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A meta-analysis of positive humor in the workplace

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Abstract

Purpose – The benefits of humor for general well-being have long been touted. Past empirical research has suggested that some of these benefits also exist in the work domain. However, there is little shared understanding as to the role of humor in the workplace. The purpose of this paper is to address two main gaps in the humor literature. First, the authors summarize several challenges researchers face in defining and operationalizing humor, and offer an integrative conceptualization which may be used to consolidate and interpret seemingly disparate research streams. Second, meta-analysis is used to explore the possibility that positive humor is associated with: employee health (e.g. burnout, health) and work-related outcomes (e.g. performance, job satisfaction, withdrawal); with perceived supervisor/leader effectiveness (e.g. perceived leader performance, follower approval); and may mitigate the deleterious effects of workplace stress on employee burnout.

Design/methodology/approach – The authors examine the results of prior research using meta-analysis ($k = 49$, $n = 8{,}532$) in order to explore humor's potential role in organizational and employee effectiveness.

Findings – Results suggest employee humor is associated with enhanced work performance, satisfaction, workgroup cohesion, health, and coping effectiveness, as well as decreased burnout, stress, and work withdrawal. Supervisor use of humor is associated with enhanced subordinate work performance, satisfaction, perception of supervisor performance, satisfaction with supervisor, and workgroup cohesion, as well as reduced work withdrawal.

Research limitations/implications – Profitable avenues for future research include: clarifying the humor construct and determining how current humor scales tap this construct; exploring the role of negative forms of humor, as they likely have different workplace effects; the role of humor by coworkers; a number of potential moderators of the humor relationships, including type of humor, job level and industry type; and personality correlates of humor use and appreciation.

Practical implications – The authors recommend caution be exercised when attempting to cultivate humor in the workplace, as this may raise legal concerns (e.g. derogatory or sexist humor), but efforts aimed at encouraging self-directed/coping humor may have the potential to innocuously buffer negative effects of workplace stress.

Originality/value – Although psychologists have long recognized the value of humor for general well-being, organizational scholars have devoted comparatively little research to exploring benefits of workplace humor. Results underscore benefits of humor for work outcomes, encourage future research, and offer managerial insights on the value of creating a workplace context supportive of positive forms of humor.

Keywords Humour, Job satisfaction, Morale, Employees behaviour, Supervisor effectiveness, Subordinate performance, Workgroup cohesion, Burnout

Paper type Research paper

Any man who has had the job I've had and didn't have a sense of humor wouldn't still be here (Harry S. Truman).

Having a sense of humor has long been thought to decrease depression, anxiety and stress, as well as enhance one's mood, immunity to illness, and life/family satisfaction (e.g. Celso *et al.*, 2003; Martin, 1996; Lefcourt, 2001; Martin, 2001; Martin and Dobbins, 1988; McGhee, 1999). In the 1980s researchers began to explore the possibility that sense of humor may also contribute to workplace effectiveness (e.g. Bizi *et al.*, 1988; Burford, 1985, 1987; Decker, 1987; Duncan, 1982, 1984, 1985; Malone, 1980; Nezu *et al.*, 1988; Parsons, 1988; Remington, 1985). Indeed, empirical research has reported positive associations between sense of humor and creativity, socialization, employee bonding, rapport and morale (Clouse and Spurgeon, 1995; Duncan *et al.*, 1990; Holmes and Marra, 2002; O'Quin and Derks, 1997; Romero and Cruthirds, 2006). Positive workplace humor has been found to alleviate boredom and frustration (e.g. Duncan, 1982; Malone, 1980; Pryor *et al.*, 2010; Roy, 1960; Sykes, 1966), promote effective communication (e.g. Lippitt, 1982; Sherman, 1988), and reduce social distances between people yielding improved peer relations (e.g. Kane *et al.*, 1977; Masten, 1986; Sherman, 1988). Research also suggests positive humor may have the potential to buffer the deleterious effects of workplace stress through its use as a coping mechanism (helping promote relaxation, tension reduction, and dealing with disappointments; Lippitt, 1982), and its ability to lubricate social interactions in stressful circumstances (Martin *et al.*, 2003).

In the present study, we address two main gaps in the humor literature. First, we summarize several challenges researchers face in defining and operationalizing humor, and offer an integrative conceptualization which may be used to consolidate and interpret seemingly disparate research streams. Second, we use meta-analysis to explore the possibility that positive humor:

- is associated with employee health (e.g. burnout, health) and work-related outcomes (e.g. performance, job satisfaction, withdrawal);
- is associated with perceived supervisor/leader effectiveness (e.g. perceived leader performance, follower approval); and
- may mitigate the deleterious effects of workplace stress on employee burnout.

Figure 1 provides an overview of the relationships examined in this meta-analysis.

Humor: a theoretical overview

Researchers have spent centuries trying to isolate a definition for "humor" and to describe what it means to say someone has a "sense of humor". However, these efforts have been fraught with complications given the complexity of the humor construct (Allport, 1961; Foot, 1991; Freud, 1928; Kuiper and Martin, 1998; Martin, 2001; Martin *et al.*, 2003; Maslow, 1954; Robert and Yan, 2007; Vaillant, 1977; Warnars-Kleverlaan *et al.*, 1996). A review of the extant theoretical literature on humor suggests there are at least four contributing factors that make defining and operationalizing humor difficult:

(1) the terms "humor" and "sense of humor" are often used interchangeably;

(2) humor is multi-dimensional and the dimensions are seemingly diverse;

(3) humor is quantified in various ways; and

(4) there are numerous humor styles, some positive and some negative.

Notes. As the vast majority of research on humor in the workplace has focused on
positive/successful humor, this meta-analysis summarizes research on humor that is
intended to produce positive outcomes at work. Although other types of humor have
important implications in organizations (e.g., negative humor meant to belittle or intimidate
others, gallows humor used to alleviate anxiety in tragic situations), an insufficient number
of studies have been conducted on the more negative/detrimental forms of humor to permit
their inclusion in a meta-analysis at this time. As such, we remind the reader that
conclusions drawn from the results of this study are applicable to only positive forms of
humor. Future research is needed which explores the implications of the "dark side" of
humor at work

Figure 1.
Correlates of employee
and leader positive humor
examined in this
meta-analysis

Semantics
One difficulty in operationalizing the humor construct may be semantic; some authors
seem to use "humor" and "sense of humor" interchangeably, when in fact they refer to
different aspects of the humor construct. To complicate matters further, there exists an
array of definitions of both humor and sense of humor in the literature. For instance,
Martineau (1972, p. 114) views humor as "any communicative instance which is
perceived as humorous". Crawford (1994, p. 57) defines humor as verbal and nonverbal
communication which produces a "positive cognitive or affective response from
listeners". More recent definitions include those of Romero and Cruthirds (2006, p. 59),
"amusing communications that produce positive emotions and cognitions in the
individual, group, or organization", and Robert and Yan (2007, p. 209), "an intentional
form of social communication delivered by a 'producer' toward an 'audience'". Clearly,
"humor is fundamentally a communicative activity" (Lynch, 2002, p. 423), but whether
it is a stimulus, a cognitive process, an emotional or behavioral response, or all of these,
remains somewhat of a debate among researchers (e.g. Martin, 2001). Importantly,
researchers studying the benefits of humor in the workplace have tended to focus on a

concept called successful humor, defined as mutually amusing communications, wherein communications "intended by the speaker(s) to be amusing [are also] perceived to be amusing by" recipients (Holmes and Marra, 2002, p. 1693; cf. Crawford, 1994; Lynch, 2002; Martineau, 1972; Robert and Yan, 2007).

Proffered conceptualizations of "sense of humor" have ranged from describing sense of humor as a social skill (e.g. Foot, 1991; Goodman, 1983; Martineau, 1972; Warnars-Kleverlaan *et al.*, 1996), an emotion-related personality trait (e.g. habitual cheerfulness; Ruch, 1996, 1998; Ruch and Kohler, 1998), a cognitive ability or process (e.g. ability to create, understand, or reproduce jokes; Feingold and Mazzella, 1993; Martin, 2001), an interpersonal communication behavior (e.g. Sherman, 1988), an aesthetic or behavioral response (e.g. appreciation or enjoyment of humorous material; Martin, 2001; Ruch and Hehl, 1998), a habitual behavior pattern (e.g. tendency to laugh or tell jokes to amuse others; Craik *et al.*, 1996; Martin and Lefcourt, 1984), a perspective or attitude about life (e.g. positive attitude about humor; jovial or bemused outlook on the world; Berg, 1990; Svebak, 1996), and a coping strategy or defense mechanism (e.g. tendency to maintain a humorous perspective despite adverse conditions; Lefcourt and Martin, 1986). The diversity of conceptualizations across studies suggest sense of humor has unique manifestations, but most humor researchers agree that 'sense of humor' is a personality trait that enables a person to recognize and use successful humor as a coping mechanism and/or for social/affiliative communications/interactions (Lynch, 2002; Martin, 1996; Martin *et al.*, 2003; Thorson and Powell, 1993a).

Dimensions of humor
Another challenge in defining humor is capturing its many and diverse dimensions. Thorson and Powell (1993b) articulated four dimensions of humor in their *Multidimensional Sense of Humor Scale (MSHS)*: the ability to:

(1) be humorous, have a sense of playfulness, and have a good time;

(2) recognize humor, life's absurdities, and oneself as a humorous person;

(3) appreciate humor as well as humorous people and situations; and

(4) use humor as a coping and adaptive mechanism, being able to laugh at problems and/or deal with difficult situations.

Other authors have focused on some but not all of these components in their efforts to operationalize the humor construct. For example, Svebak (1974) assessed only three dimensions of humor in his *Sense of Humor Questionnaire (SHQ)*, which included:

(1) sensitivity to humor, ability to notice humorous stimuli in one's environment;

(2) attitudes toward humor, perceived value of humor in one's life; and

(3) expression of humor, the ability to express and suppress humor emotions.

And, Martin and Lefcourt (1983) focused on only the coping dimension of humor in their *Coping Humor Scale (CHS)*. As is summarized in Table I, there has been a great deal of variability in how humor researchers have conceptualized the dimensionality of humor.

Scale	Conceptualization and dimensionality of humor	Sample scale items	Frequency scale used in database
Adult Self-Perception Profile – Humor Subscale (Messer and Harter, 1986)	Authors argue a person's perception of their own sense of humor is a component of their self-esteem/self-concept	"Easy to joke or kid around with others", "Can laugh at myself", "Have a good sense of humor" (1 = not true for me; 4 = really true for me); 4-item scale	1
Avolio *et al.* (1999); Howell and Avolio (1988); Dubinsky *et al.* (1995)	Scale assesses the extent to which an individual (e.g. supervisor/manager) uses positive humor in a social exchange, particularly in context of stressful situations	"Uses humor to take the edge off during stressful periods", "Uses a funny story to turn an argument in his/her favor", "Makes us laugh at ourselves when we are too serious", "Uses amusing stories to defuse conflicts", "Uses wit to make friends of the opposition" (0 = not at all; 4 = frequently, if not always or on a scale ranging from 1 = once or twice since the announcement of the change, to 4 = a few times per week, to 7 = many times daily)	3
Bizi *et al.* (1988)	Authors define *humor* as a coping strategy that permits the "ventilation of emotion and the change in the perception of the environment". Differentiated between productive and reactive humor as well as self- versus other-focused humor. Productive humor refers to telling jokes, making humorous comments, and describing things in a way that elicits laughter/smiling. Reactive humor refers to enjoying another person's jokes/humorous comments and responding with a smile/laughter. Self-directed humor refers to "instances where a person makes themselves the target of humorous comments, laughs at himself, or describes himself humoristically in a manner which portrays him as weak or clumsy". Other-directed humor refers to "poking fun at others, making sarcastic comments about them or describing them humoristically" (p. 952)	80 items which are classified as (1) self-directed and productive humor, (2) other-directed and productive humor, (3) reactions to self-directed humor from others, (4) reactions to other-directed humor. Samples include "Friends would describe me as someone who pokes fun at others", "In an embarrassing situation I joke at myself to get out of the embarrassment", "When I am mad at someone, and can't express it directly, I joke at his expense", "I usually read satirical articles in the newspaper"	1

(continued)

Scale	Conceptualization and dimensionality of humor	Sample scale items	Frequency scale used in database
Coping Humor Scale (CHS; Martin and Lefcourt, 1983); Occupational Coping Humor Scale (OCHS; a slight modification of the Coping Humor Scale by Martin and Lefcourt, 1983)	Authors argue coping humor is an adaptive/self-protective response strategy. Scale assesses the extent to which individuals use humor to cope with stress (Martin, 1996). In the development of the OCHS, the CHS items were revised to tailor it to specifically address the occupational aspect of humor coping (Minasian, 1990; Rosenberg, 1989)	"I often lose my sense of humor when I'm having problems", "I have often found that my problems are greatly reduced when I tried to find something funny in them", "I can usually find something to laugh or joke about even in trying situations" (strongly agree to strongly disagree); seven-item scale	17
Decker (1987)	Does not provide a conceptual definition for sense of humor	"My supervisor has a good sense of humor", "(strongly agree to strongly disagree); one-item scale	1
Duncan (1984)	"Humor is defined as a specific type of communication that establishes an incongruent relationship or meaning and is presented in a way that causes laughter (Berger, 1976). A joke is any type of communication that has a witty or funny intent that is known in advance by the teller (Winick, 1976). Thus, even though there is a technical difference, we will use the terms "humor" and "joking" interchangeably." (Duncan, 1984, p. 896)	Indicate frequency with which individual tells jokes and/or is the focus of a joke	1
Ellis Humor Instrument (Ellis, 1991)	Scale assesses the extent to which a person perceives another to use each of six types of humor: (1) ethnic humor = humor used to express the alleged characteristics of racial, ethnic, regional, professional, or other subcultures, (2) gallows humor = humor to depict the object of tragedy such as war, disease, concentration camp, or oppressed country, (3) hostile humor = humor used to serve as a complaint such as expressions of anger, hostility and frustration, (4) sexual humor = humor used to address issues of a sexual nature, (5) slapstick humor = humor used as a gross exaggeration of a simplistic plot such as that of slipping on a banana peel or hitting someone over the head, and (6) word play humor = humor such as verbal bantering, pleasantries, and jocular talk to provide a sense of familiarity which does not offend and is easily facilitated (Ellis, 1991)	Each definition of humor is provided and respondent uses scale: 0 = never; 4 = very often	1

(continued)

Table I.

Scale	Conceptualization and dimensionality of humor	Sample scale items	Frequency scale used in database
Humor Orientation Scale (Booth-Butterford and Booth-Butterford, 1991)	Scale assesses how likely a person is to produce humorous messages such as funny stories and jokes	"Regularly tell jokes and funny stories when in a group", "Have no memory for jokes or funny stories", "Use humor to communicate in a variety of situations", "Friends would not say I am a funny person" (strongly agree to strongly disagree); 17-item scale	2
Humor Perceptiveness Test (HPT; Feingold, 1983)	Author argues sense of humor is (1) the ability to absorb and retain humor from the environment, (2) an individual's knowledge of humor, and (3) ability to reason humorously (humor comprehension; Feingold, 1983)	Instrument includes 18 items comprised of common jokes from the American culture as well as 14 uncommon items meant to tap "humor reasoning ability". Parts of the jokes/puns are omitted and are to be completed by the respondent; scale scored by number of correct item completions. Samples include "Take my wife... (please)", "I would never belong to a country club that would... (have me for a member)", "Did you hear about the David and Goliath cocktail?...Two sips and you are... (stoned)."; 32-item scale	1
Humor Styles Questionnaire (HSQ; Martin et al., 2003)	Authors argue sense of humor is a stable multi-faceted personality trait which varies along two dimensions: (A) whether it enhances the self or enhances relationships with others, and (B) whether humor is positive/beneficial or negative/detrimental to self/relationships; four humor dimensions result: (1) affiliative humor = use of humor to amuse others, facilitate relationships, and reduce interpersonal tensions (Lefcourt, 2001); (2) self-enhancing humor = coping humor, perspective-taking humor, and use of humor as an emotion regulation or coping mechanism; (3) aggressive humor = sarcasm, teasing, ridicule, derision, or disparagement humor; humor to manipulate or threaten; (4) self-defeating humor = excessive self-disparaging humor, attempts to amuse others at one's own expense	Affiliative humor: "I enjoy making people laugh", "I don't have to work very hard at making other people laugh - I seem to be a naturally humorous person", Self-enhancing humor: "Even when I'm by myself, I am often amused by the absurdities of life", "If I am feeling upset or unhappy, I usually try to think of something funny about the situation to make myself feel better"; Aggressive humor: "If someone makes a mistake, I will often tease them about it", "If I don't like someone, I often use humor or teasing to put them down"; Self-defeating humor: "Letting others laugh at me is my way of keeping my friends or family in good spirits", "I will often get carried away in putting myself down if it makes my family or friends laugh". 32-item scale	2

Table I.

Table I.

Scale	Conceptualization and dimensionality of humor	Sample scale items	Frequency scale used in database
Hurren (2001)	Humor is "any message, verbal or nonverbal, that is communicated by the [sender] and evokes feelings of positive amusement by the participant"	Respondent indicates the frequency with which the sender uses humor according to the definition in different situations (overall, private one-on-one meetings, small meetings with 2-10 individuals, large meetings with more than 10 individuals, and in daily situations with varied audiences)	1
Morkes et al. (1999)	Authors argue humorous refers to being "funny, witty, entertaining, creative, and playful" (p. 408)	Respondent rates the extent to which the following adjectives describe another person (1 = very poorly; 10 = very well): funny, witty, entertaining, creative, and playful	1
Multidimensional Sense of Humor Scale (MSHS; Thorson and Powell, 1993b)	Authors argue that sense of humor "is really a way of looking at the world; it is a style, a means of self-protection and getting along" (p. 13). Scale assesses six elements of a person's sense of humor (recognition of oneself as a humorous person, recognition of others' humor, appreciation of humor, frequency and tendency to laugh, perspective on life which may permit humor, and use of humor to adapt/cope) which fall along four dimensions of sense of humor: (1) humor production and the social uses of humor, (2) coping/adaptive humor, (3) humor appreciation, and (4) attitudes toward humor	Humor production: "I'm regarded as something of a wit by my friends", "My clever sayings amuse others"; Coping humor: "Uses of wit or humor help me master difficult situations", "Uses of humor help put me at ease"; Humor appreciation: "I like a good joke", "I appreciate those who generate humor"; Attitudes toward humor: "I dislike comics", "Calling somebody a 'comedian' is a real insult" (strongly agree to strongly disagree); 24-item scale	8
Ogunlana et al. (2006)	Author argues humor refers to the incongruity theories…. According to this category of theories, humor is inherent in incongruity regardless of the perception of the audience…. Humor exists in the text or message. It is based only upon the message of the teller without considering the audience's perception	Respondents indicate the frequency with which a supervisor uses humor in each of ten situations (e.g. "Deal with other parties, such as a client, consultant", "Defuse conflict among team members by acting funny", "React to your mistakes in a funny manner"). A total score is derived by summing across individual situations	1

Scale	Conceptualization and dimensionality of humor	Sample scale items	Frequency scale used in database
Positive Supervisor Humor Scale (Decker and Rotondo, 2001)	Authors argue humor is "something underlying formal communication that has the potential to enhance leadership ability by shaping the work environment" (p. 451) Humor "is something that includes aspects of a trait or characteristic (i.e. being a humorous person) and of a socially determined exchange (i.e. something is not humorous until the audience perceives it to be so)." (p. 452)	Five-item scale; My supervisor… "Has good sense of humor", "Communicates with humor", "Enjoys jokes", "Tells jokes", and "Uses non-offensive humor" (strongly agree to strongly disagree)	1
Sala (2000)	Author argues humor is indicated by the presence of laughter in social exchanges	Assessed frequency of laughter in social exchanges	1
Sense of Humor Index (Craik et al, 1996)	Authors argue there are five bipolar styles of humor (humor conduct); (1) socially warm versus cold, (2) reflective versus boorish, (3) competent versus inept, (4) earthy versus repressed, and (5) benign versus mean-spirited	Warm versus cold: "Displays a well-developed, habitual humorous style, even when not really feeling light hearted", "Displays fixed smile which seems to lack sincerity"; Reflective versus boorish: "Jokes about problems to make them seem ridiculous or even trivial", "Is competitively humorous; attempts to top others"; Competent versus inept: "Is crushed when humorous efforts meet with less than enthusiastic reception", "Fails to see the point of jokes"; Earthy versus repressed: "Delights in parodies others find Blasphemous or obscene", "Is bored by slapstick comedy"; Benign versus mean-spirited: "Pokes fun at the naive or unsophisticated", "Occasionally makes humorous remarks betraying a streak of cruelty". 36-item scale	1
Sense of Humor Scale (Bowling et al, 2004 with items written by Nathan A. Bowling)	Authors argue there are four facets to sense of humor: (1) coping humor, (2) generating humor, (3) humorous outlook on the world, and (4) attitudes toward humor. Devised a scale specifically to tap the "generating humor" facet of sense of humor	Generating Humor: scale includes five items: four by Bowling and one from the MSHS: "My friends often comment on how funny I am", "I am the type of person who often plays practical jokes", "I find it easy to make other people laugh", "I am funnier than most other people", and "Other people tell me I say funny things" (1 = strongly agree; 7 = strongly disagree)	1

Table I.

Table I.

Scale	Conceptualization and dimensionality of humor	Sample scale items	Frequency scale used in database
Sense of Humor Questionnaire (SHQ; Svebak, 1974)	Author argues sense of humor is an aspect of one's personality. Scale assesses generalized individual differences in humor recognition and appreciation along three dimensions: (1) sensitivity to humorous content and meta-messages (degree to which individuals recognize humor in situations), (2) attitude toward humorous people and situations (value of humor in one's life and extent to which individuals report enjoying or disliking humorous roles or comical situations), and (3) openness to the expression of mirth (extent to which individual express/suppress humor; Mesmer, 2000; Svebak, 1974; Svebak, 2010)	Sensitivity to humor: "I can usually recognize a hint such as a twinkle in the eye or slight change in the voice as a mark of humorous intent" or "I usually find something comical, witty, or humorous in most situations" (total disagreement = 1; total agreement = 4); Attitudes toward humor: "Fun is always aimed at hurting something" or "It is my impression that those who try to be funny do it to hid their lack of self-confidence" (total agreement = 1; total disagreement = 4); Expression of humor: "Do you at times laugh so much that it actually hurts?" or "Do you sometimes find yourself laughing in situations where laughter is quite out of place?" (very seldom = 1; very often = 4).	4
Sense of Humor Questionnaire (SHQZ; Ziv, 1981, 1984 as translated by Ruch, 1994)	Author argues sense of humor has two dimensions: (1) humor appreciation = "the ability to understand and enjoy messages containing humor creativity, as well as situations that are incongruous but not menacing", and (2) humor creativity = "the ability to perceive relationships between people, objects, or ideas in an incongruous way, as well as the ability to communicate this perception to others" (Ziv, 1984, p. 111)	Humor appreciation items relate to the frequency and intensity of laughter and amusement (e.g. laughing easily, tearing during laughter; Ruch, 1994); Humor creativity items relate to entertaining others (e.g. "my friends expect me to make them laugh")	2

Scale	Conceptualization and dimensionality of humor	Sample scale items	Frequency scale used in database
Situational Humor Response Questionnaire (SHRQ; Martin and Lefcourt, 1984)	Authors argue sense of humor is a fairly stable personality characteristic and focus on assessing the extent to which individuals find humor in their daily lives, regardless of the content. They define sense of humor as "the frequency with which a person smiles, laughs, and otherwise displays mirth in a wide variety of life situations" (Martin, 1996; p. 253). These behaviors are assumed to reflect the harder to define perceptual, cognitive, and emotional processes which occur in the experience of humor	The SHRQ presents brief descriptions of 18 situations and requires the respondent to indicate the extent to which they would respond with mirth in each situation (using a five-point scale ranging from "I would not have been particularly amused" to "I would have laughed heartily"). Sample items include "If you were awakened from a deep sleep in the middle of the night by the ringing of the telephone, and it was an old friend who was just passing through town and decided to call and say hello . . ." and "You were traveling in a car in the winter and suddenly the car spun around on an ice patch and came to rest facing the wrong way on the opposite side of the highway. You were relieved to find that no one was hurt and no damage had been done to the car . . ." Scale also includes items assessing importance of having friends who are easily amused, frequency the individual laughs/smiles, and degree to which their expression of mirth varies across situations. 21-item scale	10

Table I.

Various quantifications of sense of humor
Further contributing to the difficulty of converging on a single meaning of humor is the variety of perspectives regarding how to quantify "sense of humor". According to Eysenck (1972), sense of humor may be quantified from three unique perspectives:

(1) a conformist sense, emphasizing the degree of similarity between people's appreciation of humorous material;

(2) a quantitative sense, referring to how often a person laughs/smiles and/or how often he/she is amused; and

(3) a productive sense, focusing on the extent to which the person tells funny stories and/or amuses other people.

Indeed, a review of the scales summarized in Table I indicates that authors of common humor scales are not consistent in how they quantify sense of humor. For example, whereas Feingold's (1983) *Humor Perceptiveness Test* operationalizes sense of humor in the conformist sense, assessing the extent to which respondents know a number of "funny" jokes, Ellis' (1991) *Ellis Humor Instrument* operationalizes it in the quantitative sense, assessing the frequency with which the respondent laughs/smiles, and Bowling *et al.*'s (2004) *Sense of Humor Scale* operationalizes it in the productive sense, assessing how often a respondent tells jokes or attempts to amuse others. Such diversity across scales likely contributes to conceptual ambiguity and offers additional evidence of the multidimensionality of humor.

Humor styles
A fourth complication arises from the variety of styles individuals may adopt in their attempts at humor (e.g. collaborative/beneficial versus competitive/detrimental humor styles; Holmes and Marra (2002). Romero and Cruthirds (2006) elaborated five humor styles which vary by the extent to which they are collaborative versus competitive in nature/effect:

(1) affiliative humor – non-threatening, non-hostile humor used to enhance social interactions;

(2) self-enhancing humor – humor centered internally that is used as a coping mechanism to buffer against stress;

(3) aggressive humor – humor used to victimize, ridicule or belittle others;

(4) mild-aggressive humor – teasing, like that used to communicate a reprimanding message with a humorous undertone; and

(5) self-defeating humor – humor used to lower one's own social status so as to be more approachable.

Considering how humor styles may differ across cultures (Kalliny *et al.*, 2006) the impact of style on the meaning of humor is potentially profound.

Integrating the humor construct
Martin *et al.* (2003) organized the extant literature on humor according to a two-dimensional framework; Figure 2 offers a visual adaptation of their theoretical model. According to this framework, various conceptualizations of humor (definitions, styles, uses) may be organized according to whether the humor is used to enhance the

Focus of Humor

Intra-psychic/Self | Interpersonal/Social

Coping/Self-Enhancing Humor

Self-enhancing humor; use of humor as an emotion-regulation or coping mechanism; perspective-taking humor which permits a cognitive reevaluation of stressful circumstances to reduce stress; humor meant to protect the self (Lefcourt & Martin, 1986; Ziv, 1984). Individuals who use coping humor often are able to be amused by the incongruities of life and maintain a humorous perspective even when faced with stress/adversity (Kuiper, Martin & Olinger, 1993)

Affiliative Humor

Interpersonal humor; humor used to enhance one's relationships with others, others' feelings of well-being and ease, and/or to reduce conflicts and strengthen cohesion (Martineau, 1972; Ziv, 1984). Individuals who use affiliative humor tend to "say funny things, tell jokes, and engage in spontaneous witty banter to amuse others, facilitate relationships, and reduce interpersonal tensions" (Martin et al., 2003, p. 53); humor is non-hostile and affirming of self and others

Self-Defeating Humor

Humor which is excessively self-disparaging; Although individuals using self-defeating humor are seen as witty/amusing, emotional neediness, avoidance or low self-esteem seems to underlie their use of humor (Fabrizi & Pollio, 1987; Martin et al., 2003). Involves "attempts to amuse others by doing/saying funny things at one's own expense...to gain approval, allowing oneself to be the "but" of others' humor, or laughing along...when being ridiculed" (Martin et al., 2003, p. 54).

Aggressive Humor

Humor used to tease, ridicule, disparage, or "put-down" others (Zillman, 1983); humor used to manipulate via an implied threat of ridicule (Janes & Olson, 2000). Tendency to express humor without regard for others feelings; impulse to use humor even when likely to hurt/alienate others (Martin et al., 2003).

Nature of Humor

Notes: This table is based on the 2x2 conceptualization of the everyday functions of humor proffered by Martin et al. (2003). This meta-analysis focuses on only humor which has the intent to be and/or is perceived to be positive or beneficial in nature

Figure 2.
Theoretical domain of studies of humor in the workplace

self (intra-psychic) or used to enhance one's relationships with others (interpersonal/social); and whether the humor is relatively benign, benevolent, and/or positive or whether the humor is potentially detrimental, injurious, and/or negative. This two-dimensional conceptualization yields four humor types/categories (two which are positive, coping/self-enhancing and affiliative, and two which are negative, self-defeating and aggressive), within which prior research results and scale types might be organized. The vast majority of research on humor in the workplace has explored positive/successful humor.

Our review of the extant literature yields three additional insights which may further consolidate the seemingly disparate views of humor. First, researchers tend to agree that sense of humor is a stable personality trait that creates a propensity to use and recognize successful humor (Ruch, 1994, 1996, 1998; Ruch and Kohler, 1998), regardless of style in which it is manifested. Second, although there are many dimensions of humor, they are not necessarily mutually exclusive (e.g. a humorous

communication may have both coping and affiliative effects). And, similar to the multiple dimensions of other complex constructs (e.g. organizational justice, commitment), the dimensions of humor may operate simultaneously. Third, humor styles may alter how humor is used and perceived by people, but they do not change what humor is (i.e. mutually amusing communications; Crawford, 1994; Holmes and Marra, 2002; Lynch, 2002; Martineau, 1972; Robert and Yan, 2007). Taken together, these insights suggest that although the various humor scales in existence (as well as the theoretical conceptualizations on which they are based) may be assessing different aspects of a person's sense of humor and may be quantifying it in different ways, they are tapping into the same overarching construct.

The role of positive humor in the workplace
In this study, we cumulate the extant literature on positive forms of humor in the workplace to explore the extent to which positive (coping or affiliative) humor is associated with desirable employee, team, and leader outcomes as well as the extent to which such humor may buffer the effects of workplace stress on employee burnout. Figure 1 summarizes the relationships we examine in this study.

Employee positive humor
Much humor research is focused on humor's effects on four personal outcomes: burnout, stress, coping, and health. The effects of humor on such personal outcomes has been explained in terms of more effective biological responses as well as due to enhanced quality of social support networks (Martin, 2001). The effects of humor on effective biological functioning is enshrined in folklore in well-known statements like "laughter is the best medicine" and proverbs like "a merry heart doeth good like a medicine" (as quoted in Martin, 2001, p. 504). Empirical research suggests laughter can positively affect cardiovascular functioning (Fry, 1994), and the positive emotions generated by humor may have analgesic or immuno-enhancing effects (Bruehl *et al.*, 1993). Research also suggests individuals with a sense of humor are more socially competent and interpersonally adaptive (e.g. Masten, 1986), characteristics which facilitate the construction and maintenance of a wide social support network. As people with a sense of humor are more enjoyable to be around, a sense of humor may help buffer the effects of stress by attracting needed social support (Factor, 1997; Nezu *et al.*, 1988). Moreover, humor is a way to express feelings (Graham *et al.*, 1992) and provides a means to communicate stressful ideas in a way that can be less distressing (Martin and Lefcourt, 1983). Social support has been found to play a substantial direct as well as moderating and mediating role in mitigating the stressor-strain relationship (Viswesvaran *et al.*, 1999).

Burnout is often characterized by cynicism and excessive strain (Gaines and Jermier, 1983; Golembiewski, 1984; Maslach, 1982). Continuously experiencing stress increases the probability that burnout, as well as a variety of other negative outcomes like work withdrawal and health problems, will result (Talbot and Lumden, 2000). Studies have shown humor may reduce burnout by helping employees deal with difficult situations, release tension, regain perspective on their jobs, and facilitate an optimistic reinterpretation of events (Abel, 2002; Bischoff, 1990; Mesmer, 2000; Rosenberg, 1998; Talbot and Lumden, 2000). Ziv (1981, p. 55) argued "Though reality cannot be altered, one's attitude or perception about it can be temporarily modified so that effective coping behaviors are facilitated". Further, Bentley (1991, p. 114)

explained "The use of humor does not deny the stressful situation, but gives it a balance or a stabilizing effect". In sum, "The medical profession has something to say about humor. Laughter causes lungs to pump out carbon dioxide, eyes to cleanse themselves with tears, muscles to relax tension, adrenaline to increase, and the cardiovascular system to be exercised" (Barth, 1990, p. 171).

In addition to its effects on employees' personal outcomes, humor has been shown to be positively associated with work-related outcomes. Bizi *et al.* (1988) found that humor improved the quality of functioning and performance under stress, Morreall (1991) and Derks *et al.* (1998) found humor fosters mental flexibility, attention, and memory, and Berg (1990) reported humor increases openness to constructive feedback and motivates people to stretch beyond their assumed limits. Numerous studies have confirmed a significant relationship between humor and team creativity (e.g. Humke and Schaefer, 1996; Thorson and Powell, 1993a; Holmes, 2007) and productivity (Collinson, 1988; Duncan and Feisal, 1989). Research suggests humor may promote team cohesion via increased group harmony, collegiality, and inter-member attractiveness (Holmes, 2006; Stogdill, 1972), as well as by operating as a social lubricant (Morreall, 1991) that helps build group consensus and allows the group to withdraw momentarily from present, more serious concerns (Coser, 1960). It also affects team cohesion by generating positive affect among group members (Byrne and Neuman, 1992), emphasizing shared values (Meyer, 1997; Robert and Yan, 2007), masking the unpleasant content of messages (Holmes, 2000), and limiting friction in interactions (Fine and DeSoucey, 2005). Humor can be used to communicate information or to make a point in a positive way (Ullian, 1976), reduce social distance between group members (Graham, 1995), facilitate higher levels of trust (Hampes, 1999), and assist in creating the group's identity (Weick and Westley, 1996). Positive emotions shared among coworkers contribute to positive affect spirals which have been found to promote improved coworker relationships, group member performance, organizational citizenship behaviors, and work satisfaction (Evans and Dion, 1991; Gully *et al.*, 1995; Mullen and Copper, 1994), factors which are also known to relate to reduced work withdrawal and turnover (Podsakoff *et al.*, 2007; Tett and Meyer, 1993). Humor has also been associated with job satisfaction (Brief and Weiss, 2002; Booth-Butterfield *et al.*, 2007; Parsons, 1988; Robert and Yan, 2007; Rupert and Kent, 2007; Schickedanz, 1993; Susa, 2002; Wanzer *et al.*, 2005), reduced absenteeism (Spruill, 1992), lower turnover intentions (Factor, 1997), and higher organizational commitment (Susa, 2002). Taken together, these studies suggest that to the extent employee enhances communication and promotes constructive social interactions, positive work-related outcomes are likely to result.

Leader positive humor
Leader sense of humor influences many of the same employee work-related outcomes as does employees' own humor. For example, humor by leaders/supervisors has been shown to reduce withdrawal behaviors (Wells, 2008) and increase subordinate job satisfaction and commitment (Burford, 1987; Decker, 1987). In fact, Burford (1987) discovered that subordinates' ratings of their supervisors' sense of humor were related to the subordinates' job satisfaction, even though supervisors' ratings of their own sense of humor were not. Leader sense of humor likely affects these outcomes through many of the same mechanisms by which employees' humor does. However, supervisor humor may also operate in distinct ways as it has the twin potential of securing power and

reducing social distance between supervisors and subordinates (Romero and Cruthirds, 2006). For instance, whereas employee humor may enhance performance by promoting increased creativity (Thorson and Powell, 1993a.), leader humor might improve performance by facilitating learning, helping change behavior, and reducing perceived threat associated with organizational change (Barbour, 1998). The use of humor by leaders is associated with increases in individual and unit performance (Avolio *et al.*, 1999) and has important implications for subordinate satisfaction with supervisors (Decker and Rotondo, 1999, 2001; Bass, 1990; Cooper, 2002; Crawford, 1994; Goleman, 1994; Vinton, 1989). Dixon (1980) found leaders who appropriately used humor inspired their subordinates to find creative and innovative solutions to complex problems. Further, leaders who are seen as effectively using humor may be more persuasive than their less-humorous counterparts, as humor creates positive affect (Kuiper *et al.*, 1995), increases liking for the source (Morkes *et al.*, 1999), suggests a shared set of personal values (Meyer, 1997), and increases trust in the source (Hampes, 1999).

In this study, we meta-analytically integrate the extant literature on positive workplace humor using the integrative conceptualization presented in Figure 2 to explore the possibility that humor is associated with employee health/work-related outcomes and perceived supervisor effectiveness, as well as the extent to which humor may mitigate the deleterious effects of workplace stress on employee burnout.

Method

Database

A total of 49 independent studies reported in 48 manuscripts (total $N = 8,532$) examining humor in the workplace were included in this meta-analysis. We compiled the relevant extant literature for this meta-analysis using a multi-faceted approach involving a computerized search of the PsycInfo and ABI Inform databases using relevant keywords or phrases (e.g. humor AND work, job satisfaction, leadership, climate, job performance, organizational commitment, burnout, health, etc.), and a manual search of references cited in recently published reviews (e.g. Romero and Cruthirds, 2006) as well as in studies included in this database.

To be included in our database, a study must have reported a relationship between supervisor/employee humor and at least one relevant correlate. Seventeen studies reported relationships between supervisor sense of humor and at least one relevant correlate. Thirty-two studies reported relationships between employee sense of humor and at least one relevant correlate. When authors reported multiple estimates of the same relationship from the same sample, a mean correlation was computed to maintain independence (Hunter and Schmidt, 2004). The studies included in the meta-analytic database are listed in the references prefixed with an asterisk.

Coding procedure and intercoder agreement

Each study was coded for sample size, operationalization of humor, correlations between humor and relevant correlates, and reliability estimates for humor and correlate variables, if reported. Two of the study's contributors independently coded the studies that met inclusion criteria. Intercoder agreement was very high (100 percent), likely due to the objective nature of the data coded. All studies examined either supervisor humor or employee humor. As is common in the humor literature, there were a variety of operationalizations of humor. Table I summarizes the various humor scales used in the

meta-analytic database, and reports the conceptual and operational definitions of humor used in these scales. Two primary types of correlates of humor were examined: employee personal (e.g. burnout, health) and work-related variables (e.g. performance, satisfaction).

Analysis
The meta-analytic methods outlined by Hunter and Schmidt (2004) were used to analyze this data. Corrections were made for sampling error and measure reliability (for humor and its correlates), as primary study estimates will both vary randomly from the population value as a function of sampling error, as well as systematically underestimate the true effects to the extent to which the predictor/criterion are not perfectly reliable (Hunter and Schmidt, 2004). As reliability estimates were not consistently reported in primary studies, corrections were made for measure reliability using artifact distribution meta-analysis.

Using regression analyses, we sought to determine the extent to which humor may buffer the relationship between workplace stress and burnout. Following the theory-testing method developed by Viswesvaran and Ones (1995), we conducted regression analyses on meta-analytically derived correlations between the variables (i.e. meta-analytic regression; Colquitt *et al.*, 2001; Zimmerman, 2008). To obtain an estimate of the true correlation between stress and burnout, we used reliability-corrected mean observed correlations reported in Lee and Ashforth (1996). We used the harmonic means of the total sample sizes on which each meta-analytic correlation from the input matrix was estimated to compute the standard errors associated with the regression coefficients (cf. Viswesvaran and Ones, 1995).

Results
Table II reports the results of meta-analyses examining relationships between employee humor and its correlates. Employee humor was found to relate negatively to burnout ($\rho = -0.23$, $k = 13$) and stress ($\rho = -0.25$, $k = 17$), and positively to health ($\rho = 0.21$, $k = 9$) and coping effectiveness ($\rho = 0.29$, $k = 4$). Employee humor was also found to positively correlate with work performance ($\rho = 0.36$, $k = 3$) and workgroup cohesion ($\rho = 0.20$, $k = 3$), and negatively correlate with work withdrawal ($\rho = -0.16$, $k = 9$).

As can be seen in Table III, results also suggest supervisor humor positively relates to subordinate job satisfaction ($\rho = 0.39$, $k = 5$) and workgroup cohesion ($\rho = 0.42$, $k = 3$), and negatively relates to subordinate work withdrawal ($\rho = -0.31$, $k = 3$). Supervisor humor also positively relates to subordinate perceptions of supervisor performance ($\rho = 0.45$, $k = 10$), as well as subordinate work performance ($\rho = 0.21$, $k = 5$) and subordinate satisfaction with supervisor ($\rho = 0.16$, $k = 6$).

Table IV reports the results of the meta-analytic regression examining the potential sense of humor buffers the relationship between workplace stress and burnout. Results suggest an employee's use of positive forms of humor (coping and affiliative humor) may cushion the negative effects of perceived workplace stress on burnout. Positive humor added between one and nine percent over workplace stress to our understanding of burnout. These results are consistent with prior research which suggests sense of humor mitigates stressful situations by promoting relaxation and reducing tension, and by permitting a positive reinterpretation of stressful events so they may be met in a more optimistic manner (Bentley, 1991; Bischoff, 1990; Lippitt, 1982; Martin *et al.*, 2003; Ziv, 1981).

Meta-analysis	k	n	r	SD_r	ρ	$SD_ρ$	80%CV	90%CI	%SEV	%ARTV	FDk
Personal outcomes											
Burnout	13	2,058	−0.18	0.12	−0.23	0.12	−0.38/−0.08	−0.30/−0.16	40.98	41.69	47
Emotional exhaustion	5	1013	−0.17	0.11	−0.21	0.11	−0.34/−0.07	−0.31/−0.11	38.01	39.01	16
Depersonalization	3	709	−0.17	0.03	−0.24	0.00	−0.24/−0.24	−0.28/−0.20	100	100	11
Personal accomplishment	3	709	0.21	0.13	0.29	0.15	0.09/0.48	0.12/0.46	24.38	24.86	15
Stress	17	2419	−0.19	0.08	−0.25	0.00	−0.25/−0.25	−0.29/−0.21	100	100	68
Coping effectiveness	4	679	0.25	0.14	0.29	0.14	0.11/0.48	0.16/0.42	25.44	29.00	20
Health	9	873	0.15	0.09	0.21	0.00	0.21/0.21	0.14/0.28	100	100	29
Work-related outcomes											
Work performance	3	383	0.30	0.25	0.36	0.28	0.01/0.72	0.08/0.64	10.17	10.80	19
Workgroup cohesion	3	423	0.17	0.11	0.20	0.08	0.10/0.30	0.08/0.32	60.31	60.65	9
Job satisfaction	7	977	0.08	0.13	0.11	0.12	−0.05/0.26	0.00/0.22	43.53	43.81	9
Work withdrawal	9	1,028	−0.11	0.04	−0.16	0.00	−0.16/−0.16	−0.19/−0.13	100	100	20

Note: k = Number of correlations meta-analyzed; n = Total number of groups; r = Sample size weighted mean observed correlation; SD_r = Sample size weighted standard deviation of the observed correlations; ρ = Sample size weighted mean observed correlation corrected for unreliability in both measures; $SD_ρ$ = Standard deviation of ρ; 80%CV = 80 percent credibility interval around ρ; 90%CI = 90% confidence interval around ρ; %SEV = Percent variance due to sampling error; %ARTV = Percent variance due to all corrected artifacts; FDk = File drawer k representing the number of "lost" studies reporting null findings necessary to reduce ρ to 0.05. We report both the credibility intervals (CV) and confidence intervals (CI) around ρ because each provides unique information about the nature of ρ (Hunter and Schmidt, 2004; Whitener, 1990). Specifically, the CV provides an estimate of the variability of true effects, assuming a random effects model. Wide CVs or those that include zero suggest the presence of a moderator. An 80 percent CV that excludes zero indicates that more than 90 percent of the corrected correlations (estimates of the super-population/true effects) are different from zero (10 percent lie beyond the upper bound of the interval). The CI provides an estimate of the accuracy of our estimation of ρ (Whitener, 1990); in other words, the CI estimates the variability around ρ due to sampling error. A 90 percent CI that excludes zero indicates that if our estimation procedures were repeated many times, 95 percent of the estimates of ρ would be a larger than zero (5 percent would fall beyond the upper limit of the interval). Rhos are considered generalizeable when the credibility interval excludes zero

Table II.
Outcomes of employee humor

Meta-analysis	k	n	r	SD$_r$	ρ	SD$_ρ$	80%CV	90%CI	%SEV	%ARTV	FDk
Employee outcomes											
Subordinate work performance	5	1,320	0.19	0.18	0.21	0.19	−0.03/0.45	0.06/0.36	10.51	10.68	16
Workgroup cohesion	3	223	0.41	0.09	0.42	0.00	0.42/0.42	0.33/0.51	100	100	23
Subordinate job satisfaction	5	1,619	0.33	0.22	0.39	0.26	0.06/0.71	0.20/0.58	4.91	5.55	34
Subordinate work withdrawal	3	858	−0.27	0.19	−0.31	0.21	−0.58/−0.05	−0.52/−0.10	8.67	9.36	16
Leader effectiveness											
Subordinate satisfaction with leader	6	1,164	0.14	0.21	0.16	0.22	−0.11/0.44	0.00/0.32	11.88	11.99	14
Subordinate perception of leader performance	10	2,479	0.42	0.17	0.45	0.17	0.23/0.67	0.36/0.54	9.77	10.15	80

Note: k = Number of correlations meta-analyzed; n = Total number of groups; r = Sample size weighted mean observed correlation; SD$_r$ = Sample size weighted standard deviation of the observed correlations; ρ = Sample size weighted mean observed correlation corrected for unreliability in both measures; SD$_ρ$ = Standard deviation of ρ; 80%CV = 80 percent credibility interval around ρ; 90%CI = 90% confidence interval around ρ; %SEV = Percent variance due to sampling error; %ARTV = Percent variance due to all corrected artifacts; FDk = File drawer k representing the number of "lost" studies reporting null findings necessary to reduce ρ to .05. We report both the credibility intervals (CV) and confidence intervals (CI) around ρ because each provides unique information about the nature of ρ (Hunter and Schmidt, 2004; Whitener, 1990). Specifically, the CV provides an estimate of the variability of true effects, assuming a random effects model. Wide CVs or those that include zero suggest the presence of a moderator. An 80 percent CV that excludes zero indicates that more than 90 percent of the corrected correlations (estimates of the super-population/true effects) are different from zero (10 percent lie beyond the upper bound of the interval). The CI provides an estimate of the accuracy of our estimation of ρ (Whitener, 1990); in other words, the CI estimates the variability around ρ due to sampling error. A 90% CI that excludes zero indicates that if our estimation procedures were repeated many times, 95 percent of the estimates of ρ would be a larger than zero (5 percent would fall beyond the upper limit of the interval). Rhos are considered generalizeable when the credibility interval excludes zero

Table III.
Outcomes of leader humor

Construct	Burnout overall		Emotional exhaustion		Depersonalization		Red. Personal accomplishment	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Stress	0.28*	0.24*	0.46*	0.44*	0.35*	0.31*	0.05	−0.02
Humor		−0.17*		−0.10*		−0.16*		−0.30*
df	1,1472	2,1471	1,1181	1,1180	1,1012	1,1013	1,1012	1,1013
R^2	0.08*	0.11*	0.21*	0.22*	0.12*	0.15*	0.00	0.09*
ΔR^2		0.03*		0.01*		0.03*		0.09*

Note: All coefficients are standardized; $^{*}p < 0.001$

Table IV.
Meta-regression analysis examining unique contributions of humor over stress to burnout and its sub-dimensions

Discussion

Martin *et al.* (2003) proposed that individuals may intend to use humor either positively or negatively, and may direct it either inwardly or interpersonally. We meta-analytically cumulated research on positive workplace humor, and found that regardless of whether it is self- or interpersonally-directed, it is associated with effective workplace functioning.

Implications for practice and society

Three key takeaways from our results are that positive sense of humor is associated with:

(1) good physical and mental health;

(2) buffers the negative effects of workplace stress on mental health; and

(3) promotes effective functioning at work.

To the extent employees make use of positive forms of humor, our results suggest organizations may benefit from enhanced job performance and satisfaction as well as reduced costs associated with burnout, withdrawal and poor employee health. The more effective coping strategies adopted among humorous employees appear to buffer the harmful effects of stress and set the stage for more effective performance. Indeed, positive employee humor was associated with employee coping effectiveness, enhanced health, and reductions in perceived stress and burnout. It is likely that having a positive sense of humor permits employees to reframe stressful work events so they may be viewed in a more optimistic manner, allowing them to reduce tension and deal more effectively with disappointments (Lippitt, 1982). We also found the use of positive humor is associated with enhanced team cohesion, likely because it lubricates what might otherwise be stressful or awkward interactions, and reduces social distance between team members (Kane *et al.*, 1977; Masten, 1986; Sherman, 1988). Future research might explore the potential team member positive sense of humor contributes to other important teamwork processes, like affect management and effective information sharing (Marks *et al.*, 2001; Mesmer-Magnus and DeChurch, 2009).

Another key takeaway from our research is that an employee's perception of their leader's positive sense of humor is also associated with workplace effectiveness; leader use of positive humor was associated with enhanced subordinate job performance and satisfaction, reductions in subordinate work withdrawal, improvements in workgroup cohesion, and subordinate perceptions of leader performance. Messmer (2006) suggests managers who use humor to diffuse difficult situations are seen as more approachable and understanding of the challenges faced by their employees. Recent surveys by Robert Half International suggest 97 percent of employees feel it is important for managers to have a sense of humor because it appears to create a favorable workgroup climate and enhance supervisor/subordinate relationships (Witham, 2007).

One conclusion derived from these findings might be that organizations should attempt to cultivate humor within the workplace, encouraging it within employees and their leaders (e.g. Hampes, 1999; Kuiper *et al.*, 1995; Morkes *et al.*, 1999). Indeed, organizations that have incorporated measures of humor within their selection systems have reported impressive results (e.g. Cooper, 2008; Romero and Pescosolido, 2008). For example, Southwest Airlines screens employees for a light-hearted attitude, citing significant benefits including greater employee camaraderie and performance as well

as enhanced customer satisfaction (Cooper, 2005, 2008; O'Reilly and Pfeffer, 1995). Others have suggested designing humor-training seminars "to teach participants how to select appropriate humor styles... and how to match humor styles to particular organizational outcomes" (Romero and Cruthirds, 2006; p. 66). Research on the effects of having fun while at work has found that when employees perceive the workplace to be fun, there may be positive implications for employee morale, creativity, performance, and commitment (Fluegge, 2008; Ford *et al.*, 2003; Lamm and Meeks, 2009; McDowell, 2004; Pryor *et al.*, 2010).

However, attempting to cultivate humor within the workplace may not be as simple as it sounds. Rather, "successful" humor requires that both the sender and receiver of a communication find it to be humorous. There is ample anecdotal evidence that perceptions of what constitutes a humorous message are not universal; what one person finds humorous, another might find insulting or derogatory. For example, many cases of hostile work environment harassment have originated from "joking" exchanges that were not perceived as humorous by all parties involved (e.g. *Gallagher* v. *CH Robinson Worldwide*, 2009; Meritor Savings Bank, 1986; Oncale v. Sundowner Offshore Services, 1998). Future research is needed to explore the feasibility of selection tools and training programs, which might predict/promote the use of successful/positive humor in the workplace.

Although we must be cautious not to make a sweeping recommendation to cultivate humor at work, we might look for ways to enhance positive, self-directed humor. Specifically, Martin *et al.* (2003) describe humor, which is used to help one cope with stressful circumstances by reframing stressful events and encouraging optimism. Although we were not able to examine coping humor independently from affiliative humor in this meta-analysis, it seems likely that the positive effects of humor on mental and physical health are derived from coping more than from affiliative humor. As coping humor is directed inwardly, there is less chance another individual might be offended by incongruous perceptions of what constitutes humor. Although confirming this assumption is a matter for future research, efforts exploring how best to promote a tendency towards coping humor make practical sense.

Implications for theory and future research
From a theoretical perspective, it appears that in order to make meaningful strides in our understanding of the role of humor at work and in life, researchers will need to more cleanly articulate the humor construct. Our review of the extant literature identified four factors which may have impeded progress in humor theory to date: semantic issues associated with describing humor versus sense of humor, identifying and describing dimensions of humor, how best to quantify humor, and various humor styles. As is summarized in Table I, a large number of humor scales exist in the extant literature and these scales operationalize humor (in terms of dimensions, styles, and quantifications) very differently. The Martin *et al.* (2003) framework offers an integrative theoretical perspective on the humor construct which appears useful for framing research and for devising scales which will permit measurement within each of the four humor categories (e.g. scales assess positive/negative humor, but do not typically permit measurement focused specifically on self-directed or interpersonal humor).

Conceptually, it makes sense to expect different patterns of relationships for self-directed versus interpersonal humor as well as positive versus negative humor;

however, the majority of current humor scales do not allow researchers to easily tease apart these concepts, raising an important direction for future research. Another important direction for future humor research would be a comparative validity assessment of existing humor scales so we might come to some conclusion as to which scales should be used to answer various questions. Importantly, the credibility intervals around the rhos reported for relationships examined in this study were fairly narrow and typically did not include zero, suggesting that although there were a variety of scales used in the primary studies, they did not result in discrepant conclusions regarding the role of humor in the workplace. We would have liked to have conducted a moderator analysis which examines the relationships broken out by all humor scales. Unfortunately, we had sufficient data to examine only three humor scales (the SHRQ, CHS, and MSHS) as moderators of the relationship between humor and five correlates. We conducted a post hoc moderator analysis to explore whether the scale used to assess humor moderates these relationships and report the results in Table V. With the exception of health, the confidence intervals overlap both across scale type and compared with the overall relationships reported earlier, suggesting no differences in reported relationships on the basis of these scales. With regard to the relationship between humor and health, the results of our moderator analysis suggest this relationship is stronger when humor is measured using the MSHS rather than the CHS. This is interesting in that the CHS assesses an individuals' use of humor when experiencing stress or in stressful situations whereas the MSHS assesses a tendency toward using humor in daily life. Perhaps this finding lends support to the notion that an orientation towards and appreciation for humor in life results in widespread positive outcomes, including reducing stress and enhancing one's overall healthiness (McGhee, 1999). Indeed, medical research has shown that people with a better sense of humor have higher IgA (a common antibody) levels, which are known to reduce the frequency of illness (McGhee, 1999). So, although using humor as a coping mechanism is successful in reducing stress and associated effects, a broader use of humor may yield greater overall health effects. Untangling this relationship is a matter for future research.

Another important direction for future research is to explore focus of humor (intra-psychic versus interpersonal) as a moderator of the role of humor in the workplace. We would expect that coping humor would have a stronger relationship with employee personal outcomes, particularly burnout, whereas affiliative humor would have a stronger relationship with certain work-related correlates, like team performance and cohesion. We were unable to conduct a moderator analysis on the basis of humor focus/style because the scales used in the primary studies often blended the two and item-level correlations were not reported.

Other potentially fruitful directions for future research are to examine:

- the role of humor in teams and by coworkers;
- sex differences in humor use (cf. Duncan *et al.*, 1990), and the potential supervisor/subordinate sex moderates humor relationships;
- the effects of humor on responses to workplace incivility (Cortina and Magley, 2009) and interpersonal aggressive behaviors (Berry *et al.*, 2007); and
- the personality correlates of effective humor use (we would expect humor to be a substantial pathway for the effects of personality on organizational outcomes; Ones *et al.*, 2007).

Meta − analysis	k	n	r	SD_r	ρ	SD_ρ	80%CV	90%CI	%SEV	%ARTV	FDk
Situational humor response questionnaire											
Burnout	5	489	− 0.09	0.09	− 0.11	0.00	− 0.11/0.11	− 0.19/ − 0.03	100	100	6
Stress	4	430	− 0.09	0.18	− 0.12	0.19	− 0.36/0.12	− 0.08/0.32	29.62	29.65	6
Coping humor scale											
Burnout	7	861	− 0.16	0.12	− 0.22	0.11	− 0.35/ − 0.08	− 0.32/ − 0.12	54.32	55.27	24
Stress	6	765	− 0.18	0.08	− 0.25	0.00	− 0.25/ − 0.25	− 0.32/ − 0.18	100	100	24
Job satisfaction	3	496	0.00	0.13	0.00	0.14	− 0.17/0.18	− 0.11/0.13	34.79	34.79	−
Work withdrawal	5	669	− 0.13	0.09	− 0.16	0.02	− 0.19/ − 0.13	− 0.24/ − 0.08	95.20	95.30	11
Health	4	529	0.08	0.10	0.09	0.05	0.02/0.16	0.00/0.18	78.63	78.98	3
Multidimensional sense of humor scale											
Stress	4	546	− 0.19	0.05	− 0.23	0.00	− 0.23/ − 0.23	− 0.28/ − 0.18	100	100	15
Work withdrawal	4	360	− 0.22	0.17	− 0.29	0.17	− 0.51/ − 0.07	− 0.47/ − 0.11	37.07	37.59	20
Health	3	119	0.23	0.08	0.35	0.00	0.35/0.35	0.23/0.47	100	100	18

Note: k = Number of correlations meta-analyzed; N = Total number of groups; r = Sample size weighted mean observed correlation; SD_r = Sample size weighted standard deviation of the observed correlations; ρ = Sample size weighted mean observed correlation corrected for unreliability in both measures; SD_ρ = Standard deviation of ρ; 80%CV = 80 percent credibility interval around ρ; 90%CI = 90% confidence interval around ρ; %SEV = Percent variance due to sampling error; %ARTV = Percent variance due to all corrected artifacts; FDk = File drawer k representing the number of "lost" studies reporting null findings necessary to reduce ρ to .05. We report both the credibility intervals (CV) and confidence intervals (CI) around ρ because each provides unique information about the nature of ρ (Hunter and Schmidt, 2004; Whitener, 1990). Specifically, the CV provides an estimate of the variability of true effects, assuming a random effects model. Wide CVs or those that include zero suggest the presence of a moderator. An 80 percent CV that excludes zero indicates that more than 90 percent of the corrected correlations (estimates of the super-population/true effects) are different from zero (10 percent lie beyond the upper bound of the interval). The CI provides an estimate of the accuracy of our estimation of ρ (Whitener, 1990); in other words, the CI estimates the variability around ρ due to sampling error. A 90% CI that excludes zero indicates that if our estimation procedures were repeated many times, 95 percent of the estimates of ρ would be a larger than zero (5 percent would fall beyond the upper limit of the interval). Rhos are considered generalizeable when the credibility interval excludes zero

Table V.
Humor scale as a moderator of the relationship between employee humor and work-related and personal outcomes

An important consideration related to the interpretation of our results has to do with the nature of causality within the observed relationships. By virtue of the fact we cumulated correlations, it is possible the direction of causality in certain relationships is opposite that implied. For example, it is possible that workgroup cohesion and/or job satisfaction affect employee use of humor rather than the other way around (e.g. satisfied employees or members of cohesive teams are more likely to report using humor). Importantly, most researchers agree sense of humor is a dispositional tendency (e.g. Factor, 1997) and as such it is more likely to be the cause rather than the effect. However, it is important to remember the nature of causality may be reversed or reciprocal (e.g. stress reduces coping humor which increases stress, and so on). We have made every effort to temper use of causal phrasing in our discussion and interpretation of results, and instead discuss the constructs to which sense of humor appears to be associated. The meta-regression we report in Table IV should in no way imply a causal relationship between humor, stress, and burnout. Rather, we demonstrate that an already established correlation between stress and burnout (e.g. Lee and Ashforth, 1996) is attenuated when sense of humor is taken into account; it is a matter for future research to ascertain the nature of causality.

Another consideration relevant to the interpretation of our results relates to the small number of primary studies available for some of the meta-analyses. Although a number of studies have examined humor in the workplace, they have tended to be fairly limited in scope, and thus yielded only a small number of relevant relationships for inclusion in this meta-analysis, meaning we could not examine some potentially relevant moderators (e.g. use, type or style of humor, job type, level of employee, content of humorous exchanges). We do not know of any specific guidelines pertaining to a minimum number of studies required to conduct a meta-analysis, however we recognize second order sampling error poses a threat to the validity of our findings (Hunter and Schmidt, 2004). Importantly, the credibility intervals for these relationships tended to be narrow, suggesting consistency in the effects reported to date. Regardless, results of these small-k meta-analyses should be interpreted with caution and used as a guide for potentially fruitful directions for future research.

Conclusion

"Humor is a universal trait. It has existed in every culture, ancient and modern. It transcends language, geography, and time" (MacHovec, 1988, p. 6). Despite the enduring nature of humor, it has seldom been taken seriously by organizational scientists (Brief, 1998). Although anecdotal and empirical evidence suggests humor has significant positive implications for organizational and employee effectiveness, prior research investigating humor in the workplace has tended to be narrow in scope and published in diverse literatures, making it difficult to achieve a comprehensive understanding of the findings and implications. We attempt to fill this void by meta-analytically cumulating across these studies and reporting results relevant to multiple workplace dimensions. Our results confirm and clarify the valuable role positive humor plays in the workplace.

References

Abel, M.H. (2002), "Humor, stress, and coping strategies", *HUMOR: International Journal of Humor Research*, Vol. 15 No. 4, pp. 365-81.

Abel, M.H. and Maxwell, D. (2002), "Humor and affective consequences of a stressful task", *Journal of Social & Clinical Psychology*, Vol. 21 No. 2, pp. 165-90.

Allport, G.W. (1961), *Patterns and Growth in Personality*, Hold, Rinehart & Winston, New York, NY.

Alvarado, I.A. (2000), "Psychological well-being in pediatric professionals", *Dissertation Abstracts International, Section B: Sciences and Engineering*, Vol. 61, p. 4386.

Avolio, B.J., Howell, J.M. and Sosik, J.J. (1999), "A funny thing happened on the way to the bottom line: humor as a moderator of leadership style", *Academy of Management Journal*, Vol. 42 No. 2, pp. 219-27.

Barbour, G. (1998), "Want to be a successful manager? Now that's a laughing matter!" *PM: Public Management*, Vol. 80 No. 7, pp. 6-9.

Barth, R.S. (1990), *Improving Schools from Within*, Jossey-Bass, San Francisco, CA.

Bass, B.M. (1990), *Bass & Stogdill's Handbook of Leadership*, 3rd ed., Free Press, New York, NY.

Bentley, L.A. (1991), "The use of humor as a stress coping mechanism for college student perceived stresses in the college environment", *Dissertation Abstracts International*, Vol. 52, p. 1218.

Berg, D.H. (1990), "Let's get serious . . . about humor", *Journal for Quality & Participation*, Vol. 1, pp. 80-3.

Berger, A.A. (1976), "Laughing matter: a symposium: anatomy of the joke", *Journal of Communication*, Vol. 26 No. 3, pp. 113-5.

Berry, C.M., Sackett, P.R. and Wiemann, S. (2007), "A review of recent developments in integrity test research", *Personnel Psychology*, Vol. 60 No. 2, pp. 271-301.

Bischoff, R.A. (1990), "Humor, stress, and coping: does laughing mean living?", *Dissertation Abstracts International*, Vol. 51, p. 3547.

Bizi, S., Keinan, G. and Beit-Hallahmi, B. (1988), "Humor and coping with stress: a test under real-life conditions", *Personality & Individual Differences*, Vol. 9 No. 6, pp. 951-6.

Booth-Butterford, M. and Booth-Butterford, S. (1991), "Individual differences in the communication of humorous messages", *Southern Communication Journal*, Vol. 56 No. 3, pp. 32-40.

Booth-Butterfield, M., Booth-Butterfield, S. and Wanzer, M. (2007), "Funny students cope better: patterns of humor enactment and coping effectiveness", *Communication Quarterly*, Vol. 55 No. 3, pp. 299-315.

Bowling, N.A., Beehr, T.A., Johnson, A.L., Semmer, N.K., Hendricks, E.A. and Webster, H.A. (2004), "Explaining potential antecedents of workplace social support: reciprocity or attractiveness?", *Journal of Occupational Health Psychology*, Vol. 9 No. 4, pp. 339-50.

Brief, A.P. (1998), *Attitudes In and Around Organizations*, Sage, Thousand Oaks, CA.

Brief, A.P. and Weiss, H.M. (2002), "Organizational behavior: affect at work", *Annual Review of Psychology*, Vol. 53, pp. 279-307.

Bruehl, S., Carlson, C.R. and McCubbin, J.A. (1993), "Two brief interventions for acute pain", *Pain*, Vol. 54 No. 1, pp. 29-36.

Burford, C.T. (1985), "The relationship of principals' sense of humor and job robustness to school environment", *Dissertation Abstracts International*, Vol. 46, p. 2865.

Burford, C. (1987), "Humor of principals and its impact on teachers and the school", *Journal of Educational Administration*, Vol. 25 No. 1, pp. 29-54.

Byrne, D. and Neuman, J.H. (1992), "The implications of attraction research for organizational issues", in Kelley, K. (Ed.), *Issues, Theory, and Research in Industrial/Organizational Psychology*, North Holland, Amsterdam, pp. 29-70.

Campbell, K. (2000), "Chuckle while you work: subordinates' perceptions of superiors' humor orientation, assertiveness, responsiveness, approach/avoidance strategies, and satisfaction", *Dissertation Abstracts International*, Vol. 39, p. 418.

Celso, B.G., Ebener, D.J. and Burkhead, E.J. (2003), "Humor coping, health status, and life satisfaction among older adults residing in assisted living facilities", *Aging Mental Health*, Vol. 7, pp. 438-45.

Clouse, R.W. and Spurgeon, K.L. (1995), "Corporate analysis of humor", *Psychology: A Journal of Human Behavior*, Vol. 32 Nos 3/4, pp. 1-24.

Collinson, D.L. (1988), "Engineering humour, masculinity, joking and conflict in shop-floor relations", *Organization Studies*, Vol. 9 No. 2, pp. 181-99.

Colquitt, J.A., Conlon, D.E., Wesson, M.J., Porter, C.O.L.H. and Ng, K.Y. (2001), "Justice at the millennium: a meta-analytic review of 25 years of organizational justice research", *Journal of Applied Psychology*, Vol. 86 No. 3, pp. 425-45.

Cooper, C.D. (2002), "No laughing matter: the impact of supervisor humor on leader-member exchange quality", *Dissertation Abstracts International*, Vol. 64, p. 2161.

Cooper, C.D. (2005), "Just joking around? Employee humor expression as an ingratiatory behavior", *Academy of Management Review*, Vol. 30 No. 4, pp. 765-76.

Cooper, C.D. (2008), "Elucidating the bonds of workplace humor: a relational process model", *Human Relations*, Vol. 61 No. 8, pp. 1087-115.

Cortina, L.M. and Magley, V.J. (2009), "Patterns and profiles of responses to incivility in the workplace", *Journal of Occupational Health Psychology*, Vol. 14 No. 3, pp. 272-88.

Coser, R. (1960), "Some social functions of laughter: a study of humor in a hospital setting", *Human Relations*, Vol. 12 No. 2, pp. 171-81.

Craik, K.H., Lampert, M.D. and Nelson, A.J. (1996), "Sense of humor and styles of everyday humorous conduct", *HUMOR: International Journal of Humor Research*, Vol. 9 Nos 3/4, pp. 273-302.

Crandall, K.R. (2002), "The stress-moderating effect of productive humor", *Dissertation Abstracts International*, Vol. 64, p. 1485.

Crawford, C.B. (1994), "Theory and implications regarding the utilization of strategic humor by leaders", *Journal of Leadership Studies*, Vol. 1 No. 4, pp. 53-67.

Cross, M.J. (1989), "Leadership perceptions: the role of humor", *Dissertation Abstracts International*, Vol. 51, p. 1038.

Decker, W.H. (1987), "Managerial humor and subordinate satisfaction", *Social Behavior and Personality*, Vol. 15 No. 2, pp. 225-32.

Decker, W.H. and Rotondo, D.M. (1999), "Use of humor at work: predictors and implications", *Psychological Reports*, Vol. 84 No. 3, pp. 961-8.

Decker, W.H. and Rotondo, D.M. (2001), "Relationships among gender, type of humor, and perceived leader effectiveness", *Journal of Managerial Issues*, Vol. 13 No. 4, pp. 450-65.

Derks, P., Gardner, J.B. and Agarwal, R. (1998), "Recall of innocent and tendentious humorous material", *HUMOR: International Journal of Humor Research*, Vol. 11 No. 1, pp. 5-19.

Dixon, N.F. (1980), "Humor: a cognitive alternative to stress?", in Sarason, I.G. and Spielburger, C.D. (Eds), *Stress and Anxiety*, Vol. 7, Hemisphere, Washington, DC, pp. 281-9.

Dubinsky, A.J., Yammarino, F.J. and Jolson, M.A. (1995), "An examination of linkages between personal characteristics and dimensions of transformational leadership", *Journal of Business and Psychology*, Vol. 9 No. 3, pp. 315-35.

Duncan, W.J. (1984), "Perceived humor and social network patterns in a sample of task-oriented groups: a reexamination of prior research", *Human Relations*, Vol. 37 No. 11, pp. 895-907.

Duncan, W.J. (1985), "The superiority theory of humor at work: joking relationships as indicators of formal and informal status patters in small, task-oriented groups", *Small Group Behavior*, Vol. 16 No. 4, pp. 556-64.

Duncan, W.J. (1982), "Humor in management: prospects for administrative practice and research", *Academy of Management Review*, Vol. 7 No. 1, pp. 136-42.

Duncan, W.J. and Feisal, J.P. (1989), "No laughing matter: patterns of humor in the workplace", *Organizational Dynamics*, Vol. 17 No. 4, pp. 18-30.

Duncan, W.J., Smeltzer, L.R. and Leap, T.L. (1990), "Humor and work: applications of joking behavior to management", *Journal of Management*, Vol. 16 No. 2, pp. 255-78.

Ehrenberg, T. (1995), "Female differences in creation of humor relating to work", *HUMOR: International Journal of Humor Research*, Vol. 8 No. 4, pp. 349-62.

Ellis, A.P. (1991), "The relationship between nursing education administrators' use of humor and their leadership effectiveness as perceived by faculty", *Dissertation Abstracts International*, Vol. 53, p. 31.

Evans, C.R. and Dion, K.L. (1991), "Group cohesion and performance: a meta-analysis", *Small Group Research*, Vol. 22 No. 2, pp. 175-86.

Eysenck, H.J. (1972), "Foreword", in Goldstein, J.H. and McGhee, P.E. (Eds), *The Psychology of Humor*, Academic Press, New York, NY, pp. 13-17.

Factor, M.H. (1997), "Sense of humor and social support as moderators of the occupational stressor-strain relationship: an exploratory field investigation", *Dissertation Abstracts International*, Vol. 58, p. 6264.

Feingold, A. (1983), "Measuring humor perception: revision and construction validation of the Humor Perceptiveness Test", *Perceptual and Motor Skills*, Vol. 56 No. 1, pp. 159-66.

Feingold, A. and Mazzella, R. (1993), "Preliminary validation of a multidimensional model of wittiness", *Journal of Personality*, Vol. 61 No. 3, pp. 439-56.

Fine, G.A. and DeSoucey, G.A. (2005), "Joking cultures: humor themes as social regulation in group life", *HUMOR: International Journal of Humor Research*, Vol. 18 No. 1, pp. 1-22.

Fluegge, E.R. (2008), "Who put the fun in functional? Fun at work and its effects on job performance", PhD thesis, ProQuest UMI, Vol. 3322919.

Foot, H. (1991), "The psychology of humor and laughter", in Cochrane, R. and Caroll, D. (Eds), *Psychology and Social Issues*, Falmer Press, London, pp. 1-14.

Ford, R.C., McLaughlin, F.S. and Newstrom, J.W. (2003), "Questions and answers about fun at work", *Human Resource Planning*, Vol. 26 No. 4, pp. 18-33.

Freud, S. (1928), "Humour", *International Journal of Psychoanalysis*, Vol. 9, pp. 1-6.

Fry, P.S. (1995), "Perfectionism, humor, and optimism as moderators of health outcomes and determinants of coping styles of women executives", *Genetic, Social, and General Psychology Monographs*, Vol. 121 No. 2, pp. 211-45.

Fry, W. (1994), "The biology of humor", *HUMOR: International Journal of Humor Research*, Vol. 7 No. 2, pp. 111-26.

Gaines, J. and Jermier, J.M. (1983), "Emotional exhaustion in a high stress organization", *Academy of Management Journal*, Vol. 26 No. 4, pp. 567-86.

Gallagher v. *CH Robinson Worldwide* (2009), 567 F. 3d 263 (6th Cir. 2009).

Goleman, D. (1994), *Emotional Intelligence: Why It Can Matter More Than IQ*, Bantam Books, New York, NY.

Golembiewski, R. (1984), "Perspectives on burnout: seven views of the construct, its character and costs", *Journal of Health and Human Resource Administration*, Vol. 7 No. 2, pp. 142-52.

Goodman, J. (1983), "How to get more smileage out of your life: making sense of humor, then serving it", in McGhee, P.H. and Goldstein, J.H. (Eds), *Handbook of Research in Humor: Vol II. Applied Studies*, Springer-Verlag, New York, NY, pp. 1-21.

Graham, E.E. (1995), "The involvement of sense of humor in the development of social relationships", *Communication Reports*, Vol. 8 No. 2, pp. 158-70.

Graham, E., Papa, M. and Brooks, G. (1992), "Functions of humor in conversation: conceptualization and measurement", *Western Journal of Communication*, Vol. 56 No. 2, pp. 161-83.

Gully, S.M., Devine, D.J. and Whitney, D.J. (1995), "A meta-analysis of cohesion and performance: effects of levels of analysis and task interdependence", *Small Group Research*, Vol. 26 No. 4, pp. 497-520.

Haas, W.M. (1990), "Sense of humor as a coping strategy for stress created by the person-environment incongruence", *Dissertation Abstracts International*, Vol. 50, pp. 2845-6.

Hampes, W.P. (1999), "The relationship between humor and trust", *HUMOR: International Journal of Humor Research*, Vol. 12 No. 3, pp. 253-9.

Hansel, J.E. (2006), "The effects of supervisee humor style on supervision process and outcome", *Dissertation Abstracts International*, Vol. 68, p. 2696.

Hawkins, D.A. (2008), "Comparing the use of humor to other coping mechanisms in relation to Maslach's theory of burnout", *Dissertation Abstracts International*, Vol. 67, p. 2543.

Holmes, J. (2000), "Politeness, power and provocation: how humor functions in the workplace", *Discourse Studies*, Vol. 2, pp. 159-85.

Holmes, J. (2006), "Sharing a laugh: pragmatic aspects of humor and gender in the workplace", *Journal of Pragmatics*, Vol. 38 No. 1, pp. 26-50.

Holmes, J. (2007), "Making humour work: creativity on the job", *Applied Linguistics*, Vol. 28 No. 4, pp. 518-37.

Holmes, J. and Marra, M. (2002), "Having a laugh at work: how humour contributes to workplace culture", *Journal of Pragmatics*, Vol. 34 No. 2, pp. 1683-710.

Horowitz, C.J. (2001), "Hospice volunteers' duration of service and measured sense of humor: a correlational study", *Dissertation Abstracts International*, Vol. 62, p. 1082.

Howell, J.M. and Avolio, B.J. (1988), *Final Report Submitted to London Life Corporation*, London Life, London.

Humke, C. and Schaefer, C.E. (1996), "Sense of humor and creativity", *Perceptual and Motor Skills*, Vol. 82 No. 2, pp. 544-6.

Hunter, J.E. and Schmidt, F.L. (2004), *Methods of Meta-analysis: Correcting Error and Bias in Research Findings*, 2nd ed., Sage, New York, NY.

Hurren, B.L. (2001), "The effects of principals' humor on teachers' job satisfaction", *Dissertation Abstracts International*, Vol. 63, p. 443.

Kalliny, M., Cruthirds, K.W. and Minor, M.S. (2006), "Differences between American, Egyptian and Lebanese humor styles", *International Journal of Cross Cultural Management*, Vol. 6 No. 1, pp. 121-34.

Kane, T.R., Suls, J. and Tedeschi, J.T. (1977), "Humor as a tool of social interaction", in Chapman, A.J. and Foot, H.C. (Eds), *It's a Funny Thing, Humor*, Pergamon, Oxford, pp. 13-16.

Kerkkänen, P., Kuiper, N.A. and Martin, R.A. (2004), "Sense of humor, physical health, and well-being at work: a three-year longitudinal study of Finnish police officers", *HUMOR: International Journal of Humor Research*, Vol. 17 Nos 1/2, pp. 21-35.

Kuiper, N.A. and Martin, R.A. (1998), "Is sense of humor a positive personality characteristic?", in Ruch, W. (Ed.), *The Sense of Humor: Explorations of a Personality Characteristic*, Mouton de Gruyter, New York, NY, pp. 159-78.

Kuiper, N.A., McKenzie, S.D. and Belanger, K.A. (1995), "Cognitive appraisals and individual differences in sense of humor: motivational and affective implications", *Personality and Individual Differences*, Vol. 19 No. 3, pp. 359-72.

Kuiper, N.A. and Nicholl, S. (2004), "Thoughts of feeling better? Sense of humor and physical health", *HUMOR: International Journal of Humor Research*, Vol. 17 Nos 1/2, pp. 37-66.

Lamm, E. and Meeks, M.D. (2009), "Workplace fun: the moderating effects of generational differences", *Employee Relations*, Vol. 31 No. 6, pp. 613-31.

Lee, R.T. and Ashforth, B.E. (1996), "A meta-analytic examination of the correlates of the three dimensions of burnout", *Journal of Applied Psychology*, Vol. 81 No. 2, pp. 123-33.

Lefcourt, H. (2001), *HUMOR: The Psychology of Living Buoyantly*, Academic/Plenum Publishers, New York, NY.

Lefcourt, H.M. and Martin, R. (1986), *Humor and Life Stress: Anicdote to Adversity*, Springer, New York, NY.

Lippitt, G.L. (1982), "Humor: a laugh a day keeps the incongruities at bay", *Training and Development Journal*, Vol. 36 No. 11, pp. 98-100.

Lynch, O. (2002), "Humorous communication: finding a place for humor in communication research", *Communication Theory*, Vol. 12 No. 4, pp. 423-46.

McDowell, T. (2004), "Fun at work: scale development, confirmatory factor analysis, and links to organizational outcomes", PhD thesis, ProQuest UMI, Vol. 3155834.

McGhee, P.E. (1999), *Health, Healing, and the Amuse System: Humor as Survival Training*, Kendall/Hunt, Dubuque, IA.

MacHovec, F.J. (1988), *Humor*, Charles Thomas Publisher, Springfield, IL.

Malone, P.B. (1980), "Humor: a double-edged tool for today's managers?", *Academy of Management Review*, Vol. 5 No. 3, pp. 357-60.

Marks, M.A., Mathieu, J.E. and Zaccaro, S.J. (2001), "A temporally based framework and taxonomy of team processes", *Academy of Management Review*, Vol. 26 No. 3, pp. 356-76.

Martin, R.A. (1996), "The Situational Humor Response Questionnaire (SHRQ) and Coping Humor Scale (CHS): a decade of research findings", *HUMOR: International Journal of Humor Research*, Vol. 9 Nos 3/4, pp. 251-72.

Martin, R.A. (2001), "Humor, laughter, and physical health: methodological issues and research findings", *Psychological Bulletin*, Vol. 127 No. 4, pp. 504-19.

Martin, R.A. and Dobbins, J.P. (1988), "Sense of humor, hassles, and immunoglobulin A: evidence for stress-moderating effects of humor", *International Journal of Psychiatry in Medicine*, Vol. 18 No. 2, pp. 93-105.

Martin, R.A. and Lefcourt, H.M. (1983), "Sense of humor as a moderator of the relation between stressors and moods", *Journal of Personality and Social Psychology*, Vol. 45 No. 6, pp. 1313-24.

Martin, R.A. and Lefcourt, H.M. (1984), "Situational humor response questionnaire: quantitative measure of sense of humor", *Journal of Personality and Social Psychology*, Vol. 47 No. 1, pp. 145-55.

Martin, R.A., Puhlik-Doris, P., Larsen, G., Gray, J. and Weir, K. (2003), "Individual differences in uses of humor and their relation to psychological well-being: development of the Humor Styles Questionnaire", *Journal of Research in Personality*, Vol. 37 No. 1, pp. 48-75.

Martineau, W.H. (1972), "A model of the social functions of humor", in Goldstein, J. and McGhee, P. (Eds), *The Psychology of Humor*, Academic Press, New York, NY, pp. 101-25.

Maslach, C. (1982), *Burnout: The Cost of Caring*, Prentice Hall, Englewood Cliffs, NJ.

Maslow, A.H. (1954), *Motivation and Personality*, Harper & Row, New York, NY.

Masten, A.S. (1986), "Humor and competence in school-aged children", *Child Development*, Vol. 57 No. 2, pp. 461-73.

Meritor Savings Bank (1986), *FSB* v. *Vinson, 477 US 57*.

Mesmer, P.J. (2000), "Use of humor as a stress coping strategy by para-professional youth care workers employed in residential group care facilities", *Dissertation Abstracts International*, Vol. 62, p. 587.

Mesmer-Magnus, J.R. and DeChurch, L.A. (2009), "Information sharing and team performance: a meta-analysis", *Journal of Applied Psychology*, Vol. 94, pp. 535-46.

Messer, B. and Harter, S. (1986), *Manual for the Adult Self-Perception Profile*, University of Denver, Denver, CO.

Messmer, M. (2006), *Human Resources Kit for Dummies*, 2nd ed., John Wiley & Sons, Chichester.

Meyer, J.C. (1997), "Humor in member narratives: uniting and dividing at work", *Western Journal of Communication*, Vol. 61 No. 2, pp. 188-208.

Minasian, B.J. (1990), "Investigating the use of humor as a stress moderator", *Dissertation Abstracts International*, Vol. 51, p. 3549.

Moran, C.C. and Hughes, L.P. (2006), "Coping with stress: social work students and humour", *Social Work Education*, Vol. 25 No. 5, pp. 501-17.

Morkes, J., Kernal, H.K. and Nass, C. (1999), "Effects of humor in task-oriented human-computer interaction and computer-mediated communication: a direct test of SRCT theory", *Human-Computer Interaction*, Vol. 14 No. 4, pp. 395-435.

Morreall, J. (1991), "Humor and work", *HUMOR: International Journal of Humor Research*, Vol. 4 No. 4, pp. 359-73.

Mullen, B. and Copper, C. (1994), "The relation between group cohesiveness and performance: an integration", *Psychological Bulletin*, Vol. 115 No. 2, pp. 210-27.

Newman, M.G. and Stone, A.A. (1996), "Does humor moderate the effects of experimentally induced stress?", *Annals of Behavioral Medicine*, Vol. 18 No. 2, pp. 101-9.

Nezu, A.M., Nezu, C.M. and Blissett, S.E. (1988), "Sense of humor as a moderator of the relation between stressful events and psychological distress: a prospective analysis", *Journal of Personality and Social Psychology*, Vol. 54, pp. 520-5.

Niedzwiecki, M.J. (1997), "Humor and its relationship to cohesion of work group members in the acute care setting", (unpublished doctoral dissertation), Grand Valley State University, Allendale, MI.

Oertel, M.J. (1989), ""The relationship between stress and humor in mental health professionals", *Dissertation Abstracts International*, Vol. 50, p. 3171.

Ogunalana, S., Niwawate, C., Quang, T. and Thang, L.C. (2006), "Effect of humor usage by engineers at construction sites", *Journal of Management in Engineering*, Vol. 22 No. 2, pp. 81-8.

O'Quin, K. and Derks, P. (1997), "Humor and creativity: a review of the empirical literature", in Runco, M.A. (Ed.), *The Creativity Research Handbook*, Hampton Press, Cresskill, NJ, pp. 227-56.

O'Reilly, C. and Pfeffer, J. (1995), "Southwest Airlines: using human resources for a competitive advantage (A)", Case No. HR-1A, Stanford University, Palo Alto, CA.

Oncale v. Sundowner Offshore Services (1998), *523 US 75*.

Ones, D.S., Dilchert, S., Viswesvaran, C. and Judge, T. (2007), "In support of personality assessments in organizational settings", *Personnel Psychology*, Vol. 60 No. 4, pp. 995-1027.

Parsons, N.P. (1988), "An exploration of the relationship between occupational stress and sense of humor among middle-level managers", *Dissertation Abstracts International*, Vol. 49, pp. 2119-20.

Peterson, A.K. (2004), "Gallows humor usage by crisis mental health clinicians: a funny way to cope with stress", *Dissertation Abstracts International*, Vol. 65, p. 6669.

Podsakoff, N.P., LePine, J.A. and LePine, M.A. (2007), "Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: a meta-analysis", *Journal of Applied Psychology*, Vol. 92 No. 2, pp. 438-54.

Priest, R.F. and Swain, J.E. (2002), "Humor and its implications for leadership effectiveness", *HUMOR: International Journal of Humor Research*, Vol. 15 No. 2, pp. 169-89.

Pryor, M.G., Singleton, L.P., Taneja, S. and Humphreys, J.H. (2010), "Workplace fun and its correlates: a conceptual inquiry", *International Journal of Management*, Vol. 27 No. 2, pp. 294-302.

Remington, M.A.W. (1985), "Relationship between the use of humor by nursing education administrators and organizational climate", *Dissertation Abstracts International*, Vol. 47, pp. 1561-2.

Robert, C. and Yan, W. (2007), "The case for developing new research on humor and culture in organizations: toward a higher grade of manure", *Research in Personnel and Human Resource Management*, Vol. 26, pp. 205-67.

Romero, E.J. and Cruthirds, K.W. (2006), "The use of humor in the workplace", *Academy of Management Perspectives*, Vol. 20 No. 2, pp. 58-69.

Romero, E.J. and Pescosolido, A. (2008), "Humor and group effectiveness", *Human Relations*, Vol. 61 No. 3, pp. 395-418.

Rosenberg, L. (1989), "An exploratory investigation of the use of humor as a coping strategy for dealing with stress among paramedics", *Dissertation Abstracts International*, Vol. 51, p. 1738.

Rosenberg, L. (1998), "A qualitative investigation of the use of humor by emergency personnel as a strategy for coping with stress", *Journal of Emergency Nursing*, Vol. 17 No. 4, pp. 197-202.

Roy, D.F. (1960), "Banana time: job satisfaction and informal interaction", *Human Organization*, Vol. 18 No. 4, pp. 158-68.

Ruch, W. (1994), "Temperament, Eysenck's PEN system, and humor-related traits", *HUMOR: International Journal of Humor Research*, Vol. 7 No. 3, pp. 209-44.

Ruch, W. (1996), "Measurement approaches to the sense of humor: introduction and overview", *HUMOR: International Journal of Humor Research*, Vol. 9 Nos 3/4, pp. 239-50.

Ruch, W. (1998), *The Sense of Humor: Explorations of a Personality Characteristic*, Mouton de Gruyter, New York, NY.

Ruch, W. and Hehl, F.J. (1998), "A two-mode model of humor appreciation: its relation to aesthetic appreciation and simplicity-complexity of personality", in Ruch, W. (Ed.), *The Sense of*

Humor: Explorations of a Personality Characteristic, Mouton de Gruyter, New York, NY, pp. 109-42.

Ruch, W. and Kohler, G. (1998), "A temperament approach to humor", in Ruch, W. (Ed.), *The Sense of Humor: Explorations of a Personality Characteristic*, Mouton de Gruyter, New York, NY, pp. 203-30.

Rupert, P.A. and Kent, J.S. (2007), "Gender and work setting differences in career-sustaining behaviors and burnout among professional psychologists", *Professional Psychology: Research and Practice*, Vol. 38 No. 1, pp. 88-96.

Sala, F. (2000), "Relationship between executives' spontaneous use of humor and effective leadership", *Dissertation Abstracts International*, Vol. 61, p. 1683.

Schickedanz, J.A. (1973), "The relationship of sex-typing of reading to reading achievement and reading choice behavior in elementary school boys", *Dissertation Abstracts International*, Vol. 34, pp. 7645-6.

Schickedanz, L.L. (1993), "The relationship of humor to job satisfaction in oncology nurses", *Masters Abstracts International*, Vol. 31, p. 1752.

Sherman, L.W. (1988), "Humor and social distance in elementary school children", *HUMOR: International Journal of Humor Research*, Vol. 1 No. 4, pp. 389-404.

Sidle, S.D. (2000), "Humor as emotional labor", *Dissertation Abstracts International*, Vol. 61, p. 1123.

Spruill, T.E. (1992), "Sense of humor as a mediator of the effects of stress on physical health and psychological well-being", *Dissertation Abstracts International*, Vol. 53, p. 6575.

Stogdill, R.M. (1972), "Group productivity, drive, and cohesiveness", *Organizational Behavior and Human Performance*, Vol. 8 No. 1, pp. 26-43.

Susa, A.M. (2002), "Humor type, organizational climate, and outcomes: the shortest distance between an organization's environment and the bottom line is laughter", *Dissertation Abstracts International*, Vol. 63, p. 6131.

Svebak, S. (1974), "Revised questionnaire on the sense of humor", *Scandinavian Journal of Psychology*, Vol. 15, pp. 99-107.

Svebak, S. (1996), "The development of the sense of humor questionnaire: from SHQ to SHQ-6", *HUMOR: International Journal of Humor Research*, Vol. 9 Nos 3/4, pp. 341-61.

Svebak, S. (2010), "The sense of humor questionnaire: Conceptualization and review of 40 years of findings in empirical research", *Europe's Journal of Psychology*, Vol. 6 No. 3, pp. 288-310.

Sykes, A.J.M. (1966), "Joking relationships in an industrial setting", *American Anthroplogist*, Vol. 68 No. 1, pp. 188-93.

Talbot, L.A. and Lumden, D.B. (2000), "On the association between humor and burnout", *HUMOR: International Journal of Humor Research*, Vol. 13 No. 4, pp. 419-28.

Tett, R.P. and Meyer, J.P. (1993), "Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings", *Personnel Psychology*, Vol. 46 No. 2, pp. 259-93.

Thorson, J.A. and Powell, F.C. (1993a), "Sense of humor and dimensions of personality", *Journal of Clinical Psychology*, Vol. 49 No. 6, pp. 799-809.

Thorson, J.A. and Powell, F.C. (1993b), "Development and validation of a multidimensional sense of humor scale", *Journal of Clinical Psychology*, Vol. 49 No. 1, pp. 13-23.

Ullian, J.A. (1976), "Joking at work", *Journal of Communication*, Vol. 26 No. 3, pp. 129-33.

Vaillant, G.E. (1977), *Adaptation to Life*, Brown, & Co., Toronto.

Vinton, K.L. (1989), "Humor in the workplace: it is more than telling jokes", *Small Group Behavior*, Vol. 20 No. 2, pp. 151-66.

Viswesvaran, C. and Ones, D. (1995), "Theory testing: combining psychometric meta-analysis and structural equation modeling", *Personnel Psychology*, Vol. 48 No. 4, pp. 865-85.

Viswesvaran, C., Sanchez, J. and Fisher, J. (1999), "The role of social support in the process of work stress: a meta-analysis", *Journal of Vocational Behavior*, Vol. 54 No. 2, pp. 314-34.

Von Kirchenheim, C. (1996), "Predictors and outcomes of adjustment in individuals moving internationally for vocational purposes", *Dissertation Abstracts International*, Vol. 57, p. 7262.

Wanzer, M., Booth-Butterfield, M. and Booth-Butterfield, S. (2005), "If we didn't use humor, we'd cry: humorous coping communication in health care settings", *Journal of Health Communication*, Vol. 10 No. 2, pp. 105-25.

Warnars-Kleverlaan, N., Oppenheimer, L. and Sherman, L. (1996), "To be or not to be humorous: does it make a difference?", *HUMOR: International Journal of Humor Research*, Vol. 9 No. 2, pp. 117-41.

Weick, K. and Westley, F. (1996), "Organizational learning: affirming an oxymoron", in Clegg, S., Hardy, C. and Nord, W. (Eds), *Handbook of Organizational Studies*, Sage, Thousand Oaks, CA, pp. 440-58.

Wells, R.E. (2008), "Managers' affective expressions as determinants of employee responses to change: valence, inappropriateness and authenticity", *Dissertation Abstracts International*, Vol. 69, p. 1883.

Whitener, E.M. (1990), "Confusion of confidence intervals and credibility intervals in meta-analysis", *Journal of Applied Psychology*, Vol. 75 No. 3, pp. 315-21.

Williams, R.S.T. (2000), "Use of humor in coping with stress", *Dissertation Abstracts International*, Vol. 61, p. 3349.

Winick, C. (1976), "The social contexts of humor", *Journal of Communication*, Vol. 26 No. 3, pp. 124-8.

Witham, T. (2007), "HR in brief", *Credit Union Management*, October, p. 36.

Zimmerman, R.D. (2008), "Understanding the impact of personality traits on individuals' turnover decisions: a meta-analytic path model", *Personnel Psychology*, Vol. 61 No. 2, pp. 309-48.

Ziv, A. (1981), *Psychology of Humor (Hebrew)*, Yahdav, Tel-Aviv.

Further reading

Barney, J.B. (2001), "Resourced based theories of competitive advantage: a ten-year retrospective on the resource-based view", *Journal of Management*, Vol. 27 No. 6, pp. 643-50.

Cammann, C., Fichman, M., Jenkins, D. and Klesh, J. (1983), "Assessing the attitudes and perceptions of organizational members", in Seashore, S., Lawler, E., Mirvis, P. and Camman, C. (Eds), *Assessing Organizational Change: A Guide to Methods, Measures, and Practices*, John Wiley, New York, NY, pp. 71-138.

Cann, A., Holt, K. and Calhoun, L.G. (1999), "The roles of humor and sense of humor in response to stressors", *Humor: The International Journal of Humor Research*, Vol. 12 No. 2, pp. 177-94.

Caroll, J.L. and Shmidt, J.L. (1992), "Correlation between humorous coping style and health", *Psychological Reports*, Vol. 70 No. 2, p. 402.

Cohen, S., Kamarack, T. and Mermelstein, R. (1983), "A global measure of perceived stress", *Journal of Health and Social Behavior*, Vol. 24 No. 4, pp. 382-96.

Davies, A.R. and Ware, J.E. Jr. (1981), *Measuring Health Perceptions in the Health Insurance Experiment*, The Rand Corporation, Santa Monica, CA.

Derogatis, L.R. (1980), *The Derogatis Stress Profile DSP®*, Clinical Psychometric Research, Baltimore, MD.

Deutsch, C.J. (1985), "A survey of therapists' personal problems and treatment", *Professional Psychology: Research and Practice*, Vol. 16 No. 2, pp. 305-15.

Fabrizi, M.S. and Pollio, H.R. (1987), "A naturalistic study of humorous activity in a third, seventh, and eleventh grade classroom", *Merrill-Palmer Quarterly*, Vol. 33 No. 1, pp. 107-28.

Folkman, S., Lazarus, R.S., Dunkel-Schetter, C., DeLongis, A. and Gruen, R.J. (1986), "Dynamics of a stressful encounter: cognitive appraisal, coping, and encounter outcomes", *Journal of Personality and Social Psychology*, Vol. 50 No. 5, pp. 992-1003.

Fry, W.F. (1977), "The respiratory components of mirthful laughter", *Journal of Biological Psychology*, Vol. 19 No. 2, pp. 39-50.

Greenberg, J. (1987), *Comprehensive Stress Management*, William C. Brown, Dubuque, IA.

Janes, L.M. and Olson, J.M. (2000), "Jeer pressure: the behavioral effects of observing ridicule of others", *Personality and Social Psychology Bulletin*, Vol. 26 No. 4, pp. 474-85.

Klapp, O.E. (1949), "The fool as a social type", *American Journal of Sociology*, Vol. 55 No. 2, pp. 157-62.

Kuiper, N.A., Martin, R.A. and Olinger, L.J. (1993), "Coping humour, stress, and cognitive appraisals", *Canadian Journal of Behavioural Science*, Vol. 25 No. 1, pp. 81-96.

Langan-Fox, J. (2001), "Women's careers and occupational stress", in Cooper, C.L. and Robertson, I.T. (Eds), *Well-Being in Organizations*, John Wiley & Sons, Chichester, pp. 177-208.

Lefcourt, H.M., Davidson-Katz, K. and Kueneman, K. (1990), "Humor and immune-system functioning", *Humor*, Vol. 3 No. 3, pp. 305-21.

Lin, C., Standing, C. and Liu, Y.C. (2008), "A model to develop effective virtual teams", *Decision Support Systems*, Vol. 45 No. 4, pp. 1031-45.

Maslach, C. and Jackson, S.E. (1981), "The measurement of experienced burnout", *Journal of Occupational Behavior*, Vol. 2 No. 2, pp. 99-113.

O'Quin, K. and Aronoff, J. (1981), "Humor as a technique of social influence", *Social Psychology Quarterly*, Vol. 44 No. 4, pp. 349-57.

Rizzo, J.R., House, R.J. and Litzman, S.I. (1970), "Role conflict and ambiguity in complex organizations", *Administrative Science Quarterly*, Vol. 15 No. 2, pp. 150-63.

Rosenthal, R. (1979), "The 'file drawer problem' and tolerance for null results", *Psychological Bulletin*, Vol. 86 No. 3, pp. 638-41.

Wolfgang, A.P. (1988), "The health professions stress inventory", *Psychological Reports*, Vol. 62 No. 1, pp. 220-2.

Zillman, D. (1983), "Disparagement humor", in McGhee, P.E. and Goldstein, J.H. (Eds), *Handbook of Humor Research*, Vol. 1, Springer, New York, NY, pp. 85-108).

Ziv, A. (1984), *Personality and Sense of Humor*, Springer, New York, NY.

Appendix
The following were included in the meta-analytic database:

Abel (2002); Abel and Maxwell (2002); Alvarado (2000); Avolio *et al.* (1999); Bizi *et al.* (1988); Bowling *et al.* (2004); Burford (1985); Campbell (2000); Cooper (2002); Crandall (2002); Cross (1989); Decker (1987); Ehrenberg (1995); Ellis (1991); Factor (1997); Fry (1995); Haas (1990); Hansel (2006); Hawkins (2008); Horowitz (2001); Humke and Schaefer (1996); Hurren (2001);

Kerkkänen *et al.* (2004); Kuiper and Nicholl (2004); Mesmer (2000); Moran and Hughes (2006); Morkes *et al.* (1999); Newman and Stone (1996); Nezu *et al.* (1988); Niedzwiecki (1997); Oertel (1989); Ogunalana *et al.* (2006); Parsons (1988); Peterson (2004); Priest and Swain (2002); Remington (1985); Sala (2000); Schickedanz (1973); Sidle (2000); Spruill (1992); Susa (2002); Talbot and Lumden (2000); Von Kirchenheim (1996); Wanzer *et al.* (2005); Wells (2008); Williams (2000).

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