently, respondents might have responded to items along a general praise-reception continuum, basing their answers on their overall reception of praise rather than distinguishing between forms of attributional praise. In this scenario, a unidimensional measure could be practically justified despite the intended multidimensional design.

Although it was theoretically inconsistent with its proposed conceptualization, the final six-item measure demonstrates very strong content validity, as indicated by an *htc* value of .93. A reliability analysis using Cronbach's alpha showed an acceptable level of internal consistency ($\alpha = .78$). A series of EFAs employing principal axis factoring and oblimin rotation determined that a one-factor solution was most appropriate. This finding was further supported by a CFA of the six retained items, which exhibited an excellent model fit based on Hu and Bentler's (1999) indices as referents. A series of bivariate correlations conducted to establish convergent and discriminant validity showed that the measure correlated in the expected direction with all but one convergent variable. Unexpectedly, the relationship between praise and unfavorable feedback was not significantly related as hypothesized. The study's limitations and potential future directions are discussed below.

Limitations and Future Direction

One notable observation of the items included in the final six-item measure was the recurring use of the words "complimented" and "complimenting," despite the development of six times more items than those included in the final measure. Although the repeated use of this term was unintentional, Morton et al. (2022) recently highlighted the similarities and apparent connection between praise and compliments through the development of a conceptual model of the compliment process. Future research might consider revisiting the literature on praise and examine whether Morton et al.'s (2022) integration of the literature on compliments with existing literature on praise may serve as a stronger theoretical framework for the development of a measure of the reception of praising or complimenting behavior in the workplace.

Notwithstanding the apparent similarities between praising and complimenting behavior, one novel approach to ameliorate issues related to item quality is the application of generative artificial intelligence and large language models. For example, OpenAI's ChatGPT model has been used to generate items, produce item validity coefficients, and discard problematic items, among other capabilities that may prove useful for scale development and validation efforts (Hickman, 2024, September 20). Future research might consider leveraging emerging technologies, such as OpenAI's ChatGPT model, to ensure a more thorough development and validation process that can more accurately capture the measurement of the three theorized facets of praise or, alternatively, compliments, should future research adopt Morton et al.'s (2022) conceptual model in place of attribution theory, a dominant theory in the praise literature and the theoretical basis of the measure of praise developed and tested in this study.

Another potential limiting factor related to the one-factor solution is the limited number of response alternatives. The decision to use a five-point Likert scale was made to reduce cognitive fatigue for respondents (Cox, 1980). However, while this is regarded as an acceptable practice, a seven-point Likert scale would provide participants with more response alternatives for each item, allowing for increased measurement variability between items. To the extent that participants could differentiate between the forms of praise they were evaluating, respondents would have more response options to choose from regarding the differing forms of praise they received at work.

With respect to sampling, future research should explore alternative data collection strategies that might result in a more representative sample to ensure that the results obtained are generalizable to the entire U.S. workforce in a valid manner. This issue extends across the behavioral sciences, where there is a tendency to publish broad claims based on findings drawn from samples of Western, Educated, Industrialized, Rich, and Democratic (WEIRD) people (Henrich et al., 2010). Future research should be mindful of this phenomenon should a replication of the study be in order.

Conclusion

In conclusion the praise measure developed and tested in this study was not found to be multidimensional. These results indicate a misalignment between the theoretical conceptualization of praise and the actual measurement properties identified in this study. The literature on attributional praise clearly delineates three forms of praise; however, this study is the first to examine this conceptualization through a formal theory-driven psychometric analysis. Future research should address the limitations identified in this study and re-examine whether praise is indeed a multidimensional construct and whether the construct and its facets might correlate differentially with important workplace outcomes.

REFERENCES

Anderson and Gerbing (1984). The effect of sampling error on convergence, improper solutions, and goodness-of-fit indices for maximum likelihood confirmatory factor analysis. *Psychometrika*, *49*, 155–173.

Anderson, J. C., & Gerbing, D. W. (1991). Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities. *Journal of Applied Psychology*, *76*(5), 732–740. https://doi.org/10.1037/00219010.76.5.732

Baumeister, R. F., Hutton, D. G., & Cairns, K. J. (1990). Negative effects of praise on skilled performance. *Basic and Applied Social Psychology*, *11*, 131–148. https://doi.org/10.1207/s15324834basp1102_2

Bavik, Y. L., Shaw, J. D., & Wang, X. H. (2020). Social support: Multidisciplinary review, synthesis, and future agenda. *Academy of Management Annals*, *14*(2), 726–758. https://doi.org/10.5465/annals.2016.0148

Bouwmans, C. A. M., Vemer, P., van Straten, A., Tan, S. S., & Hakkaart-van Roijen, L. (2014). Health-related quality of life and productivity losses in patients with depression and anxiety disorders. *Journal of Occupational and Environmental Medicine*, *56*(4), 420–424. https://doi.org/10.1097/JOM.0000000000000112

Brummelman, E., Thomaes, S., Overbeek, G., de Castro, B. O., van den Hout, M. A., & Bushman, B. J. (2014). On feeding those hungry for praise: Person praise backfires in children with low self-esteem. *Journal of Experimental Psychology: General*, *143*(1), 9–14. https://doi.org/10.1037/a0031917

Burnett, P. C. (2002). Teacher praise and feedback and students' perceptions of the classroom environment. *Educational Psychology*, *22*(1), 5–16. https://doi.org/10.1080/01443410120101215

Butler, R. (1987). Task-involving and ego-involving properties of evaluation: Effects of different feedback conditions on motivational perceptions, interest, and performance. *Journal of Educational Psychology*, *79*(4), 474–482. https://doi.org/10.1037/0022-0663.79.4.474

Catano, V. M. (1975). Relation of improved performance through verbal praise to source of praise. *Perceptual and Motor Skills*, *41*, 71–74. https://doi.org/10.2466/pms.1975.41.1.71

Catano, V. M. (1976). Effectiveness of verbal praise as a function of expertise of source. *Perceptual and Motor Skills*, *42*, 1283–1286. https://doi.org/10.2466/pms.1976.42.3c.1283

Colquitt, J. A., Sabey, T. B., Rodell, J. B., & Hill, E. T. (2019). Content validation guidelines: Evaluation criteria for definitional correspondence and definitional distinctiveness. *Journal of Applied Psychology*, *104*(10), 1243–1265. https://doi.org/10.1037/apl0000406

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, *78*(1), 98. https://doi.org/10.1037/0021-9010.78.1.98

Cox, E. P. (1980). The optimal number of response alternatives for a scale: A review. *Journal of Marketing Research*, *17*(4), 407-422. https://doi.org/10.1177/002224378001700401

Curran, P. G. (2016). Methods for the detection of carelessly invalid responses in survey data. *Journal of Experimental Social Psychology*, *66*, 4–19. https://doi.org/10.1016/j.jesp.2015.07.006

Delin, C. R., & Baumeister, R. F. (1994). Praise: More than just social reinforcement. *Journal for the Theory of Social Behaviour*, *24*, 219–241. https://doi.org/10.1111/j.1468-5914.1994.tb00254.x

Diener, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of Personality and Social Psychology*, *36*, 451–462. https://doi.org/10.1037/0022-3514.36.5.451

Diener, C. I., & Dweck, C. S. (1980). An analysis of learned helplessness II: The processing of success. *Journal of Personality and Social Psychology*, *39*, 940–952. https://doi.org/10.1037/0022-3514.39.5.940

Dweck, C. S., & Leggett, E. L. (1988). A social–cognitive approach to motivation and personality. *Psychological Review*, *95*, 256–273. https://doi.org/10.1037/0033-295X.95.2.256

Ginott, H. G. (1965). *Between parent and child*. Macmillan.

Gray, C. E., Spector, P. E., Wells, J. E., Bianchi, S. R., Ocana-Dominguez, C., Stringer, C., Sarmiento, J., & Butler, T. (2023). How can organizational leaders help? Examining the effectiveness of leaders' support during a crisis. *Journal of Business and Psychology*, *38*, 215–237. https://doi.org/10.1007/s10869-022-09810-6

Greller, M. M., & Parsons, C. K. (1992). Feedback and feedback inconsistency as sources of strain and self-evaluation. *Human Relations*, *45*, 601–620.

Haladyna, T. M., & Rodriguez, M. C. (2013). *Developing and validating test items*. Taylor & Francis.

Henderlong, J. (2001). Beneficial and detrimental effects of praise on children's motivation: Performance versus person feedback. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *61*(9-B), 5028. https://www.proquest.com/dissertations-theses/beneficial-detrimental-effects-praise-on/docview/304628933/se-2

Henderlong, J. & Lepper, M. R. (2002). The effects of praise on children's intrinsic motivation: A review and synthesis. *Psychological Bulletin*, *128*(5), 774–795. https://doi.org/10.1037//0033-2909.128.5.774

Henrick, J., Heine, S. J. & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Science*, *33*, 61–135. https://doi.org/10.1017/S0140525X0999152X

Hickman, L. (2024, September 20). *Modern scale development: Best practices for using artificial intelligence to develop and validate tests and scales*. NC State I/O Psychology Brown Bag Series, Raleigh, NC.

Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods*, *1*(1), 104–121. https://doi.org/10.1177/109442819800100106

Hinkin, T. R., & Tracey, J. B. (1999). An analysis of variance approach to content validation. *Organizational Research Methods*, *2*(2), 175–186. https://doi.org/10.1177/109442819922004

Hitz, R., & Driscoll, A. (1988). Praise or encouragement? New insights into praise: Implications for early childhood teachers. *Young Children*, *43*, 6-13.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Ironson, G. H., Smith, P. C., Brannick, M. T., Gibson, W. M., & Paul, K. B. (1989). Construction of a job in general scale: A comparison of global, composite, and specific measures. *Journal of Applied Psychology, 74*(2), 193–200. https://doi.org/10.1037/0021-9010.74.2.193

Kamins, M. L., & Dweck, C. S. (1999). Person versus process praise and criticism: Implications for contingent self-worth and coping. *Developmental Psychology*, *35*, 835–847. https://doi.org/10.1037/0012-1649.35.3.835

Kanouse, D. E., Gumpert, P., & Canavan-Gumpert, D. (1981). The semantics of praise. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 3, pp. 97–115).

Kelly, F. D., & Daniels, J. G. (1997). The effects of praise versus encouragement on children's perceptions of teachers. *Individual Psychology*, *53*(3), 331–341.

Kenny, D., A. & McCoach, D. B. (2003). Effect of the number of variables on measures of fit in structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal, 10*(3), 333–351. https://doi.org/10.1207/S15328007SEM1003_1

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press.

Koestner, R., Zuckerman, M., & Koestner, J. (1987). Praise, involvement, and intrinsic motivation. *Journal of Personality and Social Psychology*, *53,* 383–390. https://doi.org/10.1037/0022-3514.53.2.383

Koestner, R., Zuckerman, M., & Koestner, J. (1989). Attributional focus of praise and children's intrinsic motivation: The moderating role of gender. Pers*onality and Social Psychology Bulletin*, *15,* 61–72. https://doi.org/10.1177/0146167289151006

Kreitchmann, R. S., Abad, F. J., Ponsoda, V., Nieto, M. D., & Morillo, D. (2019). Controlling for response biases in self-report scales: Forced-choice vs. psychometric modeling of Likert items. *Frontiers in Psychology*, *10*, 1–12. https://doi.org/10.3389/fpsyg.2019.02309

Posner, B. Z., & Kouzes, J. M. (1988). Development and validation of the leadership practices inventory. *Educational and Psychological Measurement*, *48*, 483–496. https://doi.org/10.1177/0013164488482024

Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, *28*(4), 563-575.

Ledesma, R. D. & Valero-Mora, P. (2007). Determining the number of factors to retain in EFA: an easy-to-use computer program for carrying out parallel analysis. *Practical Assessment, Research, and Evaluation*, *12*(2), 1–11. https://doi.org/10.7275/wjnc-nm63

Marsh, H. W., Lüdtke, O., Nagengast, B., Morin, A. J. S., & von Davier, M. (2013). Why item parcels are (almost) never appropriate: Two wrongs do not make a right—Camouflaging misspecification with item parcels in CFA models. *Psychological Methods*, *18*(3), 257–284. https://doi.org/10.1037/a0032773

Mathieu, M., Eschleman, K. J., & Cheng, D. (2019). Meta-Analytic and multiwave comparison of emotional support and instrumental support in the workplace. *Journal of Occupational Health Psychology*, *24*(3), 387–409. https://doi.org/10.1037/ocp0000135

Mayer, R. C., Bobko, P., Davis, J. H., & Gavin, M. B. (2011). The effects of changing power and influence tactics on trust in the supervisor: A longitudinal field study. *Journal of Trust Research*, *1*(2), 177–201. https://doi.org/10.1080/21515581.2011.603512

Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*, 437–455. https://doi.org/10.1037/a0028085

Mitchell, T., Holtom, B., Lee, T., Sablynski, C., & Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. *Academy of Management Journal*, *44*(6), 1102–1121. https://doi.org/10.2307/3069391

Mitchell, R. E., & Trickett, E. J. (1980). Task force report: Social networks as mediators of social support an analysis of the effects and determinants of social networks. *Community Mental Health Journal*, *16*(1), 27–44. https://doi.org/10.1007/BF00780665

Morgeson, F. P., & Humphrey, S. E. (2006). The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, *91*(6), 1321–1339. https://doi.org/10.1037/0021-9010.91.6.1321

Morton, J. S., Mikolajczak, M., & Luminet, O. (2022). New perspectives on the praise literature: Towards a conceptual model of compliment. *Current Psychology*, *41*, 6038–6050. https://doi.org/10.1007/s12144-020-01102-7

Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children’s motivation and performance. *Journal of Personality and Social Psychology*, 75, 33–52. https://doi.org/10.1037/0022-3514.75.1.33

National Institute of Mental Health. (n.d.). *Substance Abuse and Mental Health Services Administration*. https://www.nimh.nih.gov/health/statistics/mental-illness

O’Flaherty, S., Sanders, M. T., & Whillans, A. (2021, March 29). Research: A little recognition can provide a big morale boost. *Harvard Business Review*. https://hbr.org/2021/03/research-a-little-recognition-can-provide-a-big-morale-boost

Oswald, F. L., & Hough, L. M. (2011). Personality and its assessment in organizations: Theoretical and empirical developments. In S. Zedeck (Ed.), *APA handbook of industrial* *and organizational psychology, Vol 1: Building and developing the organization*. (pp. 505–534). https://doi.org/10.1037/12170-005

Reinert, M., Fritze, D., & Nguyen, T. (2024). The State of Mental Health in America. Mental Health America. https://mhanational.org/sites/default/files/2024-State-of-Mental-Health-in-America-Report.pdf

Soto, C. J., & John, O. P. (2016). The next big five inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology*, *113*(1), 117–143. https://doi.org/10.1037/pspp0000096

Spector, P. E., van Katwyk, P. T., Brannick, M. T., & Chen, P. Y. (1997). When two factors don’t reflect two constructs: How item characteristics can produce artifactual factors. *Journal of Management*, *23*(5), 659–677. https://doi.org/10.1016/S0149-2063(97)90020-9

Steelman, L. A., Levy, P. E., & Snell, A. F. (2004). The feedback environment scale: Construct definition, measurement, and validation. *Educational and Psychological Measurement*, *64*(1), 165–184. https://doi.org/10.1177/0013164403258440

Office of the Surgeon General. (2022). *The U.S. Surgeon General's Framework for Workplace Mental Health & Well-Being*. Office of the Surgeon General. https://www.hhs.gov/sites/default/files/workplace-mental-health-well-being.pdf

UKG. (2021, June 22). *A silenced workforce: Four in five employees feel colleagues aren’t heard equally, says research from the workforce institute at UKG*. The Workforce Institute at UKG. https://www.ukg.com/about-us/newsroom/silenced-workforce-four-five-employees-feel-colleagues-arent-heard-equally-says

Umland, B. (2018, April 10). *The surprisingly strong connection between well-being and turnover*. Mercer. https://www.mercer.com/en-us/insights/us-health-news/the-surprisingly-strong-connection-between-well-being-and-turnover/

Vaux, A., Riedel, S., & Stewart, D. (1987). Modes of social support: The social support behaviors (SS-B) scale. *American Journal of Community Psychology*, *15*(2), 209–232. https://doi.org/10.1007/BF00919279

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement*, *73*(6), 913–934. https://doi.org/10.1177/0013164413495237.

Wong, Y. J. (2015). The psychology of encouragement: Theory, research, and applications. *The Counseling Psychologist*, *43*, 178–216. https://doi.org/10.1177/0011000014545091

Wong, Y. J., Shea, M., Wang, S., & Cheng, J. (2019). The encouragement character strength scale: Scale development and psychometric properties. *Journal of Counseling Psychology*, *66*(3), 362–374. https://doi.org/10.1037/cou0000334

Zickar, M. J. (2020). Measurement development and evaluation. *Annual Review of Organizational Psychology and Organizational Behavior*, *7*, 213–232. https://doi.org/10.1146/annurev-orgpsych-012119-044957

Table 1

Praise Items

Person Praise
1. Emphasized my intelligence when they were complimenting me.
2. Reminded me that I have demonstrated I am knowledgeable of what it takes to do the job right.
3. Complimented me for my wisdom.
4. Went out of their way to compliment me for my reasoning skills.
5. Admired me for my on-the-job knowledge.
6. Emphasized that my knowledge is foundational to my success.
7. Admired me for my brilliance.
8. Attributed their compliments towards my intelligence as reason for my success.
9. Complimented me for the judgement I used to complete important tasks.
10. Emphasized I have a natural aptitude for the job because of my intelligence.
11. Pointed out that I am an asset to the organization because of my on-the-job knowledge.
12. Pointed out that my reasoning skills bring added value to the organization.
13. Admired my intelligence when they complimented me on my work.
Product Praise
1. Went out of their way to compliment me for my capability to produce high-quality work.
2. Recognized that my achievements bring added value to the organization.
3. Reminded me that the quality of my work is valuable to the organization.
4. Complimented me on the quality of my work.
5. Admired the quality of my work when they complimented me.
6. Attributed their compliments towards the quality of my work as reason for success.
7. Pointed out that my work met or exceeded their expectations.
8. Commended me for my achievements.
9. Reminded me that my contributions are valuable to the organization.
10. Complimented me for my performance.
11. Emphasized my accomplishments when they complimented me.
12. Attributed their compliments towards my achievements as reason for success.
Process Praise
1. Emphasized the efficacy of my work process when they are complimenting me.
2. Commended me for my dedication towards learning how to improve my work.
3. Complimented me for the labor I put into completing my daily tasks and responsibilities.
4. Admired the energy I put into my work when they were complimenting me.
5. Complimented the strategies I used to complete important tasks.
6. Pointed out that the way I do my job brings added value to our company's bottom line.
7. Complimented me for my dedication to my craft.
8. Reminded me that the way I do my work is valuable to the organization.
9. Complimented me for my intentionality to continuously learn how to improve my performance at work.
10. Went out of their way to speak highly of the way I do my work.
11. Attributed their compliments towards the strategies I used as reason for my success.
12. Recognized the efficacy of my work process brought added value to the organization.

Table 2

Praise Item Properties

Items	M(*SD*)	*htc* Index	Factor Loading
Person Praise			
1. Emphasized my intelligence when they were complimenting me.	**4.02(0.71)**	**0.90**	**0.57**
2. Reminded me that I have demonstrated I am knowledgeable of what it takes to do the job right.	4.08(0.76)	0.67	0.66
3. Complimented me for my wisdom.	4.03(0.76)	0.90	0.44
4. Went out of their way to compliment me for my reasoning skills.	4.12(0.74)	0.95	0.46
5. Admired me for my on-the-job knowledge.	4.11(0.78)	0.79	0.57
6. Emphasized that my knowledge is foundational to my success.	4.13(0.74)	0.50	0.51
7. Admired me for my brilliance.	4.09(0.72)	0.83	0.53
8. Attributed their compliments towards my intelligence as reason for my success.	4.12(0.85)	0.60	0.63
9. Complimented me for the judgement I used to complete important tasks.	**4.11(0.72)**	**0.90**	**0.56**
10. Emphasized I have a natural aptitude for the job because of my intelligence.	4.08(0.64)	0.79	0.58
11. Pointed out that I am an asset to the organization because of my on-the-job knowledge.	4.09(0.71)	0.83	0.53
12. Pointed out that my reasoning skills bring added value to the organization.	4.10(0.73)	0.69	0.59
13. Admired my intelligence when they complimented me on my work.	4.10(0.70)	0.86	0.49
Product Praise			
1. Went out of their way to compliment me for my capability to produce high-quality work.	4.09(0.82)	0.81	0.43
2. Recognized that my achievements bring added value to the organization.	4.12(0.83)	0.71	0.55
3. Reminded me that the quality of my work is valuable to the organization.	4.11(0.74)	0.64	0.48
4. Complimented me on the quality of my work.	**4.17(0.72)**	**0.98**	**0.53**
5. Admired the quality of my work when they complimented me.	4.06(0.70)	0.76	0.53
6. Attributed their compliments towards the quality of my work as reason for success.	4.15(0.72)	0.52	0.54
7. Pointed out that my work met or exceeded their expectations.	4.06(0.73)	0.90	0.39
8. Commended me for my achievements.	**4.10(0.82)**	**0.88**	**0.55**

9. Reminded me that my contributions are valuable to the organization.	4.04(0.71)	0.76	0.43
10. Complimented me for my performance.	4.15(0.72)	1.00	0.49
11. Emphasized my accomplishments when they complimented me.	4.07(0.71)	0.88	0.48
12. Attributed their compliments towards my achievements as reason for success.	4.08(0.77)	0.50	0.52
Process Praise			
1. Emphasized the efficacy of my work process when they are complimenting me.	4.06(0.69)	0.79	0.51
2. Commended me for my dedication towards learning how to improve my work.	**4.09(0.70)**	**0.98**	**0.55**
3. Complimented me for the labor I put into completing my daily tasks and responsibilities.	4.09(0.75)	0.88	0.42
4. Admired the energy I put into my work when they were complimenting me.	4.00(0.75)	0.76	0.55
5. Complimented the strategies I used to complete important tasks.	**4.14(0.76)**	**0.93**	**0.66**
6. Pointed out that the way I do my job brings added value to our company's bottom line.	4.02(0.76)	0.71	0.49
7. Complimented me for my dedication to my craft.	4.06(0.68)	0.90	0.43
8. Reminded me that the way I do my work is valuable to the organization.	4.09(0.75)	0.62	0.63
9. Complimented me for my intentionality to continuously learn how to improve my performance at work.	4.15(0.73)	0.83	0.55
10. Went out of their way to speak highly of the way I do my work.	4.16(0.71)	0.88	0.31
11. Attributed their compliments towards the strategies I used as reason for my success.	3.93(0.74)	0.60	0.64
12. Recognized the efficacy of my work process brought added value to the organization.	4.05(0.80)	0.67	0.54

Note: Factor loadings are based on a one-factor EFA solution. Bolded items were retained in the final six-item praise measure.

Table 3

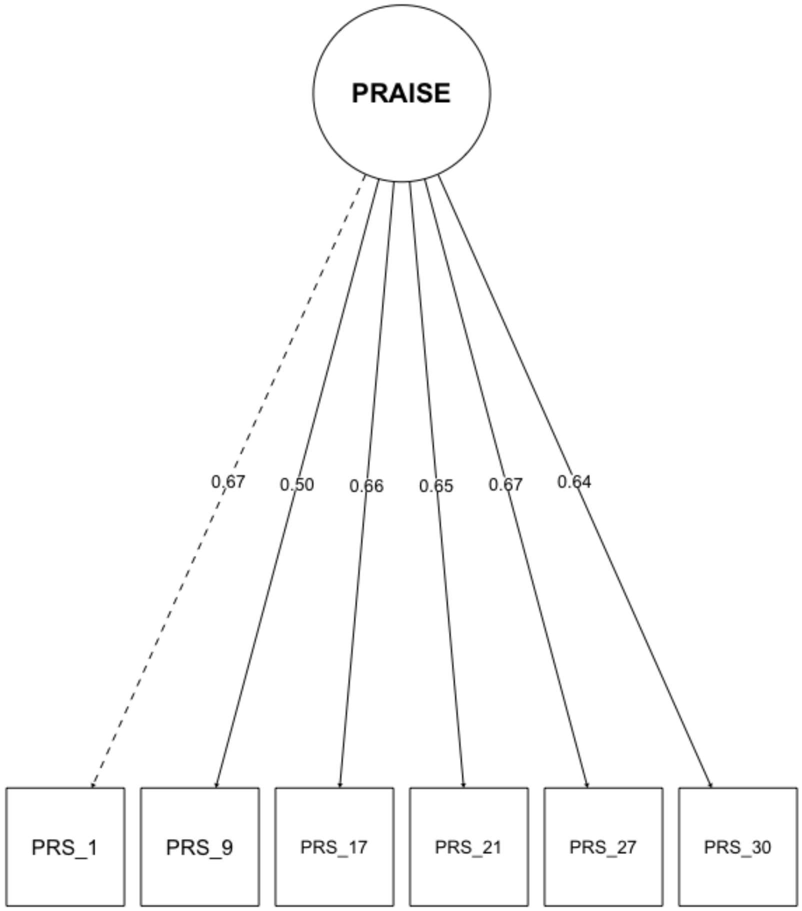
Correlations, Means, and Standard Deviations of Praise Measure Development

Variable	M (SD)	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Praise	4.10 (0.51)	.78								
2. Encouragement	4.11 (0.49)	.73**	.79							
3. Favorable Feedback	4.02 (0.53)	0.61*	0.59*	.57						
4. Unfavorable Feedback	3.87 (0.55)	0.40	0.52	0.45	.61					
5. Social Support	4.11 (0.46)	0.73***	0.70**	0.62*	0.41	.68				
6. Emotional Support	3.85 (0.49)	0.55*	0.62*	0.46	0.50	0.56	.75			
7. Open-Mindedness	3.11 (0.36)	0.29	0.25	0.13	0.00	0.33	0.06	.73		
8. Turnover Intentions	3.18 (1.14)	–0.02	0.02	0.06	0.11	–0.08	0.05	–0.33	.88	
9. Job Satisfaction	2.40 (0.55)	0.24	0.25	0.15	0.08	0.27	0.04	0.36	–0.28	.83

Note: (N = 351), ***p < .001, **p < .01, *p < .05. Cronbach's alphas are shown on the diagonal. Praise represents the final six-item measure.

Figure 1

Confirmatory Factor Analysis of 6-Item Praise Measure



Note: This figure shows the results of a confirmatory factor analysis of the six-item praise measure.

FOOTNOTES

[1] For the purposes of this study, the term ‘performance’ in Kanouse et al.’s (1981) definition of praise is interpreted as positive evaluations made by one person of another’s ‘processes,’ to maintain consistency with the terminology used for this specific dimension of praise.

APPENDICES

Appendix A

Rater Instructions

Please read the instructions very carefully. The questions are unique to survey measurement development and require detailed attention.

Research projects in the management field often use survey items to measure work concepts, such as work motivation, job satisfaction, and employee stress. When writing survey items, management researchers must take great care to ensure that the items do a good job of measuring the concepts of interest (e.g., that an item intended to measure work motivation really seems to capture that concept well). The goal of this study is to assess survey items used in the management literature.

Your job in this survey is to assess the degree to which each item listed matches the statement provided.

On the next few pages you will see a **bolded construct definition**, followed by several survey items. For each survey item, you will rate how well it measures the **bolded construct definition**. Again, simply rate the degree to which each item matches the **bolded** statement on that page.

Not all of the items will match the **bolded** statement. Therefore, please pay close attention to each individual question as you decide whether it matches the **bolded** statement.

--- Page Break ---

Before beginning the survey, below is an example to help guide your understanding of the survey.

The survey asks you to judge how well a survey item matches particular statements, which will be presented to you in bold. You will make that judgment using this response scale:

Item does an EXTREMELY BAD job of measuring the **bolded** concept provided above	Item does a VERY BAD job of measuring the **bolded** concept provided above	Item does a SOMEWHAT BAD job of measuring the **bolded** concept provided above	Item does an ADEQUATE job of measuring the **bolded** concept provided above	Item does a SOMEWHAT GOOD job of measuring the **bolded** concept provided above	Item does a VERY GOOD job of measuring the **bolded** concept provided above	Item does an EXTREMELY GOOD job of measuring the **bolded** concept provided above

Here are a few examples of how to perform this task. Let's say the **bolded** statement is:
Encouragement: The expression of affirmation through language or other symbolic representations to instill courage, perseverance, confidence, inspiration, or hope in a person.

An item that does a ***good*** job measuring this statement might be "Someone I respect instilled hope in me when I felt like giving up on an academic task," because instilling hope in the respondent after a difficult task exemplifies what it means to be encouraged. This would be a 7, or an extremely good item because it aligns with the construct extremely well.

In contrast, an item that does a ***bad*** job measuring the bolded concept might be "Someone I respect pointed out that I should put in more effort," because the language does not express affirmation nor does it instill feelings of courage, perseverance, confidence, inspiration, or hope in the person. This would be a 1, or an *extremely bad* item because it does not align with the construct very well.

--- Page Break ---

For the following scale, we are concerned with the statement: ***Praise: Positive evaluations made by a person of another's products, performances, or attributes, where the evaluator presumes the validity of the standards on which the evaluation is based.*** Specifically, we are interested in the degree to which these items adequately represent Praise.

Using the scale below, please rate the following items on how well each matches the concept, ***Praise: Positive evaluations made by a person of another's products, performances, or attributes, where the evaluator presumes the validity of the standards on which the evaluation is based.***

Item does an EXTREMELY BAD job of measuring **praise**	Item does a VERY BAD job of measuring **praise**	Item does a SOMEWHAT BAD job of measuring **praise**	Item does an ADEQUATE job of measuring **praise**	Item does a SOMEWHAT GOOD job of measuring **praise**	Item does a VERY GOOD job of measuring **praise**	Item does an EXTREMELY GOOD job of measuring **praise**

--- Page Break ---

Appendix B

Encouragement (Wong et al., 2019)

In the past year, the person I am thinking about has done the following:

1. Inspired me to believe in myself when I doubted my abilities.
2. Instilled hope in me when I felt like giving up on a task.
3. Reminded me of my strengths when I was dismayed about a challenging work task.
4. Assured me that I was competent in dealing with difficulties at work.
5. Expressed confidence in me by telling me to keep trying at work, even though it was hard.
6. Pointed out my strengths by suggesting I pursue a new opportunity.
7. Gave me the confidence to dream bigger and aim higher.
8. Insisted that I should strive for higher performance standards because I was capable.
9. Explained why I had the skills to succeed at work in a stretch assignment.
10. Said something positive to motivate me to consider a new goal.

Appendix C

Favorable Feedback (Steelman et al., 2004)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Select the statement that best describes how you feel.

1. When I do a good job at work, this person praise my performance.
2. I seldom receive praise from this person.
3. They generally lets me know when I do a good job at work.
4. I frequently receive positive feedback from this person.

Appendix D

Unfavorable Feedback (Steelman et al., 2004)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Select the statement that best describes how you feel.

1. When I don’t meet deadlines, they let me know.
2. They tell me when my work performance does not meet organizational standards.
3. On those occasions when my job performance falls below what is expected, this person lets me know.
4. On those occasions when I make a mistake at work, this person tells me.

Appendix E

Social Support (Morgeson & Humphrey, 2006)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

1. There is a special person who is around when I am in need.
2. There is a special person with whom I can share my joys and sorrows.
3. My family really tries to help me.
4. I get the emotional help and support I need from my family.
5. I have a special person who is a real source of comfort to me.
6. My friends really try to help me.
7. I can count on my friends when things go wrong.
8. I can talk about my problems with my family.
9. I have friends with whom I can share my joys and sorrows.
10. There is a special person in my life who cares about my feelings.
11. My family is willing to help me make decisions.

I can talk about my problems with my friends.

Appendix F

Emotional Support (Vaux et al., 1987)

Instructions: People help each other out in a lot of different ways. Suppose you had some kind of problem at work (were stuck on a job task, were experiencing money troubles, or you needed some advice or guidance). How likely would this person be to help you out in each of the specific ways listed below. We realize you may rarely need this kind of help, but if you did would the person you are thinking about help in the ways indicated. Try to base your answers on your past experience with these people.

1. Did not pass judgement on me.
2. Gave me encouragement to do something different.
3. Comforted me when I was upset.
4. Gave me a hug, or otherwise showed me I was cared about.
5. Showed affection for me.
6. Was sympathetic when I was upset.
7. Joked around or suggested doing something to cheer me up.
8. Listened when I needed to talk about my feelings.
9. Showed me that they understood how I was feeling.
10. Stuck by me in a crunch.

Appendix G

Open-Mindedness (Soto & John, 2017)

Instructions: Here are a number of characteristics that may or may not apply to you. Please indicate the extent to which you agree or disagree with each statement.

1. Is curious about many different things.
2. Avoids intellectual, philosophical discussions. (R)
3. Is complex, a deep thinker.
4. Has difficulty imagining things. (R)
5. Is fascinated by art, music, or literature.
6. Has little creativity. (R)
7. Has few artistic interests. (R)
8. Is original, comes up with new ideas.
9. Is inventive, finds clever ways to do things.
10. Values art and beauty.
11. Has little interest in abstract ideas. (R)
12. Thinks poetry and plays are boring. (R)

Appendix H

Jobs in General (Ironson et al., 1989)

Instructions: Think of your job in general. All in all, what is it like most of the time? Select "Yes" if it describes your job, and "No" if it does not describe your job. Select "Undecided" if you cannot decide.

1. Pleasant
2. Bad (R)
3. Great
4. Waste of time (R)
5. Good
6. Undesirable (R)
7. Worthwhile
8. Worse than most (R)
9. Acceptable
10. Superior
11. Better than most
12. Disagreeable (R)
13. Makes me content
14. Inadequate (R)
15. Excellent
16. Rotten (R)
17. Enjoyable
18. Poor (R)

Appendix I

Turnover Intentions (Mitchell et al., 2001)

Instructions: In the next 12 months:

1. I am planning to search for a new job.
2. I feel strongly about leaving my employer.
3. It is likely that I will leave my employer.

Appendix J

Demographic Measures

What is your age?
- Younger than 25
- 25-35
- 36-45
- 46-55
- Older than 55

Which of the following best defines your current gender identity? Select all that apply.
- Genderqueer, nonbinary, or genderfluid
- Man
- Woman
- Prefer to self-describe: ____________
- Prefer not to respond

Which of the following best defines your race or ethnicity? Select all that apply:
- American Indian or Alaska Native
- Asian
- Black or African American
- Hispanic, Latino/a/é, or Spanish
- Middle Eastern or North African
- Native Hawaiian or Other Pacific Islander
- White
- Prefer to self-describe: _________________
- Prefer not to respond

What is the highest degree you have earned?
- Some High School, but no degree
- High School Diploma or GED
- Some college, but no degree
- Associate’s Degree
- Bachelor's Degree
- Master's Degree
- Professional Degree
- Doctorate
- Other (please specify): __________

What is your employment status? Select all that apply:
- Full-time
- Part-time
- Retired
- Student

- Not currently working (e.g., family leave)
- Unemployed
- Other (please specify): _______

Please indicate which industry category most closely matches the one you work in

- Agriculture, Fishing, Forestry
- B2B, Sales
- Communication
- Construction, Manufacturing, Textiles
- Computers, Software, Hardware, Data Processing
- Education
- Entertainment, Arts, Recreation
- Energy, Utilities
- Government, Law
- Finance, Banking, Credit, Tax, Stock
- Healthcare
- Housing
- Museum, Preservation
- Trade
- Travel or Transportation
- Retail or Grocery
- Service
- None of these resemble my current industry
- I am not currently employed

These days I typically work

- Work in-person or in-office
- Virtually, from home (WFH), remote, or telework
- A mix of virtually and in-person

Appendix K

Thesis Proposal

Praise by the numbers: The development of a measure of praise

by
James Carl Peters

A thesis proposal submitted to the Graduate Faculty of
North Carolina State University
in partial fulfillment of the
requirements for the degree of
Master of Science

Psychology

Raleigh, North Carolina
2024

APPROVED BY:

Adam W. Meade Committee Chair	S. Bartholomew Craig
Lori L. Foster	

Introduction

The United States is in the midst of an unprecedented mental health crisis affecting individuals across all age groups. According to a recent report by Reinert et al. (2024), 23.08% of adults—equivalent to nearly 60 million Americans—reported experiencing a mental health issue in the past year. These statistics are supported by the 2021 National Survey on Drug Use and Health, which found that over 57 million U.S. adults are living with a mental health condition (National Institute of Mental Health, n.d.). Of the over 57 million U.S. adults, approximately 5.5%, or about 14 million people, were classified as having a serious mental health issue that substantially interfere with or limit one or more major life activities.

In the U.S. workplace, the prevalence of poor mental health and well-being has numerous and cascading impacts for the health of employees, organizational productivity, the bottom-line for businesses, and the broader U.S. economy (U.S. Department of Health and Human Services, 2022). Furthermore, the impact of workplace well-being can influence the quality, pace, and performance of employees' work (Bouwmans et al., 2014). Additionally, failure to support employee mental health can result in higher turnover rates (Umland, 2018). For these reasons, addressing the mental health and well-being organization-wide is not simply a "moral imperative" or the "right thing" to do, but also necessary for mitigating its detrimental effects on important business outcomes.

Research has shown that employees who feel supported by their supervisor's experience higher job satisfaction, lower levels of emotional exhaustion, and fewer physical symptoms (Mathieu et al., 2019). However, some supportive actions have been found not to be universally helpful (Bavik et al., 2020; Mathieu et al., 2019). In response to these findings, Gray et al. (2023) raised a pertinent question: How can organizational leadership effectively support employees during particularly stressful times? Their research identified ‘tone’ as one critical factor. That is, they found a leader’s ability to foster positivity, convey gratitude, hope, and fun can significantly buffer the natural negativity and fear associated with stressful circumstances. Beyond setting the tone, it has been acknowledged that organizations and organizational leaders can further support employees’ capacities to manage stress by building a culture of appreciation, recognition, and engagement (O’Flaherty et al., 2021, March 29; UKG, 2021, June 22).

One potential mechanism through which organizational leaders might support employees and foster a positive environment is through the provision of praise (Delin & Baumeister, 1994). While the research literature on praise suggests mixed effectiveness—with some studies indicating that it can often be ineffective and sometimes even dysfunctional (e.g., Hitz & Driscoll, 1988; Kelly & Daniels, 1997)—there is empirical evidence that some forms of praise can lead to positive outcomes such as enhanced motivation and improved self-esteem (Kamins & Dweck, 1999; Mueller & Dweck, 1998), particularly when compared to a neutral feedback group or control (Henderlong, 2001).

Limitations of Current Measures of Praise

Despite the potential of praising behavior to help address workplace well-being, there exists no measure of praise that meets the necessary psychometric and construct validity requirements for assessing the construct in employment settings. For example, the praise scale used in Mayer et al. (2011) raises questions about whether its unidimensional conceptualization fully captures the domain of the construct. Another related measure of praise concerns the widely employed Leadership Practices Inventory (LPI; Kouzes & Posner, 1988). Specifically, one of its five dimensions, *Encouraging the Heart*, includes items assessing praise (e.g., “Praises people for a job well done”) and encouragement (e.g., “Makes a point to let people know about his/her confidence in their abilities"), which scholars recognize as related but distinct constructs (Henderlong & Lepper, 2002; Wong, 2015; Wong et al., 2019). The theoretical and measurement issues associated with these scales complicate the validity of the measurement instruments, thereby affecting the interpretation of assessment results and our understanding of the relationship between praising behavior and important workplace outcomes.

Outside of employment contexts, praise has been extensively studied in educational settings, particularly with children (Brummelman et al., 2014; Burnett, 2002; Butler, 1987; Diener & Dweck 1978, 1980; Henderlong, 2001; Kamins & Dweck, 1999; Kelly & Daniels, 1997; Koestner et al., 1989; Mueller & Dweck, 1998) and university students (Baumeister et al., 1990; Catano, 1975, 1976; Kennedy, 1977; Koestner et al., 1987). However, this body of research primarily focuses on younger populations and may not translate well to employment settings, raising concerns about its ecological validity. Additionally, these studies often utilize experimental or lab-based research designs, further underscoring the need for a construct-valid, psychometrically sound measure of praise that can be employed across employment settings.

A Multidimensional Praise Conceptualization

Currently, no theoretically driven measure of praise exists in work contexts or elsewhere, resulting in limited empirical evidence about its dimensionality. However, understanding the boundaries of the full construct domain remains critical to ensure the items in the measure reflect the intended content domain (i.e., content validity). Henderlong and Lepper's (2002) comprehensive review and synthesis of literature on praise and intrinsic motivation identified explicit *attributions* associated with the reception of praise statements. These findings, including those reported in Henderlong (2001), suggest that praise can represent multiple orientations or dimensions. Specifically, a review of the literature indicates that the *attributional labeling* of praise statements can orient towards the person (trait-oriented), the product (outcome-oriented), or the process (effort-oriented) of the individual receiving the praise (Henderlong, 2001; Henderlong & Lepper, 2002).

Person Praise

The first dimension of praise focuses on statements that explicitly attribute an individual's ability as the reason for the given praise. These statements, which highlight internal abilities or fixed traits, differentiate person praise from other forms, such as process praise (Henderlong, 2001; Henderlong & Lepper, 2002; Kanouse et al., 1981). The attributional focus of this dimension conveys a stronger message of perceived competence (Henderlong & Lepper, 2002; Koestner et al., 1987). However, attributing praise to the recipient's inherent abilities, such as intelligence, may produce unintended negative effects. That is, it could instill a contingent sense of self-worth, leading to helplessness when faced with difficulties, setbacks, or failures (Diener & Dweck, 1978, 1980; Dweck & Leggett, 1988; Kamins & Dweck, 1999; Mueller & Dweck, 1998). This contrasts with the effects of other praise forms, such as product and process praise. Experimental studies have shown that these forms of praise can lead to different behavioral and belief outcomes. Specifically, individuals praised for their abilities are more likely to attribute failures to a lack of ability compared to those praised for effort (Kamins & Dweck, 1999; Mueller & Dweck, 1998).

Product Praise

The second dimension of praise focuses on statements that attribute another's product as the reason for the given praise. This form of praise emphasizes the outcomes or products created by the individual, contrasting with person praise, which directs attention to the individual's inherent abilities (Henderlong, 2001; Hitz & Driscoll, 1988; Kamins & Dweck, 1999). Kanouse et al. (1981) noted that product praise shifts focus outward, emphasizing the results of tasks. Early research often categorized this type as "performance" praise (e.g., Ginott, 1965). However, more contemporary studies have clarified distinctions within performance praise, specifically separating praise for products (e.g., "What a beautiful painting.") from praise for processes (e.g., "What careful brushstrokes you must have used."; Henderlong, 2001; Kamins & Dweck, 1999).

Process Praise

The third dimension of praise involves statements that explicitly attribute another's process as the reason for the given praise. Statements made of one's process, directly attribute success to the individual's efforts or perseverance (Henderlong, 2001; Kamins and Dweck, 1999). Although process and product praise share commonalities—each attributing aspects of an individual's task performance—there is a conceptual distinction: process praise emphasizes the individual's effort, while product praise focuses on the outcome (Henderlong, 2001; Henderlong & Lepper, 2002; Kamins & Dweck, 1999; Kanouse et al., 1981; Mueller & Dweck, 1998).

Development of a Multidimensional Measure of Praise

Although Mayer et al. (2011) offer a unidimensional assessment of praise, conceptual and empirical research suggests person praise, product praise, and process praise each represent distinct dimensions. This indicates the need for a multidimensional measure that includes all three forms. Such a measure would allow for more definitive conclusions about the relevance of praise and its dimensions when assessing important workplace outcomes.

Psychometric Properties

To accurately measure a construct, it is essential to use an instrument specifically designed to capture that variable in question. Praise, as defined in our study, is an individual's perception of "positive evaluations made by a person of another's products, performances[1], or attributes, where the evaluator presumes the validity of the standards on which the evaluation is based" (Kanouse et al., 1981, p. 98). To reflect the multidimensional nature of praise, items must be carefully crafted to reflect whether positive evaluations pertain to another's products, processes, or attributes. The measure developed by Mayer et al. (2011) captures only parts of this multidimensional conceptualization as defined by Kanouse et al. (1981). Therefore, a new measure, driven by theoretical foundations and sound psychometric properties, is necessary to accurately assess praise.

This study seeks to examine praise as a multidimensional construct, assessing individuals' perceptions of receiving person, product, and process praise from an evaluator at work. I propose that a multidimensional assessment of praise will demonstrate acceptable fit according to traditional indices (Hu & Bentler, 1999).

Hypothesis 1: A three-dimensional measure of praise will demonstrate acceptable goodness-of-fit.

Convergent and Discriminant Validity

Construct validity is assessed by examining correlations between constructs with similar theoretical presuppositions. To test the convergent validity of praise, I will explore constructs within its nomological network that I believe are theoretically proximate to praise and its dimensions, such as encouragement, various forms of support, and feedback.

Encouragement is comparable to praise in that both involve the expression of affirmation, yet they differ in intent; encouragement aims to instill strength and enhance motivation, while praise focuses on positively evaluating past actions (Henderlong & Lepper, 2002; Wong, 2015; Wong et al., 2019). In this way, encouragement is distinct from praise as it is considered to be more future-focused and often used in response to negative outcomes (Henderlong & Lepper, 2002). Despite these differences, it is plausible that recipients of praise at work also perceive their workplace offers higher levels of encouragement. Since no existing measure of praise has assessed this relationship, empirical evidence to distinguish them as independent constructs is limited, despite theoretical support (e.g., Henderlong & Lepper, 2002; Wong, 2015).

Other forms of support related to but distinct from praise include social and emotional support. Social support, defined as "the degree to which a job provides opportunities for advice and assistance from others" (Morgeson & Humphrey, 2006, p. 1324), is considered because praise extends beyond the simple reception of support; rather, it is described as a "complex social communication" (Henderlong & Lepper, 2002, p. 775), where the content and context of the praise statement distinguish it from general social support. Moreover, specific types or "modes" of support (Mitchell & Trickett, 1980), such as emotional support, defined as "expressing concern, affection, or caring, providing comfort or encouragement" (Vaux et al., 1987, p. 216), is considered related to but distinct from praise. This form of support was selected as it presented a more explicit *affective* specification of support. Considering the theoretical differences between these constructs, I believe recipients of praise may perceive that their workplace offers higher levels of social and emotional support, whereas those who do not receive praise may perceive their job or workplace as offering less support in these areas.

Feedback, another concept related but distinct from praise, will be included as it is considered a more neutral form of recognition (Henderlong & Lepper, 2002). However, favorable feedback, or "the perceived frequency of positive feedback such as compliments from supervisors and/or coworkers when, from the feedback recipient's view, his or her performance does in fact warrant positive feedback" (Steelman et al., 2004, p. 168), occurs relatively independent of negative feedback (Greller & Parsons, 1992). Although similar to praise, favorable feedback is distinct from praise because of its attributional labeling—where the evaluator assigns praise to specific products, processes, or attributes, setting it apart from positive, yet general feedback statements, such as compliments.

Given the theoretical proximity of encouragement, social support, emotional support, and favorable feedback to praise, I anticipate significant correlations among these constructs. Thus, I predict that these variables will positively correlate with praise.

Hypothesis 2: Praise and its dimensions will be positively correlated with (a) encouragement, (b) favorable feedback, (c) emotional support, and (d) social support.

In a similar vein, the theoretical proximity to praise may represent contrasting relationships such that praise is expected to negatively correlate with opposing theoretical constructs. An example of this is unfavorable feedback, defined as "the perceived frequency of negative feedback such as expressions of dissatisfaction and criticism from supervisors and/or coworkers when the feedback recipient's performance warrants such feedback" (Steelman et al., 2004, p. 168). Unfavorable feedback does not merely represent the absence of positive feedback but indicates the active provision of *negative* feedback. Given that praise constitutes a 'positive evaluation' of another, it inherently opposes negative evaluations or feedback. Therefore, I propose that recipients of high levels of praise may inversely relate to the reception of unfavorable feedback. Consequently, I predict a negative correlation between praise and unfavorable feedback.

Hypothesis 3: Praise and its dimensions will be negatively correlated (i.e., convergent validity) with unfavorable feedback.

I also aim to establish discriminant validity by assessing constructs not within praise's nomological network. While a very strong reception or dearth of praise may indicate broader concerns with key work outcomes, neither turnover intentions nor job satisfaction should be inherently related or proximal to praise. Both turnover intentions and job satisfaction are more general yet relevant variables that reflect the larger context in which the individual operates at work. Additionally, I expect certain personality traits, such as open-mindedness—defined as a preference for a broad versus narrow range of experiences, particularly in an individual's mental rather than social life (Soto & John, 2017)—will be unrelated to the reception of praise at work. Given that personality traits are considered stable (Oswald & Hough, 2011), praise perceptions should not influence self-reported open-mindedness scores, nor should an individual's openness to experience impact their reception of praise. Therefore, I hypothesize that these constructs—turnover intentions, job satisfaction, and open-mindedness—will show weaker relationships with praise than constructs like encouragement, social support, emotional support, favorable feedback, and unfavorable feedback.

Hypothesis 4: Praise and its dimensions will be less correlated (i.e., demonstrate discriminant validity) with (a) open-mindedness, (b) job satisfaction, and (c) turnover intentions.

Phase 1: Item Generation and Content Validity

The study will follow a traditional scale development process as outlined by Hinkin (1998), with additional recommendations set forth by Zickar (2020). This process will involve item generation, questionnaire administration, initial item reduction, content validity assessment and exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and the establishment of convergent and discriminant validity. For clarity, this process will be condensed into three main phases: 1) item generation and content validation, 2) psychometric properties (i.e., EFA and CFA), and 3) convergent and discriminant validity.

As recommended by Zickar (2020), a greater number of items will be written than those ultimately selected for the final scale. The intended final length of the praise scale will be around 12-items long, and over three times as many items (37 items total) will be written prior to item reduction. All items will be newly written. Items will be accompanied by a five-point Likert scale with the following anchors: Strongly Disagree (1), Somewhat Disagree (2), Neither Agree nor Disagree (3), Somewhat Agree (4), and Strongly Agree (5). To write items, I will apply deductive reasoning based on the definition of praise by Kanouse et al. (1981), that is, praise refers to "positive evaluations made by a person of another's products, performances, or attributes, where the evaluator presumes the validity of the standards on which the evaluation is based" (p. 98). To incorporate the attributional nature of praise, I will write items that allow recipients to discern the focus of the praise: a) the individual's inherent qualities (i.e., person praise), b) their achievements (i.e., product praise), or c) their efforts they employ (i.e., process praise).

Method

In phase 1, I will develop items designed to capture the construct of praise and assess content validity using Colquitt et al.'s (2019) *htc* index. The items will be developed following the guidelines outlined by Haladyna and Rodriguez (2013), which emphasize using concise wording, labeling response categories, using straightforward language, minimizing ambiguity wherever possible, and avoiding double-barreled questions, slang, and colloquial expressions. The scale will be designed as a Likert scale with the anchors described above. Five was chosen as the number of anchors to provide a balanced range of response options, allowing participants to express varying degrees of agreement or disagreement. This choice aimed to reduce the cognitive load for respondents, as five points are generally easier to differentiate and use than more granular scales, such as those with seven anchors, which can lead to more fatigue, potentially compromising the quality of the data collected (Cox, 1980).

The appropriateness of the items for measuring praise will be evaluated using the *htc* index, a method developed by Colquitt et al. (2019). This index offers a standardized coefficient for content validity, facilitating comparisons across studies. It builds upon traditional content validity methods, as outlined by Hinkin and Tracey (1999), and is influenced by earlier established methods, including Anderson and Gerbing's (1991) substantive validity index and Lawshe's (1975) content validity ratio.

Since the attributional distinctions of praise will be assessed in a work setting, I will recruit doctoral students specializing in industrial-organizational psychology to review items for content validity. I plan to recruit as many raters as possible who meet this criteria through personal communication.

Raters will be provided with detailed instructions on how to rate each item's suitability for capturing the construct using a seven-point Likert scale, ranging from Extremely Bad (1) to Extremely Good (7). These instructions, shown in Appendix A, aim to gather an *htc* index for the construct. The language in Colquitt et al. (2019) instructions will be maintained as much as possible, with alterations only made to simplify and accommodate the subject matter of the current scale. The instructions will also include an example of a well-suited and poorly-suited item. Following these instructions, raters will evaluate each item with the provided definition, "Positive evaluations made by a person of another's products, performances, or attributes, where the evaluator presumes the validity of the standards on which the evaluation is based." This process will help raters determine the extent to which each item accurately represent the construct definition.

Proposed Analyses

The *htc* index is calculated as the average definitional correspondence rating (i.e., average ratings of items) divided by the number of anchors (*a*). This number can then be used as a percentile-based comparison with other *htc* values delineated in Colquitt et al. (2019), which uses the *htc* values of construct development research published in top-tier journal studies. I will consider an *htc* of .85 or greater as an acceptable metric of content validity, as this is considered a reasonably strong *htc* value for a construct expected to exhibit moderate correlations with convergent variables (Colquitt et al., 2019). This index will serve as a metric of content validity for the items in question.

Phase 2: Psychometric Properties

Method

The next step will be to develop a survey to evaluate the psychometric properties of the selected praise items. The results of this survey will be used to examine the factor structure and model fit of a measure of praise. To gather data efficiently, measures for future assessments to evaluate convergent and discriminant validity will also be included in this survey.

Sample

At least three hundred and fifty participants will be recruited via Amazon's Mechanical Turk (MTurk), an online service that provides compensation for study participants.

To participate in the study, individuals will be required to work full-time, operationalized as 35 hours a week or more in a business or organization they do not own. While part-time workers can also receive and attribute praise statements, I will sample only full-time workers who do not own the business or organization they work. Full-time workers spend a greater amount of time working and thus have more opportunities to be the recipient of praise in their interactions with people at work. Participants will be required to also be 18 years of age or older, reside in the United States, not be employees of the university where the research was conducted to receive compensation, and have an approval rating greater than 95% (the approval rating is also known in MTurk parlance as the Human Intelligence Task, or HIT, percentage). The approval rating ensured that only participants whose work usually had been approved by other researchers will participate. Hinkin (1998) recommends a minimum of 150 participants for conducting an EFA and 200 participants for conducting a CFA. A minimum of at least 450 responses will be collected to achieve a final sample size of 350, accounting for approximately 20% data loss due to data cleaning, which is consistent with the level of data loss in recent studies published in the *Journal of Applied Psychology* using similar designs (Colquitt et al., 2019).

Procedure

Individuals will sign up to participate in the study through Amazon's MTurk, where they will read the study description informing them that the researcher is seeking participants for a study on different forms of employee support in the workplace. Participants will complete the study via Qualtrics, beginning with an informed consent that outlined the study's objectives, which focus on understanding how various forms of support impact employees at work. Participants will then be asked to think about a person of influence at work while they respond to the survey items. The survey will consist of 121 items, including four attention checks and the measures detailed in the following section. Demographic information, along with specific questions about employment, will also be collected. These questions will cover the type of industry participants work in and their work setting (see Appendix J). Respondents will not be able to skip items or go back, and there will be approximately 10 items per page.

Measures

The following measures, except for job satisfaction and demographics, will be assessed using a 5-point Likert scale with Strongly Disagree (1), Somewhat Disagree (2), Neither Agree nor Disagree (3), Somewhat Agree (4), and Strongly Agree (5) response options. Items will be administered in the order described below, and the scales will not be mixed.

Praise. To measure praise, I will use the 37 items written in phase 1.

Encouragement. To measure encouragement, I will use the 10-item *Academic Encouragement Scale* from Wong et al. (2019). Each item will be modified to reflect experiences of receiving encouragement in a work context. An example item is, "In the past year, the person I am thinking about has expressed confidence in me by telling me to keep trying at work, even though it was hard" (see Appendix B).

Favorable Feedback. To measure favorable feedback, I will use a 4-item subscale from Steelman et al. (2004). An example item is, "This person generally lets me know when I do a good job at work." (See Appendix C).

Unfavorable Feedback. To measure unfavorable feedback, I will use a 4-item subscale from Steelman et al. (2004). An example item is, "On those occasions when my job performance falls below what is expected, this person lets me know." (See Appendix D).

Social Support. To measure social support, I will use a 6-item scale from Morgeson and Humphrey's (2006). An example item is, "My supervisor is concerned about the welfare of the people that work for him/her." (See Appendix E).

Emotional Support. To measure emotional support, I will use a 10-item subscale from Vaux et al. (1987). An example item is, "Listened when I needed to talk about my feelings." (See Appendix F).

Open-Mindedness. To measure open-mindedness, I will use 12 open-mindedness items from Soto and John's (2017) *Big Five Inventory-2* (BFI-2). An example item is, "Is curious about many things" (See Appendix G).

Turnover Intentions. To measure turnover intentions, I will use the 3-item *Intentions to leave* scale by Mitchell et al. (2001). An example item is, "I feel strongly about leaving my employer" (See Appendix H).

Job Satisfaction. To measure job satisfaction, I will use the 18-item *Jobs in General Scale* by Ironson et al. (1989). Each item included a short phrase or adjective describing the job overall and respondents were instructed to select either 'Yes,' 'No,' or 'Undecided.' An example item is, "Worthwhile" (See Appendix I).

Demographics. Demographic data will also be collected as part of the survey (See Appendix J).

Data Analysis

Prior to testing hypotheses, the data will be screened for non-responders, defined as participants who respond to less than 5% of items, and for those exhibiting signs of extreme inattention, such as an average response time of less than two seconds per closed-ended item (Curran, 2016). To limit the effects of careless responding (Meade & Craig, 2012), participants who fail attention checks will be removed from the analyses. As recommended by Meade and Craig (2012), long-string responding will also be considered for data cleaning; responses with a long-string of 8 or greater will be removed from the analyses. All other data will be included in the focal analyses. The data will then be randomly and proportionally split into EFA and CFA subsamples using a random assignment function. All scales will be tested for acceptable internal consistency, indicated by a Cronbach's alpha greater than .70 (Cortina, 1993).

Proposed Analyses

To test Hypothesis 1, I will evaluate the goodness-of-fit by conducting a series of factor analyses beginning with an EFA. Since EFA and CFA require separate samples (Hinkin, 1998), I will create a reproducible split of the data into two randomized and proportionate subsamples using a specific random seed.

Following Hinkin's (1998) guidelines, which suggest a minimum of 150 responses included for the EFA and 200 for the CFA, the sample will be divided randomly and proportionally to meet these recommendations. As recommended by Zickar (2020), I will first conduct a parallel analysis. Following this, I will perform an EFA with principal axis factoring and oblique rotation to verify the appropriateness of the factor structure solution. Only items with a factor loading above .4 will be retained within the praise factor solution (Hinkin, 1998). Items with cross-loadings greater than .4 will be excluded. As recommended by Zickar (2020), I will use a combination of parallel analysis and conceptual coherence to determine the number of retained factors.

I will then test the factor structure that was found from the EFA using the holdout CFA sample. If the data do not demonstrate an acceptable fit, I will remove items based on their factor loadings until an acceptable fit is found. Model fit is typically assessed using the chi-square statistic, with a non-significant result suggesting a well-fitting model. However, this approach presents two significant issues: a) it inherently aims to confirm the null hypothesis, and b) it may inadvertently promote the use of smaller sample sizes to reduce the chi-square statistic's sensitivity to sample size (Kline, 2016). Given these limitations, researchers have developed alternative goodness-of-fit indices to assess factor structure. For this study, the assessment of model fit will be guided by the criteria proposed by Hu and Bentler (1999): Root Mean Square

Error of Approximation (RMSEA) value below .06, Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values above .95, and a Standardized Root Mean Squared Residual (SRMR) below .08. It is important to note the model fit criteria proposed by Hu and Bentler (1999) serve as approximations rather than rigid benchmarks. A model might still be deemed well-fitting if it largely meets these guidelines, even if not perfectly or if the values are marginally off the suggested indices (Kline, 2016). Therefore, if the confirmatory factor structure meets most of these criteria but not all, I will still consider it a good-fitting model.

Phase 3: Convergent and Discriminant Validity

Method

Next, convergent and discriminant validity will be tested using the entire cleaned data set. Specifically, I will analyze participants' responses to the praise measure, encouragement, favorable feedback, unfavorable feedback, social support, emotional support, open-mindedness, turnover intentions, and job satisfaction.

Proposed Analyses

To test Hypotheses 2 through 4, I will utilize a series of bivariate correlations examining the relationships between the praise measure and the convergent measures (i.e., encouragement, favorable feedback, unfavorable feedback, social support, and emotional support) and discriminant measures (i.e., open-mindedness, turnover intentions, and job satisfaction). Hypotheses will be considered supported only if all dimensions demonstrate the predicted relationships (e.g., Hypothesis 2 will be considered fully supported only if all praise factors significantly and positively correlate with encouragement, favorable feedback, social support, and emotional support). Convergent validity will be assessed by the presence of significant correlations between hypothesized convergent variables, while discriminant validity will be evaluated by the absence of significant correlations between hypothesized discriminant variables. If significant correlations are found with discriminant variables, the correlation coefficients will be compared to those of convergent variables using Fisher's *r*-to-*z* transformation to determine if these discriminant correlations are stronger or weaker than the convergent correlations.

REFERENCES

Anderson, J. C., & Gerbing, D. W. (1991). Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities. *Journal of Applied Psychology*, *76*(5), 732–740. https://doi.org/10.1037/00219010.76.5.732

Baumeister, R. F., Hutton, D. G., & Cairns, K. J. (1990). Negative effects of praise on skilled performance. *Basic and Applied Social Psychology*, *11*, 131–148. https://doi.org/10.1207/s15324834basp1102_2

Bavik, Y. L., Shaw, J. D., & Wang, X. H. (2020). Social support: Multidisciplinary review, synthesis, and future agenda. *Academy of Management Annals*, *14*(2), 726–758. https://doi.org/10.5465/annals.2016.0148

Bouwmans, C. A. M., Vemer, P., van Straten, A., Tan, S. S., & Hakkaart-van Roijen, L. (2014). Health-related quality of life and productivity losses in patients with depression and anxiety disorders. *Journal of Occupational and Environmental Medicine*, *56*(4), 420–424. https://doi.org/10.1097/JOM.0000000000000112

Brummelman, E., Thomaes, S., Overbeek, G., de Castro, B. O., van den Hout, M. A., & Bushman, B. J. (2014). On feeding those hungry for praise: Person praise backfires in children with low self-esteem. *Journal of Experimental Psychology: General*, *143*(1), 9–14. https://doi.org/10.1037/a0031917

Burnett, P. C. (2002). Teacher praise and feedback and students' perceptions of the classroom environment. *Educational Psychology*, *22*(1), 5–16. https://doi.org/10.1080/01443410120101215

Butler, R. (1987). Task-involving and ego-involving properties of evaluation: Effects of different feedback conditions on motivational perceptions, interest, and performance. *Journal of Educational Psychology*, *79*(4), 474–482. https://doi.org/10.1037/0022-0663.79.4.474

Catano, V. M. (1975). Relation of improved performance through verbal praise to source of praise. *Perceptual and Motor Skills*, *41*, 71–74. https://doi.org/10.2466/pms.1975.41.1.71

Catano, V. M. (1976). Effectiveness of verbal praise as a function of expertise of source. *Perceptual and Motor Skills*, *42*, 1283–1286. https://doi.org/10.2466/pms.1976.42.3c.1283

Colquitt, J. A., Sabey, T. B., Rodell, J. B., & Hill, E. T. (2019). Content validation guidelines: Evaluation criteria for definitional correspondence and definitional distinctiveness. *Journal of Applied Psychology*, *104*(10), 1243–1265. https://doi.org/10.1037/apl0000406

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, *78*(1), 98. https://doi.org/10.1037/0021-9010.78.1.98

Cox, E. P. (1980). The optimal number of response alternatives for a scale: A review. *Journal of Marketing Research*, *17*(4), 407-422. https://doi.org/10.1177/002224378001700401

Curran, P. G. (2016). Methods for the detection of carelessly invalid responses in survey data. *Journal of Experimental Social Psychology*, *66*, 4–19. https://doi.org/10.1016/j.jesp.2015.07.006

Delin, C. R., & Baumeister, R. F. (1994). Praise: More than just social reinforcement. *Journal for the Theory of Social Behaviour*, *24*, 219–241. https://doi.org/10.1111/j.1468-5914.1994.tb00254.x

Diener, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of*

Personality and Social Psychology, *36*, 451–462. https://doi.org/10.1037/0022-3514.36.5.451

Diener, C. I., & Dweck, C. S. (1980). An analysis of learned helplessness II: The processing of success. *Journal of Personality and Social Psychology*, *39*, 940–952. https://doi.org/10.1037/0022-3514.39.5.940

Dweck, C. S., & Leggett, E. L. (1988). A social–cognitive approach to motivation and personality. *Psychological Review*, *95*, 256–273. https://doi.org/10.1037/0033-295X.95.2.256

Ginott, H. G. (1965). *Between parent and child*. Macmillan.

Gray, C. E., Spector, P. E., Wells, J. E., Bianchi, S. R., Ocana-Dominguez, C., Stringer, C., Sarmiento, J., & Butler, T. (2023). How can organizational leaders help? Examining the effectiveness of leaders' support during a crisis. *Journal of Business and Psychology*, *38*, 215–237. https://doi.org/10.1007/s10869-022-09810-6

Greller, M. M., & Parsons, C. K. (1992). Feedback and feedback inconsistency as sources of strain and self-evaluation. *Human Relations*, *45*, 601–620.

Haladyna, T. M., & Rodriguez, M. C. (2013). *Developing and validating test items*. Taylor & Francis.

Henderlong, J. (2001). Beneficial and detrimental effects of praise on children's motivation: Performance versus person feedback. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *61*(9-B), 5028. https://www.proquest.com/dissertations-theses/beneficial-detrimental-effects-praise-on/docview/304628933/se-2

Henderlong, J. & Lepper, M. R. (2002). The effects of praise on children's intrinsic motivation: A review and synthesis. *Psychological Bulletin*, *128*(5), 774–795. https://doi.org/10.1037//0033-2909.128.5.774

Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods*, *1*(1), 104–121. https://doi.org/10.1177/109442819800100106

Hinkin, T. R., & Tracey, J. B. (1999). An analysis of variance approach to content validation. *Organizational Research Methods*, *2*(2), 175–186. https://doi.org/10.1177/109442819922004

Hitz, R., & Driscoll, A. (1988). Praise or encouragement? New insights into praise: Implications for early childhood teachers. *Young Children*, *43*, 6-13.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Ironson, G. H., Smith, P. C., Brannick, M. T., Gibson, W. M., & Paul, K. B. (1989). Construction of a job in general scale: A comparison of global, composite, and specific measures. *Journal of Applied Psychology*, *74*(2), 193–200. https://doi.org/10.1037/0021-9010.74.2.193

Kamins, M. L., & Dweck, C. S. (1999). Person versus process praise and criticism: Implications for contingent self-worth and coping. *Developmental Psychology*, *35*, 835–847. https://doi.org/10.1037/0012-1649.35.3.835

Kanouse, D. E., Gumpert, P., & Canavan-Gumpert, D. (1981). The semantics of praise. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 3, pp. 97–115).

Kelly, F. D., & Daniels, J. G. (1997). The effects of praise versus encouragement on children's perceptions of teachers. *Individual Psychology, 53*(3), 331–341.

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press.

Koestner, R., Zuckerman, M., & Koestner, J. (1987). Praise, involvement, and intrinsic motivation. *Journal of Personality and Social Psychology*, *53*, 383–390. https://doi.org/10.1037/0022-3514.53.2.383

Koestner, R., Zuckerman, M., & Koestner, J. (1989). Attributional focus of praise and children's intrinsic motivation: The moderating role of gender. Pers*onality and Social Psychology Bulletin*, *15*, 61–72. https://doi.org/10.1177/0146167289151006

Posner, B. Z., & Kouzes, J. M. (1988). Development and validation of the leadership practices inventory. *Educational and Psychological Measurement*, *48,* 483–496. https://doi.org/10.1177/0013164488482024

Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, *28*(4), 563-575.

Mathieu, M., Eschleman, K. J., & Cheng, D. (2019). Meta-Analytic and multiwave comparison of emotional support and instrumental support in the workplace. *Journal of Occupational Health Psychology*, *24*(3), 387–409. https://doi.org/10.1037/ocp0000135

Mayer, R. C., Bobko, P., Davis, J. H., & Gavin, M. B. (2011). The effects of changing power and influence tactics on trust in the supervisor: A longitudinal field study. *Journal of Trust Research*, *1*(2), 177–201. https://doi.org/10.1080/21515581.2011.603512

Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*, 437–455. https://doi.org/10.1037/a0028085

Mitchell, T., Holtom, B., Lee, T., Sablynski, C., & Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. *Academy of Management Journal*, *44*(6), 1102–1121. https://doi.org/10.2307/3069391

Mitchell, R. E., & Trickett, E. J. (1980). Task force report: Social networks as mediators of social support an analysis of the effects and determinants of social networks. *Community Mental Health Journal*, *16*(1), 27–44. https://doi.org/10.1007/BF00780665

Morgeson, F. P., & Humphrey, S. E. (2006). The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, *91*(6), 1321–1339. https://doi.org/10.1037/0021-9010.91.6.1321

Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology*, 75, 33–52. https://doi.org/10.1037/0022-3514.75.1.33

National Institute of Mental Health. (n.d.). *Substance Abuse and Mental Health Services Administration*. https://www.nimh.nih.gov/health/statistics/mental-illness

O'Flaherty, S., Sanders, M. T., & Whillans, A. (2021, March 29). Research: A little recognition can provide a big morale boost. *Harvard Business Review*. https://hbr.org/2021/03/research-a-little-recognition-can-provide-a-big-morale-boost

Oswald, F. L., & Hough, L. M. (2011). Personality and its assessment in organizations: Theoretical and empirical developments. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology, Vol 1: Building and developing the organization*. (pp. 505–534). https://doi.org/10.1037/12170-005

Reinert, M., Fritze, D., & Nguyen, T. (2024). The State of Mental Health in America. Mental Health America. https://mhanational.org/sites/default/files/2024-State-of-Mental-Health-in-America-Report.pdf

Soto, C. J., & John, O. P. (2016). The next big five inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology, 113*(1), 117–143. https://doi.org/10.1037/pspp0000096

Steelman, L. A., Levy, P. E., & Snell, A. F. (2004). The feedback environment scale: Construct definition, measurement, and validation. *Educational and Psychological Measurement*, *64*(1), 165–184. https://doi.org/10.1177/0013164403258440

Office of the Surgeon General. (2022). *The U.S. Surgeon General's Framework for Workplace Mental Health & Well-Being*. Office of the Surgeon General. https://www.hhs.gov/sites/default/files/workplace-mental-health-well-being.pdf

UKG. (2021, June 22). *A silenced workforce: Four in five employees feel colleagues aren't heard equally, says research from the workforce institute at UKG*. The Workforce Institute at UKG. https://www.ukg.com/about-us/newsroom/silenced-workforce-four-five-employees-feel-colleagues-arent-heard-equally-says

Umland, B. (2018, April 10). *The surprisingly strong connection between well-being and turnover*. Mercer. https://www.mercer.com/en-us/insights/us-health-news/the-surprisingly-strong-connection-between-well-being-and-turnover/

Vaux, A., Riedel, S., & Stewart, D. (1987). Modes of social support: The social support behaviors (SS-B) scale. *American Journal of Community Psychology*, *15*(2), 209–232. https://doi.org/10.1007/BF00919279

Wong, Y. J. (2015). The psychology of encouragement: Theory, research, and applications. *The Counseling Psychologist*, *43*, 178–216. https://doi.org/10.1177/0011000014545091

Wong, Y. J., Shea, M., Wang, S., & Cheng, J. (2019). The encouragement character strength scale: Scale development and psychometric properties. *Journal of Counseling Psychology*, *66*(3), 362–374. https://doi.org/10.1037/cou0000334

Zickar, M. J. (2020). Measurement development and evaluation. *Annual Review of Organizational Psychology and Organizational Behavior*, *7*, 213–232. https://doi.org/10.1146/annurev-orgpsych-012119-044957