1-13-2023

Why So Serious? Using the Belongingness Need Tenet from the Self-Determination Theory to Examine Workplace Humor and Its Outcomes

Katharine Lucille McMahon
Portland State University

Why So Serious? Using the Belongingness Need Tenet from the Self-Determination

Theory to Examine Workplace Humor and Its Outcomes

by

Katharine Lucille McMahon

A dissertation submitted in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy
in
Applied Psychology

Dissertation Committee:
Liu-Qin Yang, Chair
Todd Bodner
Tori Crain
Charlotte Fritz

Portland State University
2023

Abstract

The small body of literature for workplace humor remains fragmented due to the lack of coherence in conceptualization and theory. Furthermore, the distinction between positive and negative humor adds complexity to predicting the outcomes of humor. Focusing on the foundation aspect of humor as a form of social play provides guidance on choosing a theory-informed integrative framework that could explain the implications of humor in the workplace. The belongingness need tenet of the self-determination theory offers a promising framework to synthesize existing research and to direct future studies. Paper 1 reviews the literature and concludes with an integrative framework suggesting that the satisfaction and frustration of the belongingness need can explain the shared and distinct outcomes of positive and negative humor. Furthermore, Paper 2 empirically tests a representative research model to find supporting evidence in a two-wave survey design that samples employees from various industries using two online self-report surveys taken a month apart. Although the analyses based on the matched Time-Time 2 sample ($N = 84$) did not reveal significant findings for the hypotheses, I found significant results using Time 1 data only ($N = 356$) in the supplementary analyses. These results suggested that the belongingness need aligns with the social aspect of humor and explains humor's underlying psychosocial processes. Specifically, belongingness need satisfaction positively related to positive humor, and furthermore mediated the relations between positive humor and the outcomes, namely vitality and organizational citizenship behaviors directed toward individuals (OCB-I). Belongingness need frustration positively related to negative humor, and furthermore mediated the relations between negative humor and the outcomes, namely emotional exhaustion and counterproductive work

behaviors directed toward individuals (CWB-I). These results demonstrate the need to

separate positive and negative humor when determining workplace humor's overall

conceptualization. The findings further both the humor and SDT literature by expanding,

organizing, and distinguishing nomological networks of focal variables, adding to the

understanding of two universal experiences, humor and psychological needs.

Dedication

I dedicate my dissertation to my parents, who have always supported my goals. Since the beginning, they instilled in me a respect for formal and informal education and the discipline to take advantage of such opportunities. Their constant encouragement to pursue intellectual curiosity and worlds outside of my own has fostered an ambition to go beyond familiar comforts and explore the unknown. I would also like to dedicate this publication to the late Lucille McMahon, better known as Mimi. Her remarkable intellect and insatiable curiosity serve as reminders, and an inspiration, to be a life-long learner, and to make sure to do it with a sense of humor.

Acknowledgments

I would like to express my sincere gratitude for the social support I have received, often with humor, throughout this research project and my time as a graduate student at Portland State University. First, I thank my advisor Dr. Liu-Qin Yang for being a transformational mentor, who shares with me a love for tea, and always has my best interests at heart. She has challenged me in ways that have led to immense professional and personal growth. I will always appreciate her encouragement and assistance in pursuing my interests, passions, and values, including this manuscript, with unwavering faith. She has continuously provided me with autonomy, opportunities to develop my leadership skills, and cheerful guidance to persevere. I also thank my committee members for their advice and instrumental support that has enhanced my writing. I appreciate the time and effort they have given to elevate the quality of my dissertation.

I cannot overstate my gratitude for my cohort and other fellow graduate students, not just colleagues, but companions whose presence, guidance, and camaraderie explain at least 42% of the variance for my successful journey. Finally, I want to acknowledge the immeasurable love and support of my family and friends that gave me indispensable strength these last five years, even if they didn't always fully understand the words I was saying, even if *I* didn't always fully understand the words I was saying. Our shared amusement has proven to be the crux of this experience and for that I thank you.

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Introduction

Shakespearean tragicomedies and gallows humor exemplify the classic pairing of tragedy and comedy. During times of hardship, expressions of humor become more prominent. This is made obvious by the numerous memes, comedy sketches, and stand-up routines that make light of the recent world-shattering pandemic. During times of loneliness and isolation, humor can bring people together. It can also alienate them. The United States' volatile political climate has also demonstrated the harmful repercussions from tolerance of offensive jokes. Humor proves to be relevant during all types of situations, to the benefit or detriment of individuals.

Humor is a part of our lives from the very beginning. Laughter is one of the first vocalizations from infants. It typically emerges in interactions between a caregiver and an infant within 10-20 weeks and proceeds to frequently appear in those interactions as a form of social communication (Shultz, 1976 as cited in R. A. Martin & Ford, 2018). As social creatures, relationship building is essential to our survival, growth, and prosperity, and this begins with the caregiver-infant relationship(s) as seen through attachment theories and observable infant behaviors (Deci & Ryan, 2000). Humor can serve as both a catalyst for relationship building and resource for relationship maintenance, both in infancy and throughout an individual's lifespan. A substantial amount of one's life is spent at work, where humor frequently emerges during interpersonal interactions as playful and amusing communications (Romero & Cruthirds, 2006). Establishing, maintaining, and enhancing positive social relationships among colleagues creates successful and healthy workplaces. Workplace humor, however, has demonstrated its

pertinence to both beneficial and detrimental developments within workplace

relationships.

Although a smaller area of focus, workplace humor research is gaining popularity

and has repeatedly demonstrated the relevance of levity and importance for desired and

undesired employee and organizational outcomes such as work performance and

withdrawal, respectively (e.g., Mesmer-Magnus et al., 2012; Sliter et al., 2017).

Therefore, the literature seeks to move on from defending the need for its research to

investigating the nuances of humor (Cooper et al., 2019). Academics and practitioners

would benefit from extensive exploration and understanding of the benefits of managing

workplace humor for talent management and workgroup effectiveness. In other words,

using evidence-based humor research, leaders and employees can effectively navigate

something that already exists free of charge in their organizations so that it leads to

beneficial, and not detrimental, outcomes. Accordingly, the organizational humor

literature needs an integrative framework using a clear conceptualization to unite its

fragmented research and generate synergy.

The equivocal state of the workplace humor literature stems from the various

conceptualizations of humor (e.g., sense of humor, humorous content, or humorous

interactions), which poses issues for comprehensively understanding findings and making

applicable conclusions. A recent meta-analysis highlighted issues in construct clarity and

measurement within workplace humor research, such as the mixture of trait humor with

behavioral expression and a lack of explicit and clear conceptualizations (Kong et al.,

2019). The obscurity from the semantics of "humor" creates a problem, especially with

the inappropriate interchange between humor expression and sense of humor, which adds

confusion to the already complex construct that has multiple definitions (Mesmer-Magnus et al., 2012). Some researchers attempt to specify their conceptualizations by narrowing their scope. For example, the trait conceptualization of sense of humor addresses the stable and consistent engagement with humor (Thorson & Powell, 1993). Another common conceptualization is a leader's use of humor that captures the observable and lighthearted behaviors of leaders (Avolio et al., 1999). Importantly, the theoretical conceptualization can impact observed relationships with workplace outcomes. Typically, behavioral measurements of humor rather than stable, or trait, measurements have stronger relationships with outcomes (Kong et al., 2019).

The Humor Styles Questionnaire (HSQ) separates dimensions of different humor styles into four categories, which offers one of the most widely accepted conceptualizations (R. A. Martin et al., 2003). The first, affiliative humor, has items that refer to laughing and joking with others to indicate a style focused on bonding. The second, self-enhancing humor, focuses on items for cheering oneself up and using humor as a coping style. These two dimensions combine to form positive humor. Negative humor consists of the other two dimensions. Aggressive humor includes items regarding making fun of others, with some items explicitly mentioning lack of regard for the impact on the target, and indicates a style that encourages superiority, veiled demand, or conformity. The final dimension, self-defeating humor, has items about allowing others to laugh at the humorist, sometimes excessively, and indicates a style meant to please others or to fit in. The separation of humor based on content type (i.e., positive or negative) and its target (i.e., self or others) helps clarify the conceptualization and maintains the relevance of humor's role in social relations.

For the purpose of this manuscript, humor is defined as amusing communications that intend to produce positive emotions and cognitions in the individual, group, or organization (adapted from Romero & Cruthirds, 2006). Additionally, the four dimensions from the HSQ (R. A. Martin et al., 2003) will provide an operationalization of this definition due to the validity and utility of HSQ for distinguishing types of humor.

Despite the diversity in conceptualizations, humor consistently demonstrates a social function. Underneath any integration of workplace humor research should be the theoretical underlying acceptance of it as a form of a social play, which when used effectively can be leveraged as a social skill (R. A. Martin & Ford, 2018), especially at work. Humor can enhance or deter relationships and for this reason, it sometimes exhibits social skill in addition to being a form of social play. Indeed, empirical evidence supports the notion that humor relates to social competence and emotional intelligence, but the direction of those relations depends on the type of humor (Yip & Martin, 2006). This points out the potential of humor for helping or hurting the development of social relationships depending on the type of social play (i.e., positive or negative humor). The understanding and explanation of this dichotomous impact remains unclear, partially due to the disjointed literature.

Humor's theoretical conceptualization should include a separation between *positive* and *negative* humor. This distinction refers to the difference in content and tone of a joke and if it comes at someone's expense. Naturally, positive humor does not involve making fun of someone and typically directs the attention to non-human content while negative humor directly targets at least one individual in an antagonistic manner. Some of the organizational humor literature has measured the two types separately and

generally found distinct relationships with other workplace variables. Although positive humor has tended to demonstrate relations as expected, negative humor has generated more mixed findings. These mixed findings have suggested that negative humor positively relates to positive factors such as social support (Caudill & Woodzicka, 2017) only sometimes, and the magnitude of the relations between negative humor and such positive factors may depend on individual, job, and organizational factors (Blanchard & Cann, 2014; Sliter et al., 2017).

The nuances of the two types of humor and their expected outcomes need much more empirical testing, but in general, positive humor has displayed beneficial outcomes more consistently than negative humor. For example, a meta-analysis only examining positive humor in the workplace found consistent evidence for its positive influence on employee health, performance, job attitudes, and interpersonal dynamics (Mesmer-Magnus et al., 2012). Consequently, despite the varied conceptualizations of humor, researchers have identified the distinction between positive and negative humor. Despite this demonstrated distinction, humor research does not always specify between the two types of humors. The literature also does not have a unifying framework to organize and synthesize the existing findings on workplace humor, including the illustration of this important distinction.

The role of the belongingness need, from the self-determination theory (SDT; Deci & Ryan, 2000), as a mediator provides a promising framework for synergy among the existing workplace humor literature that future research can develop. It provides theoretical reasoning for implications from both types of humor and observable outcomes in everyday work life, some of which have yet to be empirically tested. This motivational

theory illustrates different types of motivation on a spectrum that can be dichotomized

into controlled or autonomous motivation, with the latter leading to more positive

outcomes (Deci et al., 2017). One form of autonomous motivation, intrinsic motivation,

is most desirable as it drives behaviors that a person finds enjoyable for the act itself.

Intrinsic motivation requires fewer resources to initiate, direct, and sustain behavior.

Therefore, it can better facilitate an individual to sustainably perform their focal actions

(e.g., complete tasks, provide social support, etc.) and better enhance their well-being

(Deci & Ryan, 2000), than other forms of motivation. According to SDT, the satisfaction

of three psychological needs precedes intrinsic motivation (Deci & Ryan, 2000). Those

needs are: (a) autonomy or the sense of volition and authenticity, (b) competence or the

ability to effectively manage the surrounding environment, and (c) belongingness or

feelings of having mutually caring, trusting, and respecting relationships. Although

humor impacts all three needs, the belongingness need tenet has the most relevance

conceptually in understanding the social function of humor to foster connection with

others.

Current Research

In my research, I define workplace humor as amusing communications that intend

to produce positive emotions and cognitions in the individual, group, or organization

(adapted from Romero & Cruthirds, 2006). Such a definition accurately captures the

general concept of humor and its relevance to social relationships as a form of social

play. Furthermore, reviewing and framing the empirically demonstrated progression from

humor to its outcomes around the belongingness need tenet of SDT supplements the

simplicity of this definition by acknowledging the divergent implications of positive and

negative humor. In addition to recognizing need satisfaction that leads to positive

outcomes, SDT recognizes that an environment can actively frustrate psychological

needs, which is antagonistic, but not opposite, to need satisfaction. A study by Yip and

Martin (2006) demonstrated how negative humor can hinder relationship building

because of its negative relation with social skills, such as emotional perception and

conflict management. Negative humor, specifically, allows for the comparison between

the satisfaction and frustration of the belongingness need due to its contrasting

characteristics of hostility and shared levity. Reviewing and organizing the literature

based on this encompassing definition of workplace humor and the belongingness need

tenet of SDT provides 1) a promising solution for the disconnect between the results of

past humor studies and 2) a promising path for future research to have a comprehensive

guiding framework that recognizes the divergent impact of a common, yet overlooked,

social characteristic of the workplace.

   The current research consists of two papers to demonstrate the mechanism of the

belongingness need for workplace humor and its outcomes. The first paper reviews

existing workplace humor literature and then synthesizes it into an organizing framework

using the belongingness need tenet of the SDT. This fulfills the research objective to

unite the disconnected research on workplace humor. Furthermore, applying the

belongingness need in this context encourages and emphasizes the social aspect of

humor's foundational conceptualization, a form of social play. This integrative

framework emerging from the review of previous theoretical and empirical evidence

enables future research to have a coherent conceptualization of humor and allows for the

empirical development of it as promising next steps. The second paper describes the

empirical testing of an abbreviated version of the emergent integrative framework in

Paper 1. Therefore, Paper 2 addresses the objective to find empirical evidence to support

the organizing framework and establish preliminary results.

**Paper 1: Work Hard Play Hard: An Integrative Review of Workplace Humor as a
Form of Social Play**

In the modern era, organizations wish to attract and retain employees through any
means necessary. This includes encouraging them to have fun at work, a philosophy that
would have made businesspeople scoff decades ago. Conceptions of the workplace
typically align with thoughts of seriousness and sincerity rather than playfulness, and yet
it is extremely common to hear joking and laughter in offices and virtual meetings. Even
the Stanford Graduate School of Business recognizes the power of humor to the extent
that they offer the popular course "Humor: Serious Business."

Humor can create a desirable, cheerful workplace that engenders hope and
positivity, or a conforming and controlling workplace that tolerates hostility through
power dynamics. Importantly, when used effectively, this form of social play also reflects
a social skill to enhance workplace relationships. Employees value and receive
interpersonal benefits from social characteristics at work and from their work
relationships (Ilies et al., 2018). Consistent evidence reveals the unique importance of
social relationships and characteristics at work for desired outcomes (Humphrey et al.,
2007). The commonality of humor positions itself as an influential but underestimated
social characteristic.

In its relative infancy, workplace humor literature has produced multiple
conceptualizations and approaches that limit themselves to specific social dynamics.
Therefore, the research does not have clear direction from a comprehensive framework of
humor's influence and instead has disjointed clusters of approaches. Humor research has
recently gained more of a spotlight in prominent journals (e.g., Cooper et al., 2018; Yam

et al., 2018), as featured symposia at conferences such as Society for Industrial and

Organizational Psychology (SIOP) or Academy of Management (AOM), and by securing

handbooks chapters (e.g., Ruch & McGhee, 2014). Therefore, it is pertinent and

imperative to review and organize the literature to identify common themes and

generalizable conclusions before more isolated clusters form and the existing isolated

clusters move further apart, further complicating this disjointed area of study.

      In this qualitative review, I provide an overview of the theoretical and empirical

literature on workplace humor and demonstrate the recurrence of different types of

relational processes, which collectively indicate the central role of interpersonal

connection (or disconnection). After establishing interpersonal connection as an emergent

theme, I illustrate the utility of the construct, the belongingness need, one of three

universal psychological needs (Deci & Ryan, 2000), and argue that it is a core

mechanism that future research on workplace humor can expand upon. This paper

responds to the tremendous urgency for construct clarity and a unifying approach that

captures the social foundation of humor at work and explains its benefits or detriments

for individuals and organizations. Defining organizational humor as amusing

communications that intend to produce positive emotions and cognitions in the

individual, group, or organization (adapted version of Romero & Cruthirds, 2006)

appropriately captures the humor construct for this review's purpose of synthesizing the

existing literature and emphasizing humor's relational function for construct clarity. By

organizing and uniting the literature, researchers can advance the understanding of why

and when humor is beneficial or detrimental to individuals, groups, and organizations.

With the intent to add clarity to the literature by consolidating it, I begin by first reviewing the existing conceptualizations and approaches for both general humor and workplace humor research. Subsequently, this enables the examination of the similarities and differences in their scope to identify themes and gaps, respectively. Next, I briefly review the psychological needs from the Self-Determination Theory (SDT) and their connection to humor before transitioning to focus on the belongingness need, the most auspicious psychological need. Finally, I outline the strong link between the two phenomena, workplace humor and the belongingness need, based on their inherent relevance to relationship building by summarizing previous workplace humor research with this relational lens. This results in a potential organizing framework using the belongingness need as a central mechanism that future research can continue to develop.

Previous Conceptualizations, Theories, and Approaches

Humor research severely lacks construct clarity to the extent that some studies do not even provide an explicit definition of humor (Kong et al., 2019), and the conceptualizations vary across studies. See Table 1 for examples of common existing definitions. Furthermore, the broad term "humor" captures three essential psychological elements regarding cognition, behavior, and emotion (R. A. Martin & Ford, 2018). For example, the term "humor" can represent the perception that a stimulus is funny, the act of laughing, or the emotional response, sometimes labeled as mirth (R. A. Martin & Ford, 2018). Additionally, humor can manifest as a trait (i.e., sense of humor), a state (i.e., experiencing humor), or an isolated behavior (i.e., making a joke). Researchers have somewhat addressed the complexity of humor by narrowing its operationalization of it with the scope of specific scales. Examples include focusing on it as a *trait*, such as the

Multidimensional Sense of Humor Scale (Thorson & Powell, 1993), or as a *purpose*, such as the Coping Humor Scale (R. A. Martin & Lefcourt, 1983).

Even still scales may incorporate multiple aspects of humor, such as the Humor Styles Questionnaire (HSQ, Martin et al., 2003), which primarily assesses sense of humor by content but also includes motivations. For example, its self-enhancing subscale addresses humor as a coping mechanism. As another approach, a great deal of the research has focused on leadership humor. Avolio and colleagues (1999) investigated followers' perceptions of their leader's use of humor and consequently developed a leadership humor scale that has since been used by other empirical studies (e.g., Gkorezis et al., 2014; Pundt & Venz, 2017). This five-item scale also taps into different functions of humor such as defusing tension or alleviating stress. Beyond the state-trait dimensions, and purposes or motivations of humor, the content or type presents another consideration for construct clarity. The HSQ divides up the construct into two broad categories of positive and negative humor with each having two subdimensions (R. A. Martin et al., 2003). The positive humor subscales focus on the delight and amusement typically shared with others while the negative humor subscales involve antagonistic humor directed at targets—either the humorist themself or others.

Despite the diverse conceptualizations of humor, researchers accept that humor has positive and negative forms as well as adaptive and maladaptive uses. It is important to note, however, that positive humor is not necessarily adaptive and negative humor is not necessarily maladaptive (Cooper, 2008). The type or style of humor may modify the perception and reception of it, but it does not change humor's inherent social foundation: mutually amusing communications (Mesmer-Magnus et al., 2012), indicating a form of

social play. Furthermore, the literature collectively implies that humor functions

primarily for the development of interpersonal relationships (R. A. Martin & Ford, 2018).

These two ideas together suggest that in general a relational approach, which

acknowledges the social function of humor, provides the most appropriate way to

conceptualize it.

Prominent Humor Theories

Before illustrating existing research on humor from relational approaches, we

must recognize that the major theories specifically developed to investigate humor

typically utilize a motivational or cognitive lens to explain the production of humor rather

than its impact. The three major contemporary theories explain the psychological process

of an individual's *interpretation* of a potentially humorous stimulus rather than its

function and the subsequent psychosocial processes; that is, they focus on the fact that

humor potentially comes from: a humorous mindset with increased arousal and

perception of trivial incongruity- reversal theory (Apter, 1982); the generation of new

thoughts based on existing schemas- comprehension-elaboration theory (Wyer & Collins,

1992); or recognizing harmless incongruity based on expectations-benign violation

theory (Warren & McGraw, 2015). Therefore, these theories that focus on the cognitive

interpretation of humor represent one cluster of the many approaches to examine humor.

Furthermore, theories that do address the function and impact of humor narrow

their scope, which creates clusters of various approaches separately examining functions

of humor. For example, superiority theories (e.g., Gruner, 2017; Morreall, 1987) describe

humor functioning as a self-enhancement tool through a sense of triumph and perceptions

of superiority, usually while disparaging others. The cluster of superiority theories

addresses humor's inherent social foundation, but with a limited focus on power dynamics and dominance. Other relational approaches address humor's social foundation in a similar concentrated manner, which I will illustrate in the following sections. As a result, theories and definitions emerging from these approaches vary on their focus of interpersonal dynamics such as conceptualizing humor as social communication, shared experience of cheerfulness, or playful interactions (e.g., Cooper, 2005; Martin & Ford, 2018; Martineau, 1972). Consequently, neither these theories nor definitions comprehensively explain the psychosocial processes and outcomes that result from humor.

Humor as a Tool for Power

As mentioned, researchers who employ relational approaches to address the inherent social aspect of humor often limit their focus to specific explanations of social dynamics such as power. First, in alignment with superiority theories, past literature has exhibited humor's role in promoting psychological and power distance between the individual producing the joke and targets of the joke. The motivation of social control through humorous ridicule enables an individual or group to wield power and influence in a concealed way that enforces social norms and encourages conformity (Fine & Soucey, 2005; R. A. Martin & Ford, 2018; Martineau, 1972). Similarly, humor can function as ammunition to maintain or establish status and hierarchy (e.g., Bitterly et al., 2017; D. Martin et al., 2004) by manipulating perceptions of the humorist and its targets. This could partially explain why men tend to use humor more as managers (Decker & Rotondo, 2001) especially since the use of humor can help increase perceived status for males but hurt it for females (Evans et al., 2019). Finally, aggressive humor that uses

stereotypes targeting others can intensify existing prejudices and cultivate demonstrations of them without fear of consequences. As a result, it can negatively contribute to cultural and group norms and disempower marginalized groups (Fine & Soucey, 2005; Ford et al., 2017). Ford and Ferguson (2004) developed the prejudiced norm theory to explain this process, suggesting that the exposure to disparaging humor and its acceptability or approval by the group signals to people high in prejudice that they can freely express their views without risking violation of social norms. This can then become a dangerous and hateful slippery slope as described by the paradox of tolerance. In sum, these relational approaches limit their scope to dyadic and group dynamics regarding power, typically in a negative light.

Humor as a Tool for Relationship Building

Other approaches narrow their focus to the positive role of humor through its ability to bring people closer together and foster cohesion or unity, especially through positive emotions. Physiological approaches examine the benefits of shared laughter, which includes positive emotions, or more specifically mirth, which in turn promotes social facilitation and bonding, something that can be observed in other animals such as rats (Panksepp & Burgdorf, 2003). Other approaches concentrate on the fact that humor increases interpersonal attraction for all types of relationships. One reason is that humor elicits positive emotions and individuals typically evaluate their attraction to someone based on the extent that the person elicits positive affect directly or indirectly (Byrne & Neuman, 1992). Importantly, the increased likeability fosters the development of interpersonal relationships (Garrick, 2006). Use of humor during social interactions can signal reciprocal liking, and the enjoyment of the interaction also enhances attraction and

bonding (Treger et al., 2013). Organizations not only benefit from, but need, their employees to get along and like each other to some extent in order to be productive and sustainable. In the context of work, humor can function beyond simply a form of social play and also act as a social skill because of its influence in facilitating positive relationships and interpersonal interactions when used effectively (R. A. Martin & Ford, 2018). Despite the value of these social facilitation explanations, they do not address the potentially detrimental effects of negative humor and therefore have a focused approach that neglects a significant portion of the literature and falls short in understanding humor's diverse influence.

Relational Humor Theories in the Work Context

The existing relational theories that attend to humor within the work context limit their focus to dyadic relationships and shared affect. The relational process model of humor proposed by Cooper (2008) explains the influence of humor on the relationship quality between two people at work. This, however, focuses on the dyadic processes of humor for a single relationship, but does not directly address the instances when humor occurs within a group. Furthermore, its focus on relationship quality as the outcome disregards individual and group level outcomes often seen in the workplace humor literature, such as psychological well-being and group cohesion, respectively. Conversely, Robert and Wilbanks' (2012) wheel model of humor represents a specific theoretical approach of the affective events theory (AET; Weiss & Cropanzano, 1996) and narrows its scope to groups and only one individual level psychological process: affect. It proposes that a positive humorous event will spark positive emotions that are expressed to others, and therefore influence group affect which in turn influences the

short- and long-term humor environment. Therefore, this model solely focuses on the

positive emotional reactions to humor as the subsequent psychological process and

neglects the complexities of negative humor that lead to detrimental outcomes. In sum,

the relational process model and the wheel model of humor address very specific

intrapersonal and interpersonal dynamics which limits the scope of workplace humor's

influence on individuals and groups.

The Humor-Belongingness Need Framework

The belongingness need component of SDT provides supplemental and

overarching explanations for group-, dyadic- and individual-level psychosocial processes

resulting from humor. Therefore, using it as a basis for an organizing framework to

synthesize the existing literature and provide an integrated understanding of the role of

humor in the workplace can guide future research in this understudied area. Figure 1

illustrates the humor-belongingness need framework from the progression of state humor

to its attitudinal, behavioral, and well-being outcomes.

Due to the recurrent evidence that positive and negative humor have shared and

distinct implications, the first part of the framework separates humor into these two

categories. Additionally, this separation allows for a clear distinction between the two

types of humors, that is negative humor antagonistically targets at least one individual

whereas positive humor does not (R. A. Martin et al., 2003). This, therefore, provides a

clear conceptualization for the humor experiences, or state humor. Embracing the

definition of amusing communications intended to provoke positive emotions and

cognitions frames any kind of humor as having the potential to have a positive effect.

Indeed, previous evidence has displayed humor functioning for relationship building,

which in turn should foster feelings of connection. These feelings can be captured by belongingness need satisfaction, which serves as the mediator, for other beneficial outcomes. Belongingness need satisfaction has overwhelmingly exhibited its positive relationship with attitudinal, behavioral, and well-being outcomes (Van den Broeck et al., 2016). In contrast, as evidence has also previously exhibited, people may employ humor targeted at individuals as a strategy to recognize and influence power dynamics to create, maintain, and enhance status. In turn, this heightened distinction between individuals, especially the ones targeted, becomes salient and can foster feelings of disconnect or isolation, captured by belongingness need frustration. This second mediator then potentially explains negative attitudinal, behavioral, and well-being outcomes from negative humor. Although research has less documentation of need frustration in general, the preliminary research does support its relation with negative outcomes such as emotional exhaustion, work engagement, and turnover intent (Sischka et al., 2021; Vander Elst et al., 2012). Context and individual differences most likely dictate the reception of negative humor as more amusing or more hostile, and therefore serve as boundary conditions.

The social function of humor can benefit or hinder an individual personally, in their relationship development, *and* in work groups. SDT, specifically the belongingness need tenet, offers a framework for addressing the various individual and interpersonal processes involved. Individual processes in this context refer to the psychological processes that relate to an individual's perceptions and reactions to humor, and subsequent individual outcomes such as attitudes and behaviors. Interpersonal processes refer to the relevance of other people influencing or being influenced by an individual's

perception and reactions. Figure 1 demonstrates how a belongingness need lens integrates the diverse implications of humor through the individual's psychological experience that pertains to others (e.g., influence on an individual's belongingness need) to result in individual, interpersonal, and organizational outcomes. This contrasts with previous clusters of approaches that solely focus on the individual's perception, specific interpersonal dynamics, and/or specific outcomes.

Additionally, the humor-belongingness need framework can also provide an explanation for differential outcomes of positive and negative humor, addressing a major gap in the literature. The incorporation of negative humor and multiple mediators examines the distinction between positive and negative humor in a novel way. The humor-belongingness need framework explicitly demonstrates the shared outcomes and simultaneous distinct outcomes from the two types of humor, a critical aspect that few of the prior approaches have directly addressed. Finally, SDT already has established evidence from previous studies on other workplace outcomes allowing humor to be integrated into existing theoretical and empirical knowledge rather than viewed as a separate area of study, so as to avoid "reinventing the wheel". The broadness of the belongingness need works favorably to organize and synthesize the disjointed workplace humor literature around a framework to allow for a more comprehensive but still targeted direction for research, as opposed to adding another cluster to the array of divided approaches. Unifying the literature enables more systematic insight into past and future findings and implications regarding workplace humor, a common and influential factor for workplace relationships.

Humor and the Self-Determination Theory

The motivational theory by Deci and Ryan (2000) has garnered a lot of support since its conception and provides a solid foundation for understanding how humor can lead to both beneficial and detrimental individual and interpersonal outcomes. A main tenet of SDT states that humans have three psychological needs, which lead to autonomous forms of motivation, mental health, and well-being when satisfied (Deci & Ryan, 2000; Van den Broeck et al., 2016). SDT sets itself apart from previous psychological need theories by focusing on need satisfaction and frustration, not need strength as a trait, or the level of inherent desire. This means that everyone benefits from need satisfaction, not just those who seek it out, and everyone experiences impairment from need frustration (Van den Broeck et al., 2016).

The universality and innateness of psychological needs parallels the universality and innateness of humor. Babies laugh as one of their first vocalizations, second to crying, and every culture historically has some version of humor as part of their interpersonal interactions (R. A. Martin & Ford, 2018). Engaging in lighthearted social interactions is core to the human experience, even if differences in use of humor exist among individuals or cultures. Furthermore, people who embrace levity more often may also be enriching their well-being through satisfaction of psychological needs.

Overview of the Self-Determination Theory

The process described by SDT begins with the three distinct needs, autonomy, competence, and belongingness and their satisfaction or frustration all individually contribute to a person's autonomous motivation and well-being (Deci & Ryan, 2000). When people have their needs met, their internal values or natural interest and enjoyment (autonomous motivation) direct their behavior rather than external rewards or values

directing it through controlled motivation (Deci & Ryan, 2000). Autonomous motivation

positively influences work behaviors and health or wellness outcomes (Deci et al., 2017).

Individual differences and environmental factors can foster autonomous motivation such

as trait autonomous orientation or autonomy support from supervisors, respectively. In

fact, autonomy support satisfies the need for autonomy more effectively than autonomous

orientation (Deci et al., 2017). This indicates environmental, and more specifically social,

factors provide a promising approach for understanding successful ways to satisfy

psychological needs and enhance employees' intrinsic motivation, the most commonly

studied form of autonomous motivation.

Intrinsic motivation is the highest form of autonomous motivation because by

definition, the activity itself, and not its expected outcomes, motivate the individual (Deci

& Ryan, 2000). In turn, intrinsic motivation leads to psychological growth, well-being,

and performance (Van den Broeck et al., 2016), thus organizations want to foster it as

much as possible. A recent meta-analysis determined that it would be inappropriate to

calculate an average for an overall satisfaction of needs score for the related, yet distinct

psychological needs due to significant differences in their relationships with other

variables (Van den Broeck et al., 2016). Therefore, in the context of reviewing and

integrating humor research using SDT, it is more pertinent to examine each psychological

need separately with its relation to humor.

Humor and the Autonomy Need

Humor can provide opportunity for feelings of autonomy in multiple ways. First,

an individual usually chooses to produce or express humor due to the spontaneous nature

of joking and its typical appearance in informal interactions. In formal interactions an

individual may choose to lighten the mood or attempt to amuse others. Employees may

also choose to practice humor when facing stressful situations as research has found

substantial support for humor as a coping strategy (e.g., Kuiper et al., 1993; Romero &

Arendt, 2011; Sliter et al., 2014). In situations out of an individual's control, often

workers will opt for cracking a joke, especially in extreme and intense situations (Sliter et

al., 2014), hence the popular term "gallows humor." In these scenarios, individuals may

be taking agency in how they interpret and respond to a potential threat (Lazarus &

Folkman, 1984). Furthermore, the use of humor may impact observers' sense of

autonomy. Gkorezis and colleagues (2011) conducted a study indicating that a leader's

employment of positive humor corresponded with higher levels of their followers'

psychological empowerment, especially for newer employees. However, a leader's use of

negative humor corresponded with lower feelings of psychological empowerment. This

suggests that the type of humor can impact the magnitude or direction of relations with

other variables, with negative humor potentially frustrating feelings of autonomy.

Humor and the Competence Need

Humor can also contribute to one's feelings of competence through the various

ways one can perform or achieve from it. The notion that individuals can leverage humor

as a social skill (R. A. Martin & Ford, 2018) inherently implies that someone achieves

social competence if others consider them funny. In other words, the successful execution

of eliciting amusement and laughter from colleagues may help an individual feel socially

competent. Yip and Martin (2006) tested this reasoning by demonstrating positive

relations between both types of positive humor (i.e., affiliative and self-enhancing) and 1)

emotional intelligence, represented by emotional management ability, and 2) social

competence, represented by initiating relationships. They also demonstrated that negative humor (i.e., aggressive and self-defeating) had negative relations with the ability to perceive others' emotions accurately, another example that positive and negative humor have distinct relations with variables. Similarly, frequent use of humor also leads other people to view the producer of it as competent in general, depending on its positive or negative orientation. For example, one study showed that good-natured jokes positively related to a leader's perceived effectiveness, but jokes targeting themself or others negatively related to perceptions of leader effectiveness (Decker & Rotondo, 2001). Interestingly, the same study found that women effectiveness ratings benefited more than the ratings for men from use of positive humor but also suffered more for use of targeted jokes, demonstrating another level of complexity in use of humor and its influence. Finally, humor can also add to the competence of observers in addition to increasing feelings or perceptions of competence for the person who expressed it. Romero and Pescosolido (2008) proposed a theoretical framework for humor's influence on group effectiveness, implying that through channels such as group dynamics (e.g., leadership, communication), psychological safety, and positive affect, humor partially explains a group's productivity, development, and viability. Although this indicates group level competence, individuals belonging to the group will most likely benefit from its success and feel personal accomplishment. Furthermore, previous studies have demonstrated the relation between leaders' humor and their own performance and/or their followers' performance (e.g., Avolio et al., 1999; Evans et al., 2019; Goswami et al., 2016; T. Y. Kim et al., 2016; Lehmann-Willenbrock & Allen, 2014). The association between a leader's successful use of humor and performance of the leader *and* their followers

implies that humor may relate to feelings of competence via enhanced performance and that it extends beyond the producer of it.

The Most Relevant Need

The final and most relevant psychological need, belongingness, has a natural connection (no pun intended) to humor as they are both fundamentally social constructs. As mentioned, research should inspect each psychological need individually to embrace their demonstrated distinctiveness (Van den Broeck et al., 2016). Although humor has theoretical and empirical evidence supporting its relationship with the need for autonomy and competence, its connection to the belongingness need provides the most promising and fruitful guidance for integrating much of the workplace humor literature around a central framework.

<center>**The Humor Literature's Alignment with the Belongingness Need**</center>

The definition of organizational humor as "amusing communications" (Romero & Cruthirds, 2006) aligns with the acceptance that its expression demonstrates a form of social play and primarily functions at the interpersonal level. This definition and acceptance in the literature provide a strong basis for framing humor around the belongingness need tenet. Belongingness conveys a person's need to relate to others by forming and maintaining strong, sustainable relationships with mutual concern for one another's well-being (Baumeister & Leary, 1995). Social play helps build quality relationships because it enhances positive affect and allows individuals to feel at ease and relaxed with one another (Cooper, 2008). Similarly, the ability to joke with one another establishes shared positive experiences that allow for perceptions of connectedness. Alternatively, if only one person perceives the shared experience as positive, as could be

the case for ill-received negative humor, then it can result in perceptions of psychological

distance and/or rejection for the target, indicating belongingness need frustration. In

either scenario, humor can influence the extent a person connects with others and senses

they belong in the group, which in turn influences their well-being and performance.

Belongingness Need and Previous Relational Mediators of Humor

A substantial portion of the empirical research investigating the relational aspect

of humor has used leader-member exchange (LMX) as the principal factor for explaining

its social role. LMX explains the gradual development of the leader-follower relationship

which begins as transactional before trust develops until it matures into a relationship

with mutual trust, respect, and obligation (Graen & Uhl-Bien, 1991). Studies have

examined LMX as the mediator between leaders' humor and organizational outcomes,

such as organizational cynicism (Gkorezis et al., 2014) or organizational citizenship

behaviors (OCB; Cooper et al., 2018), which are helping behaviors beyond the formal

tasks assigned to a role. Similarly, research has provided support for LMX's role as a

mediator between humor and individual outcomes such as work engagement (Yam et al.,

2018), burnout, and affective commitment (Pundt & Venz, 2017). In fact, a recent meta-

analysis by Kong and colleagues (2019) showed evidence for LMX as the link between

leader humor expression and multiple follower outcomes such as job performance, job

satisfaction, and intent to stay. Some research has used LMX as a boundary condition.

For example, Wijewardena and colleagues (2017) found that those with higher quality

relationships with their managers tended to have more positive emotions and less

negative ones following their manager's use of humor.

Although these empirical findings provide evidence that humor can progress high quality relationships, which inherently foster perceptions of closeness and relatedness, they restrict themselves to a particular type of work relationships: the one with the leader. Humor can exist, and often does, as part of other work relationships such as ones with coworkers or customers. Some research has inspected social dynamics beyond the leader, including a study by Caudill and Woodzicka (2017) that displayed social support at work as a mediator between positive humor and workplace well-being. Nonetheless, the workplace humor literature would benefit from an organization around a comprehensive relational construct based in theory as a framework to address the various types of workplace relationships and provide a foundation for explaining the social function of humor as either a lubricant or an abrasion. The belongingness need component of SDT offers an auspicious approach to understanding humor primarily as a form of social play, used to influence all types of relationships positively or negatively.

Belongingness Need and Negative Humor

Laughing and joking around with the people whom one spends a large amount of time with can satisfy the belongingness need by allowing them to connect with others. Positive humor almost always serves as an approachable, or even inclusive, method due to its good-natured content. This should encourage positive shared experience among colleagues, and subsequent perceptions of connection, to satisfy the belongingness need. On the contrary, the content of negative humor adds complexity to its reception by others. In accordance with the Humor Style Questionnaire (HSQ; R. A. Martin et al., 2003), negative humor can either target others, known as aggressive humor, or the humorist can target themself in a self-defeating way. A target may internalize the negative statements

about themself or fixate on what they perceived to be as "true" and shedding light on their faults. Accordingly, they may feel disconnected or isolated and thereby frustrated in their belongingness need. Individuals who already experience low self-esteem or lack social support may be particularly vulnerable to these feelings. Additionally, the source of humor may impact internalization. For example, an individual may poorly receive an aggressive joke from their supervisor if they already have a weak relationship with the supervisor or if the leader displays other hostile behaviors.

Alternatively, the inherent hostility of negative humor does not necessarily imply maliciousness and the target may have the ability to laugh at themself without taking it to heart. They may aptly separate the joke from their self-image, if that image is strong enough, if they have enough social support, or have a strong relationship with the humorist. The target may be able to appreciate the joke and experience the shared amusement. As a result, negative humor could still foster a connection to others and satisfy the belongingness need. This would explain the mixed findings for negative humor's relations with positive outcomes (e.g., Caudill & Woodzicka, 2017; Kim et al., 2016; Romero & Arendt, 2011; Romero & Cruthirds, 2006), which the humor-belongingness need framework intends to reconcile. Besides a small number of studies, the workplace humor literature lacks research on, and subsequently an understanding of, the complexities of negative humor's impact. Most of the past research neglects to examine the dark and bright sides of negative humor simultaneously which leaves ambiguity regarding the benefits and detriments of humor. Using the belongingness need tenet as a basis for an organizing framework allows for future research to address this and

furthers the understanding of the distinction between belongingness need satisfaction and

frustration for the SDT literature, another major gap in organizational research.

Shared Outcomes between Belongingness Need and Humor

In general, existing workplace literature demonstrates a noticeable overlap in

potential outcomes of humor and belongingness need, suggesting that the two phenomena

are intricately related. A recent meta-analysis by Van den Broeck and colleagues (2016)

showed the satisfaction of belongingness need consistently had a strong positive

association with general well-being and a strong negative association with burnout.

Humor research in organizations has also consistently demonstrated its significant,

positive relation with perceived well-being in both cross sectional and longitudinal

studies (e.g., Caudill & Woodzicka, 2017; Heintz, 2017; Kim et al., 2016). Notably, Kim

and colleagues (2016) found positive humor had a positive association with well-being

while aggressive humor had a negative association with it. Another study found that

negative humor had no significant association with well-being (Wang et al., 2018).

Preliminary evidence also suggests a negative relation between humor and burnout

(Pundt & Venz, 2017) and additionally, humor can act as a buffer for the stressor-burnout

relation (Sliter et al., 2014). Positive affect is another similar, but distinct shared

outcome. When investigating typical outcomes of belongingness need satisfaction,

positive affect provides one of the strongest relationships (Van den Broeck et al., 2016).

Similarly, research has found support for positive affect as both a mediator (Goswami et

al., 2016) and outcome (Robert & Wilbanks, 2012) for humor, but mostly for positive

humor.

One of the most important concepts of SDT asserts that the satisfaction of the three psychological needs results in autonomous motivation (Deci et al., 2017; Deci & Ryan, 2000). The satisfaction of the belongingness need has an apparent positive relation with direct measurements of autonomous motivation. It also exhibits consistent relations with indicators of autonomous motivation, typically conceptualized as attitudinal and behavioral outcomes, such as work engagement, job satisfaction, affective commitment (strong emotional attachment to the organization), task performance, and OCB (Van den Broeck et al., 2016). Multiple studies have concluded that humor can positively relate to work engagement (e.g., Goswami et al., 2016; Yam et al., 2018), but work engagement has distinguished opposite direction relations with adaptive and maladaptive forms of humor (Guenter et al., 2013). Job satisfaction (Karl & Peluchette, 2006; Robert et al., 2016) and affective commitment (Pundt & Venz, 2017) or more broadly, organizational commitment (Romero & Arendt, 2011), have also shown positive relations with humor. Task performance can be measured in multiple ways and in organizational humor literature this has been operationalized as job embeddedness (Chen & Ayoun, 2019), performance evaluation and leader assessment (Evans et al., 2019), unit level performance (Avolio et al., 1999), and perceived leader effectiveness (Decker & Rotondo, 2001), which have all demonstrated significant positive relations with humor. In terms of extra role performance, or OCB, some evidence suggests that humor may foster more OCB (Cooper et al., 2018), but other studies have failed to demonstrate a significant relation (Goswami et al., 2016), warranting further investigation.

Divergent Implications for Belongingness Need

The shared workplace outcomes between the satisfaction of the belongingness need and humor provide support for the possibility that humor functions through promotion of interpersonal connections (i.e., satisfying belongingness need) to lead to positive workplace outcomes. However, the conflicting findings, mostly specific to negative humor, suggest that competing mechanisms may exist underlying the relations between humor, belongingness need, and workplace outcomes. It is plausible that negative humor actively interferes with interpersonal connections. Consequently, negative humor may contribute to the frustration of the belongingness need as an alternative pathway. Negative humor, by definition, targets one or more individuals and if people give more emphasis to its hostility element than its levity element, then it may create psychological distance, perceptions of alienation, and feelings of being misunderstood. Individuals may have a stronger reaction to the hostility element if discord already characterizes their workplace climate (e.g., coworker aggression), they believe they lack organizational support, or feel underappreciated. Even if negative humor does not directly "attack" an observer, they may still develop similar perceptions of an unwelcoming, unsupportive climate. Therefore, it may also actively weaken connection between colleagues.

Individual differences, such as core self-evaluations, or contextual influences, such as humor climate, would likely dictate the interpretation of the humorous stimulus. In turn, these would dictate if negative humor satisfies or frustrates the belongingness need depending on whether boundary conditions emphasize its levity or hostility element, respectively. If frustration of the belongingness need occurs, then an individual may consider leaving the organization in favor of a more welcoming one or perhaps retaliate

with counterproductive work behaviors (CWB), behaviors that harm the organization or

its members (Spector & Fox, 2006). Additionally, lacking connection with colleagues

may result in exhaustion, cynicism and poor work efficacy, the core dimensions of

burnout (Demerouti et al., 2003), due to the absence of a crucial resource, social support

(via connection). Therefore, researchers and organizations would benefit from

understanding the complexities of humor and its divergent mechanisms dependent on

contextual factors and individual differences, in order to minimize negative employee

experiences and their corresponding outcomes and enhance positive ones.

Discussion

The current state of workplace humor research remains fragmented, clouding the

understanding of humor's positive and negative influence on the individual, interpersonal

relations, and organization. This qualitative review intends to integrate and unite the

literature through the lens of the belongingness need to suggest an organizing framework

that provides guidance and direction for future research. This unifying framework

addresses individual level mechanisms while still accounting for the interpersonal- and

group-level aspects, to explain the outcomes of workplace humor at various levels and

connect the dots for a more comprehensive understanding of the phenomenon.

Additionally, using the lens of the belongingness need directly examines the distinction

and complexities of humor's benefits and detriments. Figure 1 illustrates the humor-

belongingness need framework but does not specify micro-level outcome variables, and

instead displays a bird's eye viewpoint from a macro level. This is based on theoretical

and empirical evidence to suggest the existence of their relations with humor experiences

and experiences underlying the belongingness need. It is important to note that this is an

organizing framework, not theory, generated from reviewing the existing literature, and that further theoretical development and empirical examination is needed.

By synthesizing the literature into the humor belongingness-need framework, humor research can move forward with clarity that the construct of humor, at a broad level, classifies as a form of social play and represents amusing communications intended to provoke positive emotions and cognitions (Romero & Cruthirds, 2006). This also clarifies the focus on its interpersonal function, humor's primary purpose. Having this foundational agreement unites and clarifies past literature to amplify their previous conclusions. This agreement also allows future research to approach empirical designs with better construct validity and criterion validity to examine the progression from humor to specific outcomes. The inclusion of the belongingness need suggests promising next steps to continue deciphering the mechanisms for the emergence of beneficial and detrimental outcomes from this underestimated social characteristic. Furthermore, by using belongingness need satisfaction and need frustration as key constructs, these pathways can be examined simultaneously, something future research should prioritize, to further disentangle the complexity of humor. Subsequently, researchers can systematically investigate explanations and boundary conditions for humor's helping or harming potential.

Future research should empirically test direct measurements of belongingness need satisfaction and frustration as mediators for humor and its outcomes to demonstrate the distinct pathways. Empirical studies could also observe the relations of humor with autonomy need and/or competence need satisfaction and frustration to understand their potential roles as alternative mediators. Examination and comparison of alternative

mechanisms would increase the understanding of humor's progression by providing

insight on the proximal impact of humor. This will also help advance the aim to clarify

the construct of humor and its various functions. Future research will want to examine if

one mechanism consistently prevails or if results predominantly rely on context.

Additionally, future comparison of mediators may demonstrate the importance of

construct alignment such that a social mechanism, such as the belongingness need, most

effectively predicts social outcomes.

Similarly, moderation testing of relevant contextual factors or individual

differences is needed to uncover conditions that contribute to humor leading to

belongingness need satisfaction and not belongingness need frustration or vice versa. Due

to the event-based, spontaneous nature of humor and its continuous process (i.e., jokes

are referential and can build upon themselves), experienced sampling methodology with

event-based design would effectively capture possible contingencies, especially ones that

develop over time, in the natural environment. The humor-belongingness need

framework appropriately allows for measurement of such humor experiences (i.e.,

indications of state humor).

Conclusion

Although workplace humor research has much to explore, the evidence that has

already been accumulated can provide practitioners, managers, and employees with

suggestions to foster positive workplace relationships and improve employee well-being,

attitudes, and behaviors. For example, there is substantial evidence for the benefits of

benign, good-natured humor (Mesmer-Magnus et al., 2012), but humor that has a target

needs to be used with caution. When used appropriately, individuals can leverage humor

as a social skill to enhance perceptions of similarity and likeability among coworkers to

lead to interpersonal connection, which leads to desirable outcomes. Furthermore, these

perceptions strongly relate to trust, another important interpersonal element of workplace

relationships that organizations constantly try to maintain and increase. The positive

affect that accompanies the expression of, and exposure to, humor can produce positive

outcomes at the individual, interpersonal, and organizational level. Understanding the

influence of humor and how to use it for communal benefit to engender hope and

positivity, rather than for power, control, and expressed intolerance can empower

managers and employees alike to craft their jobs in an enjoyable and effective way to

improve the sustainability of organizations at a low cost.

Table 1. Examples of Humor Definitions

Authors and Publication Date	Construct	Definition
Cooper (2005)	Humor	Any event shared by an agent (e.g., an employee) with another individual (i.e., a target) that is intended to be amusing to the target and that the target perceives as an intentional act
R. A. Martin & Ford (2018)	Humor	Broad multifaceted term that represents anything that people say or do that others perceive as funny and tends to make them laugh, as well as the mental processes that go into both creating and perceiving such an amusing stimulus, and also the emotional response of mirth involved in the enjoyment of it
Martineau (1972)	Humor	Any communicative instance which is perceived as humorous
R. A. Martin (2001)	Sense of Humor	A trait-like individual tendency to use or display behaviors, attitudes, and abilities relating to amusement during social interactions
Robert & Wilbanks (2012)	Humor Events	Discrete social behaviors that a producer intentionally creates for an audience that influences audience positive affect.
Romero & Cruthirds (2006)*	Organizational Humor	Amusing communications that produce positive emotions and cognitions in the individual, group, or organization.

*Adapted definition used in this paper
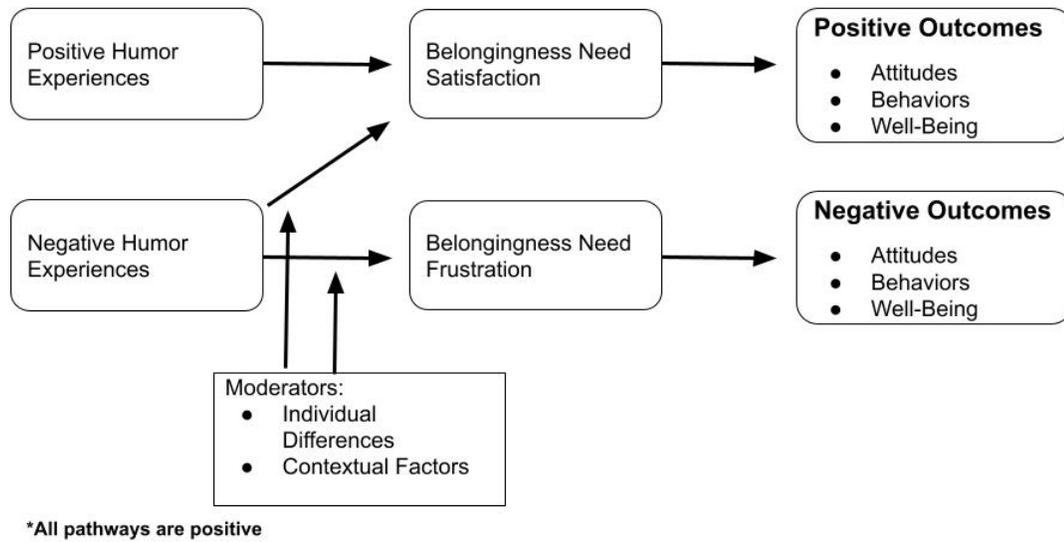
Figure 1. Humor-Belongingness Need Framework

Paper 2: A Laughingstock or Laughing Flock? The Role of the Belongingness Need in the Relation Between Workplace Humor and its Outcomes

Despite the fact that employees value and expect opportunities to emotionally connect with colleagues, research tends to overlook the value of interpersonal benefits from work (Ilies et al., 2018). Indeed, social aspects in the work context uniquely contribute to outcomes of interest in the organizational literature such as job satisfaction (Humphrey et al., 2007), and therefore warrant focused attention. Correspondingly, humor is a common but underestimated and overlooked social aspect of the workplace. In its infancy, organizational humor literature has demonstrated consistent patterns for its link to positive job outcomes (e.g., performance; Mesmer-Magnus et al., 2012) and individual health benefits (Mesmer-Magnus et al., 2012), as well as the positive influence of a leader's humor (Kong et al., 2019). The literature has also identified issues and barriers for studying humor such as disagreement in its conceptualization and the lack of a comprehensive and unifying theory-based framework to explain the divergent functions and outcomes of humor (Mesmer-Magnus et al., 2012; Sliter et al., 2017). Although specific definitions and conceptualizations have varied, researchers accept that humor inherently has a social and playful component, which should serve as the basis for identifying an appropriate framework to use as a lens when inspecting its role. The psychological belongingness need component of the self-determination theory (SDT) fulfills this requisite.

This theory assumes that the three psychological needs (autonomy, competence, belongingness) are universal (Deci & Ryan, 2000) and inherent to the human experience, just as humor has demonstrated its universality as a form of social play for various types

of communities (R. A. Martin & Ford, 2018). Social play enables connection between

individuals, and subsequently perceptions of belonging, which helps satisfy the need to

relate to others. As a main tenet of SDT, need satisfaction refers to individuals

experiencing fulfillment of autonomy, competence, and/or belongingness through

interacting with their environment and enacting behaviors that foster perceptions of

willingness, capability, and connectedness, respectively (Deci & Ryan, 2000).

Alternatively, need frustration results from factors that *actively* thwart need fulfillment.

Subsequently, need frustration damages emotional well-being more directly and quickly

than lack of satisfaction (Bidee et al., 2016; Vansteenkiste & Ryan, 2013). Need

satisfaction and frustration may overlap, yet low levels of need satisfaction do not equate

to need frustration. For example, workers who have few positive humorous interactions

with others may not experience as much social connection, or belongingness need

satisfaction, but they may not feel isolated (i.e., belongingness need frustration) either

and can still stay engaged with colleagues at work to carry out interdependent work tasks.

In contrast, antagonistic humor that targets individuals can actively foster feelings of

isolation. Humor serves as an auspicious construct that could uniquely relate to both

psychological need satisfaction and frustration.

      This study defines organizational humor as amusing communications that intend

to produce positive emotions and cognitions in the individual, group, or organization

(adapted from Romero & Cruthirds, 2006), and aims to examine humor as a form of

social play that employees can leverage as a social skill. This definition and focus imply

that humor allows workers to positively connect with each other and their organization.

For example, previous studies suggest that workplace humor corresponds with higher

levels of group cohesion (Terrion & Ashforth, 2002) and affective commitment (Pundt &

Venz, 2017). Therefore, it is plausible that workplace humor allows employees to feel

closer to one another and that they belong in their organization, which could satisfy their

belongingness need, resulting in improved motivation and well-being. Indeed, research

has consistently found beneficial outcomes for positive humor in the workplace

(Mesmer-Magnus et al., 2012), which consists of benign content meant to enhance

relationships (R. A. Martin et al., 2003).

　　　　Nevertheless, one of the complexities of humor revolves around the fact that

people may differ in their perception and subsequent reaction to the "amusing" exchange

and part of this results from the type of humor. Researchers have somewhat

acknowledged the distinction between positive and negative humor, especially their

functional differences. Benign and benevolent amusement characterizes positive humor

whereas negative humor targets one or more individuals with lighthearted criticism (R. A.

Martin et al., 2003). Therefore, negative content paired with levity may function to amuse

as well as isolate the target, or even witnesses. As with positive humor, the interpersonal

amusement may contribute to the satisfaction of the belongingness need. On the contrary,

if negative humor significantly creates feelings of isolation or social distance, then it

actively prevents feelings of social connection and could frustrate the need to relate to

others. Need frustration is a tenet of SDT that researchers have more recently begun to

explore empirically (e.g., Bartholomew et al., 2011b; Bidee et al., 2016; Sischka et al.,

2021) while need satisfaction had received most of the prior attention. The distinction

between need satisfaction and frustration may potentially explain the differences in

outcomes between positive and negative humor, and furthermore, explain the conflicting

findings of the beneficial and detrimental effects of humor (e.g., Caudill & Woodzicka, 2017; Romero & Arendt, 2011; Terrion & Ashforth, 2002).

The purpose of this study is to examine the link between positive and negative humor and need satisfaction and frustration of belongingness. Additionally, it attempts to identify if the humor-belongingness need association explains well-being and social outcomes that both the humor and SDT literature have commonly studied. It also emphasizes the necessary distinction between positive and negative humor. This extends the literature and knowledge of humor and SDT in multiple ways.

First, by using the socially relevant aspect of SDT to investigate the distinct psychological mechanisms underlying positive and negative humor, the belongingness need provides reasons for differences in outcomes between the two types of humor. Although some prior research has examined social connection as a potential mediator, such as social support (Caudill & Woodzicka, 2017) and social distance (T. Y. Kim et al., 2016), this study expands upon this by simultaneously looking at a positive psychosocial process, belongingness need satisfaction, and a negative psychosocial process, belongingness need frustration, to identify unique relationships of humor. This also recognizes the important distinction between positive and negative humor. Furthermore, using the belongingness need as the core construct emphasizes the social function of humor in a broader context, beyond social support or distance. Exploring the role of this psychological need with workplace humor integrates both of the existing literatures and provides a more comprehensive understanding of how humor influences not only well-being, but also motivation and subsequent performance.

Second, the inclusion of a form of need frustration answers the call for more research to observe its role in addition to need satisfaction (Van den Broeck et al., 2016). Identifying behaviors that impact belongingness need frustration adds unique information to its growing nomological network. In recent years, research has only begun to focus more on this phenomenon and test workplace predictors, such as bullying (Sischka et al., 2021; Trépanier et al., 2016), autonomous and controlled reasoning (Gillet et al., 2014), and job insecurity (Vander Elst et al., 2012), leaving gaps in knowledge, especially concerning factors that individuals can control themselves. Therefore, negative humor functions as an intriguing antecedent that can add to both belongingness need satisfaction and frustration. This can further the understanding of the separation of need satisfaction and frustration by demonstrating that they can uniquely and incrementally relate to humor experiences.

Third, this study exclusively focuses on the belongingness need to expand its unique nomological network. In the early days of examining SDT, researchers would combine the three needs into a single overall score for psychological needs. However, a recent meta-analysis (Van den Broeck et al., 2016) demonstrated differential incremental predictive validity for each psychological need and their accompanying nomological networks. This demonstrates that averaging or calculating a sum of the needs inappropriately measures them since they are not interchangeable. This study chooses to focus on a single need, belongingness need, because it is concerned with social context and social communication (i.e., humor) meant to connect people. Accordingly, this study identifies a socially influential construct, humor, with dimensions that can both satisfy

and frustrate the belongingness need and enhances the understanding of psychosocial

processes underlying humor.

Hypotheses Development

Typically, people view humor and shared amusement positively because it allows

individuals to relax and feel more comfortable with the group, especially if the humor

avoids targeting others and consists of inherent benevolence. This thought not only stems

from anecdotal evidence but has theoretical backing. Positive humor, defined as

relatively benign and benevolent as opposed to potentially detrimental or injurious (R. A.

Martin et al., 2003), inherently implies a positive experience from amusement and

laughter with others. Sharing positive experiences enables people to feel more connected

and cooperate (Brown & Fredrickson, 2021). Similarly, the experience itself is not only

positive but has an emotional element as it inevitably fosters individual, and shared,

positive emotions, which strengthen emotional connection between the individuals

sharing positive humor experiences. Additionally, when people find the same content

amusing, it reveals similarities between them including shared values, opinions, or

perceptions (Cooper, 2008; Graham, 1995 as cited in Kim et al., 2016). Therefore, this

will also foster perceptions of social connection between those who communicate in an

amusing way. By definition, the belongingness need involves feeling socially connected

because an individual perceives they relate to others. As a result, positive humor should

foster belongingness perceptions.

Indeed, preliminary empirical evidence has also supported this notion. In fact, a

meta-analysis focused on positive humor in the workplace displayed consistent results for

its association with workgroup cohesion for both leader and employee humor (Mesmer-

Magnus et al., 2012). Additionally, multiple studies (Cooper et al., 2018; Gkorezis et al., 2014; Pundt & Venz, 2017; Yam et al., 2018) demonstrated the connection between a leader's humor and LMX, which is the developed relationship between a supervisor and subordinate that includes feelings of mutual trust and respect (Graen & Uhl-Bien, 1991), presumably satisfying the belongingness need. A recent review of leader humor in the workplace also illustrated this trend (Kong et al., 2019). Leaders have a strong influence on employee attitudes and emotions (Dulebohn et al., 2012) including the extent to which an employee feels included and that they belong. When a leader embraces humor, they signal that they care about amusing their employees, which encourages group bonding. Another study found that both types of positive leader humor, affiliative and self-enhancing, were significantly related to less social distance with that leader, meaning that those with leaders who typically engaged in more positive humor reported having a closer, more intimate relationship with higher levels of understanding and self-disclosure (T. Y. Kim et al., 2016). Beyond the leader, research has expressed how employee humor can factor into interpersonal dynamics within a group, such as higher levels of team cooperation (Romero & Arendt, 2011). Furthermore, from SDT literature, one study observing need fulfillment in interpersonal contexts suggested that intentional positive social interaction can foster belongingness need satisfaction (Jungert et al., 2018). Therefore, I propose that positive humor can help satisfy the need to relate to others at work.

H1: Employee positive humor behavior positively relates to the individual's belongingness need satisfaction in the workplace.

Negative humor is defined as humor that targets one or more individuals, potentially including the humorist themself, and has possible detrimental or injurious effects (R. A. Martin et al., 2003). Despite this, negative humor can provoke positive feelings due to its inherent characteristic of playfulness and amusement. By definition, negative humor carries a non-serious tone since typically the humorist intends to provoke laughter from their audience. Therefore, shared amusement remains the goal and naturally positive affect should accompany it, which theoretically enhances the quality of relationships through associations with positive affect and perceived similarity (Cooper, 2008). Furthermore, shared amusement can have the group level effect of cohesion through "inside jokes" and distinguish in-group and out-group membership with targeted jokes about outsiders (Fine & Soucey, 2005), and enforce group norms in the form of lighthearted criticism (Romero & Cruthirds, 2006). Negative humor can also serve as a method for members to feel comfortable voicing their opinion or concerns because it eases the intensity of confrontation when playfulness accompanies criticism (Sliter et al., 2017). Subsequently, an individual may feel empowered to speak up and feel heard, which encourages a sense of belongingness.

The ability of humor to lubricate social interactions in stressful situations (R. A. Martin et al., 2003) allows individuals to avoid potentially aggressive encounters with colleagues. Humor can abate tension that may unfairly target colleagues and thereby maintain more positive group connections. Indeed, a qualitative review of humor explained that mildly aggressive humor can help with group bonding, differentiate the out-group, and aid in socialization by minimizing tension and increasing comfort levels for confrontation (Romero & Cruthirds, 2006). Some studies have demonstrated the link

between negative humor and positive outcomes relevant to group status and social dynamics. For example, in a mixed methods design (i.e., interviews, surveys, observations) one study found that "put down" humor related to feelings of group cohesion (Terrion & Ashforth, 2002). This type of humor challenged, exhibited, and fortified group trust and solidarity among workers as long as it abided by spoken and unspoken rules that also established respect. These rules could be explicit, such as "targets must be present," or more ambiguous, such as "do not offend the target." When colleagues have an established rapport, they can comfortably perceive negative humor as lighthearted and dismissible. Group members can then benefit from its levity and amusement and overlook any perceived hostility. Furthermore, self-targeting negative humor may present the humorist as approachable and congenial, thereby encouraging further social connection. For example, a recent study found that unflattering self-targeting humor was associated with social support positively (Caudill & Woodzicka, 2017). Overall, negative humor has hostile elements, but also has potential functions for increasing group cohesion and support.

H2: Employee negative humor positively relates to the individual's belongingness need satisfaction in the workplace.

It is possible that negative humor can simultaneously actively isolate group members and increase perceptions of belongingness. After all, negative humor, by definition, targets people in antagonistic ways. Aggressive humor, a subtype of negative humor, refers to disparaging remarks, excessive teasing, or ridicule that may be at the

expense and detriment of one's relationships with others (R. A. Martin et al., 2003).

Therefore, coworkers may interpret aggressive humor as a form of bullying or incivility if

those receiving or observing it perceive its inherent hostility more than its inherent levity.

Furthermore, if this type of joking serves as a workplace norm, then it possibly creates a

culture of fear as people dread becoming the next target. Additionally, employees may

not wish to see their colleagues treated similarly even if they, themselves, escape the

pointed lighthearted belittlement. The other subtype of negative humor, self-defeating,

consists of self-disparagement or attempts to ingratiate oneself to gain approval at one's

own expense (R. A. Martin et al., 2003). Excessive use of this kind of humor may trigger

unfavorable views of the self, and the individual may internalize parts of the joke that

interfere with their emotional needs and self-image. Subsequently, an individual's

attempt at approval may paradoxically distance them socially as they doubt their

relationships with others who are amused by the self-inflicted insults. This negative self-

image, if taken too seriously, may provoke feelings of isolation as they become self-

conscious of their laughable traits and characteristics. Therefore, both subtypes of

negative humor provide a potential to actively frustrate sense of connection and

belongingness. Research has yet to examine this empirically.

H3: Employee negative humor positively relates to the individual's belongingness need
frustration in the workplace.

The relations between both types of humor and belongingness need satisfaction

and frustration, as proposed in the first three hypotheses, have subsequent implications

for outcomes of those same constructs. Well-being and performance outcomes have been

repeatedly and independently found to have strong links with humor and the

belongingness need, and therefore serve as notable shared macro-outcomes. In general,

the satisfaction of needs leads to autonomous regulation and motivation, which allows an

individual to interact successfully and reliably with their environment with authenticity

and vitality (Deci et al., 2017; Deci & Ryan, 1985). If an individual experiences

autonomous motivation it will maintain and encourage feelings of energy, known as

vitality, to suggest positive well-being (Deci et al., 2017; Porath et al., 2012).

Additionally, autonomous motivation allows an individual to have additional motivation

to perform tasks beyond their role, such as a willingness to help colleagues with whom

they have a positive relationship with. Therefore, humor experiences should have a

positive relation with well-being, exhibited by vitality, and with performance, specifically

organizational citizenship behaviors directed toward their fellow colleagues (OCB-I)

through belonginess need satisfaction.

In contrast, need frustration leads to controlled regulation and motivation, which

requires contingent rewards or punishment and detracts from motivation and well-being

over time (e.g., Gillet et al., 2014; Vansteenkiste & Ryan, 2013). If an individual's

surroundings thwart the belongingness need and elicit feelings of isolation, then it

discourages their motivation. The hostile element of negative humor psychologically

distances the target from others. The subsequent prevention of social connection and

support most likely diminishes their emotional energy, a sign of ill-being and a core

dimension of burnout, and fosters controlled motivation dependent on external factors,

which also emotionally exhausts them (Deci et al., 2017; Demerouti et al., 2003).

Furthermore, the interference with social connection may foster negative feelings and actions toward others, especially those they feel disconnected from. As a result, negative humor experiences will have a positive relation with ill-being, exhibited by emotional exhaustion, and discretionary performance behavior, specifically counterproductive work behaviors toward colleagues (CWB-I) through belongingness need frustration. The particular psychological need of belongingness inherently involves interpersonal relationships. Both OCB and CWB can target coworkers or the organization, but due to the essence of the belongingness need and the relational aspect of humor, OCB-I and CWB-I, which target coworkers and impact social relationships, serve as focal performance outcomes for this study.

Previous evidence strongly supports relations between satisfaction of the belongingness need and well-being outcomes, such as positive and negative affect, engagement, psychological well-being, and strains, such as burnout, as shown in a recent meta-analysis (Van den Broeck et al., 2016). Additionally, in the same meta-analysis, evidence supported the relationship between belongingness need satisfaction and OCB. Research in need frustration remains in its infancy but has demonstrated significant relations with emotional exhaustion and low levels of vigor (Vander Elst et al., 2012). Low levels of positive feelings toward work, such as job satisfaction, can also negatively impact an individual over time, but psychological need frustration accelerates the deterioration process (Vansteenkiste & Ryan, 2013) and will therefore provoke negative outcomes to appear sooner.

Preliminary evidence supports the notion that the extent of the intimate relationship between colleagues, a supervisor and subordinate specifically, mediates the

relation between positive humor and psychological well-being (T. Y. Kim et al., 2016). In contrast, negative humor can function as a positive *and* negative source for improving and interfering with well-being, respectively. For example, one study found that dark and light humor interactions both relieved stress, but those in lower hierarchical positions also experienced distress and negative emotions from dark humor (H. S. Kim & Plester, 2019). Additionally, negative humor has demonstrated a positive association with emotional exhaustion (Guenter et al., 2013) and stress (Romero & Arendt, 2011) and a negative relation with subjective well-being (T. Y. Kim et al., 2016). The complexity of negative humor having a positive component of levity and a negative component of antagonistic content generates simultaneous positive and negative effects. However, this comparison of simultaneous processes has yet to be assessed.

H4: Belongingness need satisfaction will mediate the relationship between employee positive humor and a) vitality and b) OCB-I in the workplace.

H5: Belongingness need satisfaction will mediate the relationship between employee negative humor and a) vitality and b) OCB-I in the workplace.

H6: Belongingness need frustration will mediate the relationship between employee negative humor and a) emotional exhaustion and b) CWB-I in the workplace.

Method

Participants and Procedure

Through personal and professional networks, I collected data from a sample of 376 people across various industries in the United States for a 2-wave survey design.

Participants were recruited through email and undergraduate psychology classes. They were encouraged to share the survey among their own network to result in a snowballing sample. Inclusion criteria was anyone 18 or older, who spoke English, held a part- or full-time job, and had been with their current employer for at least 3 months. Participants completed the first survey via an online survey program, Qualtrics, and could sign up for the follow up survey at the end of the first survey. Participants completed the second survey emailed to them approximately one month after the first survey. Those who completed the initial survey qualified for a raffle to donate to a charity of their choice and those who completed the follow up survey were entered two additional times.

The resulting sample was 84 matched surveys. Of these 84 adults, ages ranged from 18 to 68 (M= 33.98, SD= 12.41), 63.1% identified as female, and 75% were white. Additionally, 77.7% reported working full-time (i.e., 30 hours or more) and 49.0% reported working remotely more than 50% of the time (25% worked remotely 100% of the time). The most common industries were in the service, education, and technology sectors with organizational tenure ranging from 3 months to 28 years (M= 5.15 years, SD= 6.38)[1]. Past literature examining humor or need satisfaction and frustration with mediation analyses has demonstrated that sample sizes ranging 200-400 people sufficiently provide enough power to detect significant relationships (Bartholomew et al., 2011a; Caudill & Woodzicka, 2017; T. Y. Kim et al., 2016; Trépanier et al., 2016). Therefore, this study was underpowered, which may have increased the chances of a Type II error.

[1]*Of the 356 adults from survey 1, ages ranged from 18 to 72 (M= 34.42, SD= 13.64), 64.4% identified as female, and 71.7% were white. Additionally, 71.2% reported to work full-time (i.e., 30 hours or more) and 40.2% reported working remotely more than 50% of the time (19.6% worked remotely 100% of the*

time). The most common industries were in the service, education, and medical/social service sectors with organizational tenure ranging from 3 months to 35 years (M= 5.43 years, SD= 7.31).

Measures

The study variables primarily focus on humor experiences, satisfaction of belongingness need, frustration of belongingness need, vitality, OCB-I, emotional exhaustion, and CWB-I. I chose previously validated and well-established scales to assess all focal variables. These focal variables were in both surveys and therefore measured twice.

State Humor

The humor measurement from Martin and colleagues (2003) provides an integrative theoretical perspective to separate positive and negative humor. This study strictly separates positive and negative humor by their theoretical distinctions defined by the presence or absence of antagonism and a target(s). Therefore, I measured positive and negative humor experiences using an adapted version of the Humor Styles Questionnaire (R. A. Martin et al., 2003). The process for its validated adaptation is described in Appendix A. The final scale items can be found in Appendix B. This measure has demonstrated utility in multiple studies that used this 2nd order two-factor structure to demonstrate the unique implications of positive and negative humor (e.g., Cann et al., 2009; Caudill & Woodzicka, 2017; Guenter et al., 2013; Wang et al., 2018). This 20-item Likert-type scale has anchors from 1 (strongly disagree) to 5 (strongly agree) and demonstrated good reliability for positive humor $\alpha = .82$ and for negative humor $\alpha = .82$. A sample item for positive humor experiences is "I liked to tell jokes or amuse people at

work." A sample item for negative humor is "I participated in laughing at others if my colleagues were doing it."

Belongingness Need Satisfaction

I measured the satisfaction of belongingness need using the Work-related Basic Need Satisfaction scale (Van den Broeck et al., 2010). The Likert scale has 16 items separated into three satisfaction dimensions, six items for need belongingness, six items for need autonomy, and four items for need competence with anchors from 1 (strongly disagree) to 5 (strongly agree). The satisfaction of the other two psychological needs, autonomy and competence, served as alternative mediators in supplementary analyses. All satisfaction subscales demonstrated good reliability: α =.86 for need belongingness, α =.80 for need autonomy, α =.84 for need competence. A sample item for belongingness need satisfaction is "At work, I feel part of a group". Sample items for autonomy need satisfaction and for competence need are "I feel like I can be myself at my job" satisfaction "I really master my tasks at my job," respectively.

Belongingness Need Frustration

I measured need frustration using an adapted version of the Psychological Need Thwarting scale (PNTS; Bartholomew, et al., 2011a). This seven-point Likert scale has 12 items total, with four items for each need subscale with anchors ranging from 1 (strongly disagree) to 7 (strongly agree). Previous studies (e.g., Rouse et al., 2020; Sischka et al., 2021) adapted this scale for the workplace. Sample items include "I feel rejected by those around me" for belongingness need frustration (α = .78), "I feel pushed to behave in certain ways" for autonomy need frustration (α = .87), and "There are times when I am told things that make me feel incompetent" for competence need frustration (α

= .84). Need frustration of autonomy and competence served as alternative mediators in supplementary analyses.

Vitality

The construct representing well-being is vitality, a dimension of thriving. Porath and colleagues (2012) created and validated a vitality subscale that has five items with anchors ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item includes "I am looking forward to each new day" with a reliability of .91.

Emotional Exhaustion

As previously mentioned, interference with social connection at work may encourage emotional exhaustion, representing ill-being. The Maslach Burnout Inventory-General Survey (MBI-GS) captures this dimension, has been commonly used, and demonstrates good validity (Leiter & Schaufeli, 1996). The subscale of emotional exhaustion consists of five items (α = .95), using a 7-point frequency scale ranging from 0 (never) to 6 (multiple times a day). A sample item is "I feel emotionally drained from my work."

Organizational Citizenship Behaviors- Individuals (OCB-I)

OCB, specifically individual focused (OCB-I), measured a positive behavioral construct relating to social interactions. The interpersonal dimension of OCB has strong alignment with the interpersonal antecedent and mediator. Spector and colleagues (2010) developed and validated a 10-item checklist to measure the frequency of OCB, including a five item subscale measuring OCB-I behaviors targeting another individual (as opposed to the organization). This measure has anchors ranging from 1 (never) to 5 (everyday)

with a reliability of .85 for the OCB-I subscale. A sample item is "Helped coworker learn new skills or shared job knowledge."

Counterproductive Work Behaviors-Individuals (CWB-I)

CWB, specifically individual focused, measured a negative behavioral construct relating to social interactions. The interpersonal dimension of CWB has strong alignment with the interpersonal antecedent and mediator. Spector and colleagues (2010) developed and validated a 10-item checklist to measure the frequency of CWB, including a five-item subscale measuring CWB-I behaviors targeting another individual (as opposed to the organization). This measure has anchors ranging from 1 (never) to 5 (everyday) with a reliability of .80. A sample item is "Insulted someone about their job performance."

Results

The analyses for hypothesis testing used positive and negative humor at Time 1 and all other focal variables at Time 2: belongingness need satisfaction, belongingness need frustration, vitality, OCB-I, emotional exhaustion, and CWB-I. Belongingness need satisfaction and frustration measurements at time 2 were used for two reasons. First, this study examined between person predictions, rather than within person fluctuations. Therefore, the focus was the accumulation of the belongingness need variables to examine the chronic process (or cumulating experiences) of belongingness need satisfaction and frustration that may be shaped by the work environment. Second, interpersonal relations between individuals develop over time, and it may take some time for their influence on belongingness need satisfaction and frustration to manifest. Collecting need satisfaction and frustration at time 2 allowed for an appropriate amount of time to pass to see the effects of interpersonal relations. Practically, collection of data

was not feasible at three different time points, although ideally the humor, need variables

and outcomes should be measured at three different time points to test the mediational

processes. Based on theoretical justifications, I prioritized separating the measurements

of humor and need variables over the measurements of the need and outcome variables.

Preliminary Analyses

Before evaluating the hypotheses, I conducted preliminary analyses to check the

data quality. The Time 1 survey received 356 responses and the Time 2 survey received

104 responses. Despite this, using personal identification codes created by the

participants, only 84 responses had matched data from both surveys. In order to assess

any patterns for the missing data, I compared two groups, those who had completed both

surveys and those who completed only the Time 1 survey using independent t-tests for

the focal variables. First, using Levene's test, I checked the assumption for homogeneity

of variances across groups with all focal variables at Time 1: positive and negative humor

experiences, belongingness need satisfaction, belongingness need frustration, vitality,

OCB-I, emotional exhaustion, and CWB-I. All variables except negative humor

experiences, $F(1,354)= 4.76$, p= .03, demonstrated non-significance and equal variances.

Therefore, I proceeded with the independent t-tests for the majority of variables to

examine any significant differences between the groups. For negative humor experiences,

the Welch's t-test that accounts for unequal variance was used. Results indicated that the

groups had no significant differences in responses for all variables.

I inspected the Cronbach's alphas of all scales to ensure that they provided

sufficient reliability, which were all above .70. I then conducted confirmatory factor

analyses (CFA) in Mplus using a maximum likelihood estimation to ensure that all focal

variables- positive humor, negative humor, belongingness need satisfaction, belongingness need frustration, vitality, OCB-I, emotional exhaustion, and CWB-I were empirically distinct. I assessed model fit by using conventional indices: chi-square values, the standardized root mean square residual (SRMR), the root mean square error of approximation (RMSEA) and comparative fit indices (CFI). The baseline model grouped all eight focal variables into a single factor, which did not demonstrate acceptable fit. Additionally, based on theoretical reasoning, I grouped pairs of related focal variables to determine if they do, in fact, represent separate constructs. Specifically, I combined vitality and emotional exhaustion to investigate the appropriateness of an overall well-being factor. Vitality and emotional exhaustion both capture energy levels but in opposite directions and researchers have investigated the extent they overlap and deviate (Demerouti et al., 2010). Therefore, I conducted a CFA distinguishing all focal variables except vitality and emotional exhaustion for a model with a seven-factor structure. Similarly, the outcomes, OCB-I and CWB-I, have often been examined together as they represent performance behaviors and can be considered opposites based on their definitions of helping and harming organizations or individuals, respectively (Dalal, 2005). Therefore, another seven factor CFA separated all focal constructs except these two performance behaviors. An additional pairing of focal variables focused on the psychological belongingness need due to the strong relationship between the satisfaction and frustration of the belongingness need, which led to a third seven-factor structure. Finally, positive and negative humor represent two dimensions of the overall construct of humor and therefore, an examination of factors with their pairing was appropriate for a fourth CFA with seven factors. Although all four models with seven factors demonstrated

better fit than the baseline model, none improved the model to the extent that the fit

indices illustrated good fit. This is in alignment with previous studies finding evidence to

distinguish the respective construct pairings (e.g., Bidee et al., 2016; Caudill &

Woodzicka, 2017; Dalal, 2005; Demerouti et al., 2010). Finally, a CFA with eight factors

so that each focal variable represented a factor demonstrated the best model fit ($\chi^2=$

3135.70, SRMR= .08, RMSEA= .07, CFI = .80) supporting the notion that they are all

distinct constructs. See Table 2.1 for the full results of the CFA models.

After establishing the scales' empirical distinction, I assessed the normality of all

focal variables by examining their descriptive statistics, histograms, and q-q plots. Most

variables displayed sufficient normality without notable violations. The measure for

CWB-I was positively skewed (skewness= 3.89, $SE=$ .13) and leptokurtic (kurtosis=

18.62, $SE=$ .26) likely due to the fact that the majority of respondents selected lower

values, endorsing the items less. Despite this, distribution for measures of workplace

mistreatment commonly demonstrate similar patterns (e.g., Yang & Caughlin, 2017) and

furthermore, the planned PROCESS macro analyses remedy the issue from bootstrapping

(Chernick et al., 2011). See Table 2.2 for mean, standard deviations, and correlations

between focal variables.

Hypothesis Testing

To conduct hypothesis testing, I used the software program R. For the first three

hypotheses, I employed linear regression, regressing belongingness need satisfaction on

positive and negative humor for hypotheses 1 and 2, respectively. For Hypothesis 3, I

regressed belongingness need frustration on negative humor. For the last three

hypotheses, the mediation models, I employed Hayes' PROCESS Macro for R (Hayes,

2017), which eliminated cases with missing data through listwise deletion, although no cases were deleted. This method allowed for dual mediation to include both belongingness need satisfaction and frustration as simultaneous mediators. Therefore, this allowed the non-hypothesized mediator to serve as a control due to the strong relationship between belongingness need satisfaction and frustration, $r = -.49$, $p < .001$. Bootstrapped confidence intervals were calculated to determine significance of indirect effects. The process involved using the product term from the coefficient estimate of the first or a pathway, the independent variable on the mediator (e.g., positive humor experiences to belongingness need satisfaction), and the coefficient estimate of the second or b pathway, the mediator on the outcome variable (e.g., belongingness need satisfaction to vitality). I examined the indirect effect at one standard deviation above the mean and one standard deviation below the mean to obtain values for the conditional indirect effect. This process was done for each individual dependent variable resulting in six separate analyses using 95% confidence intervals with 10,000 bootstrap iterations.

Hypothesis 1 stated that employee positive humor would have a positive relation with belongingness need satisfaction for the workplace. Results did not demonstrate a significant relation between positive humor at time 1 and belongingness need satisfaction at time 2, B = .11, $SE = .15$, $\beta = .07$, $p = .474$, 95% CI [-.19, .40]. Hypothesis 1 was not supported.

Hypothesis 2 stated that employee negative humor would have a positive relation with belongingness need satisfaction for the workplace. Results did not demonstrate a significant relation between negative humor at time 1 and belongingness need satisfaction

at time 2, B = -.17, *SE* = .14, β = -.15, *p* = .233, 95% CI [-.44, .11]. Therefore, hypothesis 2 was not supported.

Hypothesis 3 stated that employee negative humor would have a positive relation with belongingness need frustration for the workplace. Results did not demonstrate a significant relation between negative humor at time 1 and belongingness need frustration at time 2, B = .27, *SE* = .18, β = .19, *p* = .146, 95% CI [-.10, .63]. Consequently, hypothesis 3 was not supported. See Table 2.3 for results from the linear regressions.

The fourth hypothesis predicted that belongingness need satisfaction mediated the relation between positive humor and vitality and OCB-I. Negative humor served as covariate due to its relation with positive humor, *r* = .23, *p* = .038. Positive humor did not have a significant direct effect on vitality, B = .26, *SE* = .25, β = .12, *p* = .298, 95% CI [-.23, .75] but did for OCB-I, B = .32, *SE* = .15, β = .21, p = .033, 95% CI [.03, .61], when controlling for negative humor. Furthermore, positive humor did not have a significant indirect effect on vitality via belongingness need satisfaction, B = .05, *SE* = .07, β = .02, 95% CI [-.03, .29], nor OCB-I, B = .09, *SE* = .01, β = .06, 95% CI [-.09, .31]. Therefore, Hypothesis 4 was not supported. The non-hypothesized mediation for belongingness need frustration also lacked significance. Belongingness need satisfaction and frustration both predicted OCB-I, B = .61, *SE* = .12, β = .54, *p* < .001, 95% CI [.37, .85] and B = .19, *SE* = .09, β = .22, *p* = .047, 95% CI [.002, .37]. Interestingly, both coefficients were positive.

The next mediational analysis examined if negative humor predicted vitality and OCB-I through belongingness need satisfaction, Hypothesis 5, with positive humor as a covariate. Results demonstrated non-significant direct and indirect relations. Specifically, negative humor did not directly predict vitality, B = -.24, *SE* = .24, β = -.11, *p* = .319,

95% CI [-.72, .24], nor OCB-I, B = -.15, *SE* = .14, β = -.10, *p* = .305, 95% CI [-.43, .13].

Similarly, negative humor did not have an indirect effect via belongingness need

satisfaction on vitality, B = -.06, *SE* = .07, β = -.03, 95% CI [-.30, .02], nor OCB-I, B = -

.12, *SE* = .10, β = -.09, 95% CI [-.34, .06]. As a result, Hypothesis 5 was not supported.

The non-hypothesized mediation for belongingness need frustration also lacked

significance.

The sixth and final hypothesis stated that belongingness need frustration mediated

the relation between negative humor and the outcomes, emotional exhaustion and CWB-

I. I conducted a mediational analysis with these variables and once again used positive

humor as a covariate. Negative humor did not have a direct effect B = .38, *SE* = .27, β =

.16, *p* = .156, 95% CI [-.15, .92], nor indirect effect via belongingness need frustration, B

= -.06, *SE* = .07, β = -.03, 95% CI [-.28, .03], on emotional exhaustion. In contrast, it did

have a significant direct effect, B =.15, *SE* = .06, β = .29, *p* = .008, 95% CI [.04, .27], but

not an indirect effect via belongingness need frustration, B = .02, *SE* = .03, β = .04, 95%

CI [-.01, .09], on CWB-I. Despite the significant finding, Hypothesis 6 was not

supported. Additionally, the non-hypothesized mediation for belongingness need

satisfaction lacked significance. Please see Table 2.4 for the results of direct effects and

Table 2.5 for results of indirect effects from the mediation analyses.

Supplementary analyses

Cross-sectional Analyses

The small sample size (*N* = 84) in combination with the small effect sizes have

most likely contributed to insufficient statistical power for my hypothesis testing,

potentially leading to a type II error – failing to identify significant relationships among

the focal variables. Therefore, I conducted supplementary analyses using data from Time

1 exclusively ($N = 356$) and repeated the process of testing the first three hypotheses

using linear regression and using PROCESS macro for the three mediation hypotheses

while controlling for the opposite humor and belongingness need satisfaction or

frustration. This resulted in multiple significant findings. See Table 2.6 for mean,

standard deviations, and correlations between focal variables at Time 1.

Positive humor and belongingness need satisfaction demonstrated a significant

positive association, B = .59, SE = .07, β = .39, $p < .001$, 95% CI [.44, .74], to support

Hypothesis 1. Similarly, negative humor and belongingness need frustration also

demonstrated a significant positive association, B = .29, SE = .09, β = .16, p = .002, 95%

CI [.11, .48], to support Hypothesis 3. Hypothesis 2, which predicted that negative humor

would positively relate to belongingness need satisfaction was not supported. These

results generated the examination of a non-hypothesized relation between positive humor

and belongingness need frustration. Intriguingly, results demonstrated a significant

negative relation between them, B = -.30, SE = .12, β = -.14, p = .009, 95% CI [-.53, -

.08]. Despite the lack of support for Hypothesis 2, this finding suggests that positive and

negative humor do indeed have differential relations with the belongingness need and

furthermore that a humor construct can relate to both belongingness need satisfaction and

frustration. Please see Table 2.7 for the significant results from the linear regressions

using the cross-sectional data.

Hypothesis 4 predicted that belongingness need satisfaction would mediate the

relation between positive humor and its outcomes, vitality and OCB-I. Results

demonstrated support for this indirect effect of positive humor on vitality via

belongingness need satisfaction, B = .15, *SE* = .07, β = .06, 95% CI [.02, .31], and OCB-I, B = .12, *SE* = .04, β = .08, 95% CI [.04, .21]. Hypothesis 5 predicted belongingness need satisfaction would mediate the relation between negative humor and the outcomes, vitality and OCB-I, but results did not support this. Finally, analyses also demonstrated that belongingness need frustration mediated the relation between negative humor and the outcomes, emotional exhaustion, B = .06, *SE* = .03, β = .03, 95% CI [.01, .15], and CWB-I, B = .02, *SE* = .01, β = .04, 95% CI [.01, .05], which supported Hypothesis 6. Please see Table 2.8 for the results of direct effects and Table 2.9 for results of indirect effects from the cross-sectional mediation analyses.

In summary, results from the cross-sectional data demonstrated that positive humor had a positive relation with belongingness need satisfaction (and a negative relationship with belongingness need frustration), but negative humor did not. Subsequently, the empirical evidence suggests that belongingness need satisfaction mediated the relation between positive humor and the outcomes, vitality and OCB-I. Conversely, negative humor had a positive relation with belongingness need frustration and furthermore, belongingness need frustration mediated the relation between negative humor and the outcomes, emotional exhaustion and CWB-I. These findings provide some nuance to the nonsignificant findings from the original hypotheses testing.

Alternative Mediators

Although this study aimed to distinguish the belongingness need as a mechanism, the other two psychological needs, autonomy and competence may serve as alternative mediators. Therefore, I also conducted the hypothesis testing (e.g., using the matched time 1 and time 2 data; *N* = 84) with autonomy and competence need satisfaction and

frustration from time 2 as simultaneous mediators along with belongingness need

satisfaction and frustration (i.e., six mediators) while still controlling for the opposite

humor. This led to the following significant results. For the fourth hypothesis predicting

the mediation of the relation between positive humor and OCB-I, positive humor

demonstrated a significant positive indirect effect on OCB-I via competence need

satisfaction, B = .14, *SE* = .07, β = .09, 95% CI [.04, .31]. Negative humor also had a

significant negative indirect effect via competence need satisfaction on OCB-I, relating to

the fifth hypothesis, B = -.15, *SE* = .07, β = -.12, 95% CI [-.32, -.04]. I also found

autonomy need satisfaction as a significant mediator. Negative humor demonstrated a

negative indirect effect on vitality via autonomy need satisfaction, B = -.26, *SE* = .14, β =

-.12, 95% CI [-.60, -.06], also relating to the fifth hypothesis. Autonomy need satisfaction

also mediated the relation between negative humor and emotional exhaustion, with a

positive indirect effect, B = .23, *SE* = .07, β = .10, 95% CI [.05, .59], as well as that

between negative humor and CWB-I, B = .04, *SE* = .03, β = .08, 95% CI [.01, .13],

relating to the sixth hypothesis. In all situations, any indirect effects from belongingness

need satisfaction and frustration remained statistically nonsignificant. I also conducted

this analysis for which all three needs were mediators using the cross-sectional data. The

pattern remained the same for the indirect effects of both humors via competence need

satisfaction on OCB-I and the indirect effects of negative humor via autonomy need

satisfaction and the outcomes, vitality, and emotional exhaustion.

These findings should be interpreted with caution given the moderate-to-strong

correlations between the six need variables in each respective data set. Table 2.10 shows

the correlations between the psychological need constructs at Time 2 (using the T1-T2

matched sample) and Table 2.11 shows them for Time 1 (for cross-sectional testing). This suggests a potential suppression effect(s) that could alter significance, magnitude, or direction of relationships between variables (Conger, 1974; Krus & Wilkinson, 1986). For example, the indirect effect of positive humor on vitality via belongingness need satisfaction was no longer significant when the alternative mediators were added for the cross-sectional analyses. Furthermore, the significant indirect effect of negative humor on emotional exhaustion via belongingness need frustration changed from positive to negative. Further inspection showed that the b path from belongingness need frustration to emotional exhaustion changed to a negative relation, contrary to their accepted theoretical and empirically demonstrated (Vander Elst et al., 2012) relation.

Discussion

The current study examined the relations between employee positive and negative humor, belongingness need satisfaction and frustration, and employee well-being and interpersonal performance. The two-wave design, with the independent variables, positive and negative humor, measured at time 1 and the mediators, belongingness need satisfaction and frustration, and the outcomes, vitality, OCB-I, emotional exhaustion, CWB-I, measured at time 2, did not demonstrate significance for any of the hypothesized relations, which were therefore unsupported. Belongingness need satisfaction did not relate significantly to positive nor negative humor. Additionally negative humor did not significantly relate to belongingness need frustration. Furthermore, belongingness need satisfaction did not mediate the relationship between positive humor and vitality nor OCB-I, nor did it mediate the relationship between negative humor and vitality nor OCB-I. Finally, the relations between negative humor and emotional exhaustion and CWB-I

were not mediated by belongingness need frustration. Analyses did show support for a

direct effect of positive humor on the positive performance behavior, OCB-I, as well as

support for a direct effect of negative humor on the negative performance behavior,

CWB-I. Finally, analyses demonstrated support for positive direct effects on OCB-I from

belongingness need satisfaction and frustration.

Despite the lack of support for the hypotheses, supplementary analyses using only

time 1 data, which had over four times the number of observations with 356 participants,

showed more favorable results. Specifically, it demonstrated support for a relation

between positive humor and belongingness need satisfaction, Hypothesis 1, and a relation

between positive humor and the outcomes, vitality and OCB-I, mediated by

belongingness need satisfaction, Hypothesis 4. Similarly, the supplementary analyses

demonstrated support for a relation between negative humor and belongingness need

frustration, Hypothesis 3, and a relation between negative humor and the outcomes,

emotional exhaustion and CWB-I, mediated by belongingness need frustration,

Hypothesis 6. Therefore, these results provide some preliminary support for the role of

humor in a person's sense of belongingness and subsequently, their well-being and

interpersonal performance.

Theoretical Implications

The examination of workplace humor through a relational lens emphasizes the

conceptualization of humor as a form of social play. Amusing communications allow for

people to connect and can act as a social skill when expressed effectively. Therefore, the

current study contributes to the humor literature by specifying a conceptualization (social

play through amusing communications) that can be applied across situations (e.g.,

applicable to any type of interpersonal relationship, use of multiple types of humor) and maintains the integrity of the construct. Past literature has utilized conceptualizations specific to their focus creating disjointed approaches, which prevent integration and consolidation of humor research. Additionally, the examination of a construct, namely negative humor, that appears to have a relation with belongingness need frustration adds to the SDT literature, which has minimal examination of psychological need frustration as well as minimal examination of the simultaneous impact of need satisfaction and need frustration.

Initial results did not support any of the six hypotheses, but sample size may have been a contributing factor. This limitation is discussed later in the corresponding section. Therefore, I will discuss implications by accounting for the supplementary analyses, which assessed the hypotheses from a single time point, to address this limitation. The cross-sectional significant relation between positive humor and belongingness need satisfaction aligns with the notion that sharing positive experiences and co-experiencing positive affect promotes perceptions of connectedness (Brown & Fredrickson, 2021). This finding suggests the importance of amusing communications as a beneficial factor for perceptions of social connection. Inversely, the relation between negative humor and belongingness need frustration suggests amusing communications may also serve as a detrimental factor for perceptions of social connection if those interactions include an antagonistic component. This provides more evidence for both the humor and SDT literature regarding the vital distinction of their focal constructs; that is, positive versus negative humor and belongingness need satisfaction versus frustration, respectively.

The separation of positive and negative humor and identification of their distinct nomological networks help further the understanding of humor's ambiguous role in interpersonal relationships and workplace outcomes. These empirical results suggest that positive humor is relevant to belongingness need satisfaction, but negative humor may only be relevant to belongingness need frustration. Although negative humor is conceptually classified as amusing communications, and therefore expected to enable social connection, it empirically related to feelings of rejection and social isolation. Indeed, conflicting research on negative humor has indicated that it may have benefits such as group cohesion (Terrion & Ashforth, 2002) or manageable confrontation (Sliter et al., 2017) as well as detriments such as less organizational attachment (Blanchard & Cann, 2014) or team cooperation (Romero & Cruthirds, 2006). This study's findings demonstrate that the antagonistic element of negative humor could potentially overshadow its inherent playfulness and highlight social discord to generally result in undesirable outcomes. The lack of significant findings showing a relation between negative humor and belongingness need satisfaction warrants further investigation into alternative mechanisms or boundary conditions needed for significant relations between negative humor and desirable outcomes. Moving the research toward this direction will clarify the true relationship between negative humor and belongingness need satisfaction. This is important when considering humor can be leveraged as a social skill, in which case negative humor does not seem to be an effective one if it positively relates to the interference of social connection perceptions and relationship building more often than not. The humor literature would gain better insight from discerning the divergent impact of negative humor and what situations enable it to contribute to social connection.

Additionally, the identification of the non-hypothesized but significant negative relation between positive humor and belongingness need frustration also provides more insight into the differing nomological networks of the constructs. The fact that positive humor relates to both belongingness need satisfaction and frustration, but that negative humor only relates to the latter points to the distinction between both types of humor as well as the distinction between belongingness need satisfaction and frustration. This supports the recent clarification by SDT literature to reject the idea of psychological need satisfaction and frustration being on opposite ends of the same spectrum (e.g., Rouse et al., 2020; Vansteenkiste & Ryan, 2013). There are multiple potential explanations for the differences in the nomological networks. For example, it is possible that positive humor relates to both belongingness need satisfaction and frustration due to its inherent good-natured content and that this type of unequivocally benign joking with others can assist in relationship development and actively reduce feelings of rejection.

In contrast, negative humor's ambiguity of gentleness, due to its combination of playfulness and antagonism, may create an ambivalent experience for individuals. This could prevent it from having a clear relation with social connection perceptions. This may explain the nonsignificant finding for the relation between negative humor and belongingness need satisfaction. Despite this, negative humor's defining characteristic of antagonism is not ambiguous, which may explain its more apparent significant relation to belongingness need frustration. Employees who engage in, and are exposed to, negative humor may internalize the hostility element, perceiving it as a veiled expression of aggression or disconnect from others. Negative humor has potential to be perceived as incivility due to its ambiguity of gentleness, especially if the salience of the antagonistic

aspect eclipses the levity. In fact, the positive direct effect of negative humor on CWB-I provides evidence for the incivility spiral (Andersson & Pearson, 1999; Park & Martinez, 2022), if employees perceive negative humor as low-intensity aggression and retaliate.

Importantly, conventional expectations and characteristics of the workplace may increase the salience of humor's antagonism. Employees may be less likely to endorse or use negative humor because of policies, social expectations, or repercussions, so these contextual factors may make the antagonism more salient when experiencing negative humor at work. Consider the difference between teasing coming from a close friend versus a colleague. In the friend scenario, the social relationship has stronger foundations with presumably more rapport and mutual understanding, and therefore, the playfulness is more apparent. Alternatively, rapport with colleagues involves situational aspects such as professionalism and the lack of autonomous selection for colleagues (i.e., people do not typically choose their colleagues). Indeed, empirical evidence has found that some boundary conditions for the negative humor-outcome relations; for example, implicit group rules for the use of negative humor (Terrion & Ashforth, 2002) and high-quality relationships (Robert et al., 2016; Wijewardena et al., 2017) have been found to explain the positive relation between negative humor and positive work outcomes. The conventional aspects of a professional setting may reduce the perception of negative humor's levity and accentuate its antagonistic element to foster feelings of rejection (i.e., belongingness need frustration). Future research would benefit from the disentanglement of negative humor's opposing characteristics and what contextual and personal factors may emphasize one over the other. This is especially important for determining necessary conditions for a significant positive relationship between negative humor and

belongingness need satisfaction. As a result, scientists and practitioners would have a deeper understanding of the salience of negative humor's antagonism to know how to appropriately manage it.

This study's preliminary evidence for the mediation of belongingness need satisfaction offers a psychosocial mechanism for explaining positive humor and its positive outcomes, vitality and OCB-I. Additionally, the preliminary evidence for the mediation of belongingness need frustration offers a psychosocial mechanism for explaining for negative humor and its negative outcomes, emotional exhaustion and CWB-I. The small literature on humor in the workplace has previously found some evidence for social mechanisms such as social support (Caudill & Woodzicka, 2017), social distance (T. Y. Kim et al., 2016) and LMX (Gkorezis et al., 2011). Despite this, this study is one of the first to simultaneously look at positive and negative mechanisms when comparing positive and negative humor. The mediation of belongingness need satisfaction for only positive humor potentially explains previous findings that show negative humor did not have significant relations with positive outcomes such as general well-being (Caudill & Woodzicka, 2017), reduced stress (Wang et al., 2018), and work engagement (Guenter et al., 2013) when positive humor has. Furthermore, belongingness need frustration acting as a mediator for negative humor suggests one possible explanation for studies that demonstrated negative humor's undesirable relationships with outcomes such as stress, team cooperation (Romero & Cruthirds, 2006), and psychological well-being (T. Y. Kim et al., 2016).

In addition to identifying differences in the nomological networks of positive and negative humor, this study also added to the nomological networks of belongingness need

satisfaction and frustration. Beyond the relations with humor previously discussed, results

also demonstrated that both constructs for the belongingness need had positive

relationships with OCB-I. The less expected pathway from belongingness need

frustration to OCB-I suggests that individuals who feel disconnected from others may

take action to reconcile social relationships through helping behaviors. This interestingly

suggests that need satisfaction and frustration do not necessarily have opposite relations

with the same construct and that seemingly opposing mechanisms can generate different

pathways to the same outcome. This is particularly important for future researchers to

separate psychological need satisfaction and need frustration and measure both constructs

when interested in psychological need processes. Research would benefit by continuing

to examine constructs, such as humor, that potentially have significant relations with both

need satisfaction and need frustration, especially if they have parallel relations, such as

the ones with OCB-I.

Alternative Mediators

Despite these aforementioned explanations, there is evidence that the other two

psychological needs, autonomy and competence, also mediate the relations between

humor and its outcomes, as supported by results from my supplementary analyses. The

satisfaction of competence demonstrated a positive indirect effect between positive

humor and OCB-I, and a negative indirect effect between negative humor and OCB-I.

Experiences with positive humor indicate that an individual successfully engages in

amusement with others as well as keeps their own spirits up. This positive experience

may allow an individual to feel they can manage their surroundings effectively to fulfill

the need for competence and in turn, have the capacity, willingness, and confidence to

help others. In contrast, negative humor experiences suggest that an individual engages in unkind jokes toward others or themself, which may take away from feelings of competence toward interacting with others. With low feelings of competence, an individual may be less motivated or feel less suited to help others.

The satisfaction of autonomy demonstrated negative indirect effects from negative humor on the outcomes of vitality and emotional exhaustion for both the time-lagged and cross-sectional analyses. Lower sense of control and volition may occur if the experience of negative humor signals to an individual that they are not respected, or the jokes undermine their formal or informal authority, or indicates a hostile environment, even if the target made the joke themself. In turn, an individual may experience higher levels of emotional exhaustion from these feelings and have less energy and spirit (i.e., vitality) from the low levels of autonomy need satisfaction.

More research is warranted to examine the relations of humor with autonomy and competence need satisfaction (and frustration), which have not yet been studied. Regardless, the preliminary evidence that the other two psychological needs are also relevant to both types of workplace humor shows further support that humor is relevant to the psychological experience of need fulfillment. This adds insight to the potential impact of playful communications on universal needs. It also implies that social play is an important environmental factor for motivation as well as performance and well-being. The universal experience of humor, which occurs across numerous situations, should be recognized as a fundamental aspect of the psychological experience. It provides opportunity for fostering motivation, well-being, and performance from something that is inexpensive, familiar, and adaptable. Nonetheless, individuals need to understand that the

content of humor matters and that it can be detrimental or beneficial. Framing workplace

humor around SDT allows for consolidation of the disconnected literature to explain the

various types of outcomes.

New Measurement of Workplace Humor

This study adapted the Humor Styles Questionnaire (HSQ) to measure workplace

humor experiences, which provides a novel measurement for the area of study. The

adaptation of the commonly used scale enables researchers to be able to continue to use

the accepted structure of humor styles while maintaining the validity of measuring state

humor due to the fact that the HSQ was initially developed to measure trait humor (R. A.

Martin et al., 2003). Additionally, this adaptation refers to the workplace context and this

contextualization can enhance predictive validity for workplace outcomes (e.g., Shaffer

& Postlethwaite, 2012). Having an appropriate measure is vital to the integrity of

research to capture the construct accurately and reliably. Improvement upon validity

enables precision to then identify true patterns and generate conclusions regarding the

complex construct of workplace humor. The fact that I validated the scale among

employees of various industries also supports the scale's potential for broad applicability

across contexts.

Limitations and Future Directions

The most notable limitation of the study is sample size. Although the first survey

provided 356 responses, only 84 observations had data from both time points,

demonstrating a 76% attrition rate. There were no significant differences in survey

responses nor demographics between groups. Past literature suggests that to detect

significance for a mediational model examining humor or need satisfaction or frustration,

sample sizes ranging from 200-400 provide sufficient power (Bartholomew et al., 2011a; Caudill & Woodzicka, 2017; T. Y. Kim et al., 2016; Trépanier et al., 2016). Therefore, this study was underpowered and may have led to a type II error, meaning that true relationships were falsely unidentified, potentially explaining the nonsignificant results for all hypotheses. Further testing from the 84 observations at time 1 only also demonstrated nonsignificant results. Results solely from the first survey, meaning the examination of the 356 observations, however, did show significant relations, specifically, the relation between positive humor and belongingness need satisfaction as well as the relation between negative humor and belongingness need frustration. Additionally, indirect effects from belongingness need satisfaction were found for the relation between positive humor and both its outcomes, vitality and OCB-I. Similarly, positive indirect effects from belongingness need frustration were found for negative humor and its negative outcomes, emotional exhaustion and CWB-I. The small effect sizes, which also reduce power and require larger sample sizes, may have contributed to the lack of findings using time 1 and time 2 data. Future research would benefit from larger sample sizes to increase the ability of detecting significant relations. Furthermore, future studies should aim to have three time points to separate the variables (i.e., humor at time 1, psychological need mediators at time 2, and the well-being and behavioral outcomes at time 3), which would assist with directionality for conclusions and minimize common method bias (CMB).

Common method bias serves as a second limitation of this study. In addition to the mediators and outcomes being measured at the same time point, both time points used the same self-reported scales. Common method bias results from the measurement of

variables using the same method so response tendencies or similarities in structure or

wording of measures lead to a bias in the reliability or validity of the scales as well as the

parameter estimates of relationships between variables (Jordan & Troth, 2020; Podsakoff

et al., 2003). This is something to also consider when acknowledging that the significant

results from the supplementary analyses using time 1 data only. It is possible that the

significant findings resulted from CMB. Despite this, this study included strategies that

help mitigate CMB such as differences in scale properties (e.g., the anchor labels),

inclusion of reversed coded items, and temporal separation in the case of the original

analyses (Jordan & Troth, 2020). Furthermore, research has tended to be overly cautious

in stating the effect of CMB and some evidence suggests that it is not as prevalent as

once assumed (Spector, 2006). Regardless, future research may seek to measure the

variables using other sources or methods to minimize other biases such as memory recall

or the social desirability bias to provide diverse evidence for relations among the

variables. For example, observations from other sources (e.g., colleagues) could serve as

a method of measurement for humor and the performance behaviors, OCB-I and CWB-I.

Alternatively, an individual could record their experience in an event-based manner for

their behaviors and perceptions. Event sampling methodology would be very appropriate

for examining the construct of humor, a mostly spontaneous event.

Indeed, participants may have hesitated to admit to and report negative behaviors,

such as negative humor and CWB-I. Accordingly, both constructs revealed to have range

restriction. Negative humor at time 1 had a mean of 1.99 with a standard deviation of .62

and CWB-I at time 1 had a mean of 1.14 and a standard deviation of .33. Both scales had

anchors ranging from one to five and the means and standard deviations were not

significantly different between the matched sample (i.e., original analyses) and time 1

only sample (i.e., supplementary analyses). This range restriction resulted in smaller

variance and reduction of power for the study. Interestingly, positive humor also

demonstrated range restriction (M= 3.58, SD= .59). Furthermore, positive and negative

humor and CWB-I had the lowest ranges (2.4, 2.7, and 2.2, respectively) among all focal

variables. The fact that responses for both independent variables did not vary drastically

could have interfered with the regression analyses since they examine the degree of a

relation based on patterns of variation in the variables. Without enough variation, a

pattern is harder to detect. If future research involves larger sample sizes and other

methods of measurement, then it is possible larger variation will be captured.

Additionally, in alignment with other comments in the humor literature (e.g.,

Mesmer-Magnus et al., 2012), the difficulty in capturing humor by using scales that rely

on semantics and framing could contribute to the lack of variability. When asked

explicitly to recall humor experiences, participants may only consider experiences that

align closely with the item phrasing, narrowing the possibilities that could be

conceptualized as workplace humor. For example, people may interpret the item "If

someone made a mistake, I often teased them about it at work" such that their response

refers to times they engaged in teasing *as a result of someone's mistake*, rather than

teasing coworkers in general. The retrospective nature of self-reported scales may also

impact the way people respond. Participants might not think about specific and personal

experiences but instead respond based on their general perception leading to similar

responses across items and a smaller range of answers. Event-based observations or

recordings of humor would assist with capturing more variability, especially across

industries that may have different expressions of humor, to enhance specificity of the experiences.

A final limitation lies in the potential multicollinearity between some of my focal variables. Given the relatively high correlation between belongingness need satisfaction and frustration ($r = -.49$), multicollinearity may have influenced the results from the dual mediation analyses that use both variables as simultaneous mediators. Although research has established psychological need satisfaction and need frustration as distinct constructs (Van den Broeck et al., 2016), the two variables highly relate to each other, due to their focus on the same basic psychological need: belongingness. The multicollinearity between the two would make it difficult to observe the unique associations each phenomenon or process has with its respective outcomes or antecedents. Therefore, it weakens the ability to estimate their relations with the interested outcome variables. Once again this reduces the power of the model and could increase the chances of a type II error (e.g., Kalnins, 2022). Event-based measurement may assist with the disentanglement of the constructs by adding specificity to the participant's self-reported impressions of their perceptions of belongingness so that they distinguish between low feelings of belongingness need satisfaction and active feelings of its frustration.

Future studies should aim to build upon these preliminary results suggesting existing relations between humor, psychological needs, and well-being and behavioral outcomes. The present study has demonstrated initial evidence for the importance of amusing communications in the workplace that represent a form of play, sometimes leveraged as a social skill. Humor, a universal experience, factors into the universal experiences of psychological needs such that it may provide an avenue for understanding

and regulating motivation, behaviors, and well-being. Furthermore, the notable

distinction of positive and negative humor suggests that future research needs to separate

these constructs to accurately identify humor's impact and make generalizable

conclusions. A nuanced understanding of humor at work would inform how to

appropriately apply humor and avoid detrimental expressions of amusement to maximize

its beneficial impact. Continuing to investigate the impact of this common form of

communication within the workplace context will inform organizations and individuals of

the best ways to use this accessible and inexpensive social tool. In turn, they can cultivate

a more supportive, healthy, and enjoyable work environment that benefits everyone.

Table 2.1

Results of Confirmatory Factor Analysis of Focal Constructs for Hypothesis Testing (Matched T1-T2 Sample)

Model	χ^2	df	CFI	RMSEA	SRMR
One Factor	9003.41	1175	0.23	0.14	0.17
Seven Factors (Behaviors)	3610.88	1154	0.76	0.08	0.10
Seven Factors (Well-being)	4186.52	1154	0.70	0.09	0.09
Seven Factors (Belongingness Need)	3555.95	1154	0.76	0.08	0.10
Seven Factors (Humor)	4010.52	1154	0.72	0.08	0.11
Eight Factors	3135.70	1147	0.80	0.07	0.08

Note: χ^2= chi-square, *df*= degrees of freedom, CFI= Comparative Fit Index, RMSEA= Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.
One Factor = all constructs on one factor; Seven Factors (Behaviors) = OCB-I and CWB-I as one factor; Seven Factors (Well-Being) = vitality and emotional exhaustion as one factor; Seven Factors (Belongingness Need) = BN satisfaction and frustration as one factor; Seven Factors (Humor) = positive and negative humor as one factor

Table 2.2

Means, Standard Deviations, and Correlations Between Focal Variables (Matched T1-T2 Sample)

Variable	Mean	SD	1	2	3	4	5	6	7
1. Positive humor (T1)	3.58	.59	.82						
2. Negative humor (T1)	1.99	.62	.23*	.82					
3. BNS[1] (T2)	3.57	.79	.08	-.13	.86				
4. BNF[2] (T2)	2.18	1.04	-.07	.16	-.49***	.78			
5. Vitality (T2)	4.41	1.32	.11	-.12	.25*	-.19†	.91		
6. OCBi (T2)	2.81	.88	.22*	-.09	.47***	-.08	-.04	.85	
7. Emotional exhaustion (T2)	3.52	1.45	-.01	.15	-.13	-.03	-.58***	.21†	.95
8. CWBi (T2)	1.14	.33	.19†	.34***	-.04	.20†	-.07	.14	.16	.80

Note. N = 84. BNS = Belongingness need satisfaction. BNF = Belongingness need frustration
†$p \le .10$ * $p \le .05$, ** $p \le .01$, *** $p \le .001$.

Table 2.3
Regression Results Humors and Belongingness Need for Hypotheses 1-3 (Matched T1-T2 Sample)

Variables	*B*	*SE*	*p*	95% CI	*β*
Positive humor (T1) → Belongingness Need Satisfaction (T2)	.11	.15	.474	[-.19, .40]	.07
Negative humor (T1) → Belongingness Need Satisfaction (T2)	-.17	.14	.233	[-.44, .11]	-.15
Negative humor (T1) → Belongingness Need Frustration (T2)	.27	.18	.146	[-.10, .63]	.19

Note. N = 84

Table 2.4
PROCESS Macro Model Estimates for Direct Effects of Humors and Belongingness Need for Hypotheses 4-6 (Matched T1-T2 Sample)

Variables	*B*	*SE*	*p*	95% CI	*β*
Positive humor (T1) → Belongingness Need Satisfaction (T2)	.15	.15	.309	[-.14, .45]	.12
Negative humor (T1) → Belongingness Need Satisfaction (T2)	-.20	.14	.164	[-.48, .08]	-.16
Negative humor (T1) → Belongingness Need Frustration (T2)	.31	.19	.102	[-.06, .68]	.19
Positive humor (T1) → Vitality (T2)	.26	.25	.298	[-.23, .75]	.12
Positive humor (T1) → OCB-I (T2)	.32	.15	.033	[.03, .61]	.21
Negative humor (T1) → Vitality (T2)	-.24	.24	.319	[-.72, .24]	-.11
Negative humor (T1) → OCB-I (T2)	-.15	.14	.305	[-.43, .13]	-.10
Negative humor (T1) → Emotional Exhaustion (T2)	.38	.27	.156	[-.15, .92]	.16
Negative humor (T1) → CWB-I (T2)	.15	.06	.008	[.04, .27]	.29
Belongingness Need Satisfaction (T2) → Vitality (T2)	.32	.21	.123	[-.09, .74]	.19
Belongingness Need Frustration (T2) → Vitality (T2)	-.09	.16	.563	[-.41, .22]	-.07
Belongingness Need Satisfaction (T2) → OCB-I (T2)	.61	.12	<.001	[.37, .85]	.54
Belongingness Need Frustration (T2) → OCB-I (T2)	.19	.09	.047	[.002, .37]	.22
Belongingness Need Satisfaction (T2) → Emotional Exhaustion (T2)	-.31	.23	.182	[-.78, .15]	-.17
Belongingness Need Frustration (T2) → Emotional Exhaustion (T2)	-.20	.18	.268	[-.55, .15]	-.14
Belongingness Need Satisfaction (T2) → CWB-I (T2)	.04	.05	.473	[-.06, .13]	.09
Belongingness Need Frustration (T2) → CWB-I (T2)	.06	.04	.096	[-.01, .14]	.20

Note. N = 84

Table 2.5

PROCESS Macro Model Estimates for Indirect effects for Hypotheses 4-6 (Matched T1-T2 Sample)

Variables	β	bootSE	95% CI
Positive humor (T1) →BNS (T2) → vitality (T2)	.02	.07	[-.03, .29]
Positive humor (T1) → BNS (T2) → OCBi (T2)	.06	.01	[-.09, .31]
Negative humor (T1) → BNS (T2) → vitality (T2)	-.03	.07	[-.30, .02]
Negative humor (T1) → BNS (T2) → OCBi (T2)	-.09	.10	[-.34, .06]
Negative humor (T1) →BNF (T2) → emotional exhaustion (T2)	-.03	.07	[-.28, .03]
Negative humor (T1) → BNF (T2) → CWBi (T2)	.04	.03	[-.01, .09]

Note. BNS = Belongingness need satisfaction. BNF = Belongingness need frustration
N = 84

Table 2.6

Means, Standard Deviations, and Correlations Between Focal Variables at Time 1 for Supplementary Analyses

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Positive humor	3.60	.57	.82							
2. Negative humor	2.00	.71	.25***	.87						
3. BNS[1]	3.55	.86	.39***	.04	.88					
4. BNF[2]	2.31	1.24	-.14**	.17**	-.49***	.84				
5. Vitality	4.63	1.35	.25***	-.11*	.32***	-.30**	.92			
6. OCBi	2.83	.87	.34***	.10*	.22***	.01	.07	.86		
7. Emotional exhaustion	3.26	1.42	-.03	.15	-.21***	.23**	-.49***	.22***	.93	
8. CWBi	1.16	.34	.07	.34**	-.02	.23***	-.07	.12*	.10†	.79

Note. N = 354-356. BNS = Belongingness need satisfaction. BNF = Belongingness need frustration
†$p \le .10$ * $p \le .05$, ** $p \le .01$, *** $p \le .001$.

Table 2.7

Direct Effects Between Humors and Belongingness Need at Time 1 for Supplementary Analyses

Variables	B	SE	p	95% CI	β
Positive humor → Belongingness Need Satisfaction	.59	.07	<.001	[.44, .74]	.39
Negative humor → Belongingness Need Satisfaction	.05	.06	.478	[-.08, 17]	.04
Negative humor → Belongingness Need Frustration	.29	.09	.002	[.11, .48]	.16
Positive humor → Belongingness Need Frustration	-.30	.12	.009	[-.53, -.08]	-.14

Note. N = 356

Table 2.8

PROCESS Macro Model Estimates for Direct Effects Between Humors and Belongingness Need at Time 1 for Supplementary Analyses

Variables	*B*	*SE*	*p*	95% CI	*β*
Positive humor → Belongingness Need Satisfaction	.62	.08	<.001	[.47, .77]	.41
Negative humor → Belongingness Need Satisfaction	-.08	.06	.209	[-.20, .04]	-.06
Negative humor → Belongingness Need Frustration	.37	.09	<.001	[.19, .56]	.21
Positive humor → Belongingness Need Frustration	-.41	.12	<.001	[-.64, -.19]	-.19
Positive humor → Vitality	.46	.13	<.001	[.20, .71]	.19
Positive humor → OCB-I	.44	.09	<.001	[.27, .61]	.28
Negative humor → Vitality	-.28	.10	.005	[-.47, .08]	-.15
Negative humor → OCB-I	-.002	.07	.981	[-.13, .13]	-.001
Negative humor → Emotional Exhaustion	.18	.11	.098	[-.03, .40]	.09
Negative humor → CWB-I	.18	.02	<.001	[.13, .23]	.37
Belongingness Need Satisfaction → Vitality	.24	.09	.010	[.06, .43]	.16
Belongingness Need Frustration → Vitality	-.19	.06	.002	[-.31, -.07]	-.18
Belongingness Need Satisfaction → OCB-I	.19	.06	.003	[.06, .31]	.18
Belongingness Need Frustration → OCB-I	.10	.04	.014	[.02, .18]	.14
Belongingness Need Satisfaction → Emotional Exhaustion	-.25	.11	.017	[-.46, -.05]	-.15
Belongingness Need Frustration → Emotional Exhaustion	.16	.07	.019	[.03, .30]	.14
Belongingness Need Satisfaction → CWB-I	.03	.02	.254	[-.02, .07]	.07
Belongingness Need Frustration → CWB-I	-.01	.03	.776	[-.07, .05]	-.02

Note. N = 356

Table 2.9

PROCESS Macro Model Estimates for Indirect effects at Time 1 for Supplementary Analyses

Variables	*β*	*bootSE*	95% CI
Positive humor →BNS → vitality	.06	.07	[.02, .31]
Positive humor → BNS → OCBi	.08	.04	[.04, .21]
Negative humor → BNS → vitality	-.01	.02	[-.07, .01]
Negative humor → BNS → OCBi	-.01	.01	[-.05, .01]
Negative humor →BNF → emotional exhaustion	.03	.03	[.01, .15]
Negative humor → BNF → CWBi	.04	.01	[.01, .05]

Note. BNS = Belongingness need satisfaction. BNF = Belongingness need frustration
N = 354-356

Table 2.10

Means, Standard Deviations, and Correlations Between Psychological Need Variables at Time 2

Variable	Mean	SD	1	2	3	4	5	6
1. BNS	3.57	.79	.86					
2. BNF	2.18	1.04	-.49***	.78				
3. ANS	3.15	.73	.46***	-.27**	.80			
4. ANF	3.86	1.50	-.34**	.27**	-.71***	.87		
5. CNS	4.15	.58	.32**	-.38***	.29**	-.24*	.84	
6. CNF	2.63	1.28	-.36***	.56***	-.54***	.59***	-.34***	.84

Note. N = 84. BNS = Belongingness need satisfaction. BNF = Belongingness need frustration.
ANS = Autonomy need satisfaction. CNS = Competence need satisfaction
†*p* ≤.10 * *p* ≤.05, ** *p* ≤ .01, *** *p* ≤ .001.

Table 2.11

Means, Standard Deviations, and Correlations Between Psychological Need Variables at Time 1

Variable	Mean	SD	1	2	3	4	5	6
1. BNS	3.54	.86	.88					
2. BNF	2.31	1.24	-.49***	.84				
3. ANS	3.25	.74	.46***	-.48	.77			
4. ANF	3.78	1.56	-.38**	.48***	-.76***	.87		
5. CNS	4.12	.65	.25***	-.23***	.31***	-.26***	.86	
6. CNF	2.74	1.48	-.37***	.66***	-.57***	.61***	-.38***	.88

Note. N = 354-356. BNS = Belongingness need satisfaction. BNF = Belongingness need frustration.
ANS = Autonomy need satisfaction. CNS = Competence need satisfaction
†*p* ≤.10 * *p* ≤.05, ** *p* ≤ .01, *** *p* ≤ .001.

Table 2.12

Means, Standard Deviations, and Correlations Between Alternative Levels and Dimensions of Focal Variables at Time 1

Variable	Mean	SD	PH	NH	Affiliative	Self-Enhancing	Aggressive	Self-Defeating	BNS	BNF
Burnout	2.82	.93	-.17**	.14**	-.08	-.17**	.06	.17**	-.39***	.38***
Thriving	5.10	1.08	.24***	-.12*	.12*	.24***	-.06	-.14*	.35***	-.36***
OCBi	2.83	.87	.34***	.10*	.30***	.24***	-.01	.17**	.23***	.02
OCBo	2.35	.82	.24***	.13*	.16**	.21***	.04	.17***	.21***	.05
CWBi	1.16	.34	.07	.40***	.07	.05	.45***	.25***	-.02	.23***
CWBo	1.51	.47	-.01	.20***	.05	-.05	.18***	.17***	-.08	.22***

Note. N = 354-356. PH = Positive Humor. NH = Negative Humor. BNS = Belongingness need satisfaction. BNF = Belongingness need frustration

†$p \leq .10$ * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Table 2.13
Means, Standard Deviations, and Correlations Between Theoretically Relevant Variables and Focal Variables at Time 1

Variable	Mean	SD	PH	NH	Affiliative	Self-Enhancing	Aggressive	Self-Defeating	BNS	BNF
Coworker Interaction	5.10	1.32	.06	.02	.18***	-.05	.04	-.01	.17**	-.05
Social Support	3.79	.71	.28**	-.11*	.30***	.15**	-.07	-.11*	.63***	-.56***
Job Tenure	4.77	7.08	.10†	.05	.01	.13**	.08	.02	.08	-.07
Organizational Tenure	5.43	7.31	.06	.03	-.01	.09†	.09†	-.03	.16**	-.08
Positive Affect	3.36	.73	.10†	-.15**	.02	.12**	-.10†	-.16**	.23***	-.20***
Negative Affect	1.94	.76	-.06	.22***	.01	-.09†	.15**	.23***	-.13**	.29***
Workload	3.14	.94	.11*	.03	.11*	.07	-.04	.08	.10†	.11*

Note. N = 354-356. PH = Positive Humor. NH = Negative Humor. BNS = Belongingness need satisfaction. BNF = Belongingness need frustration
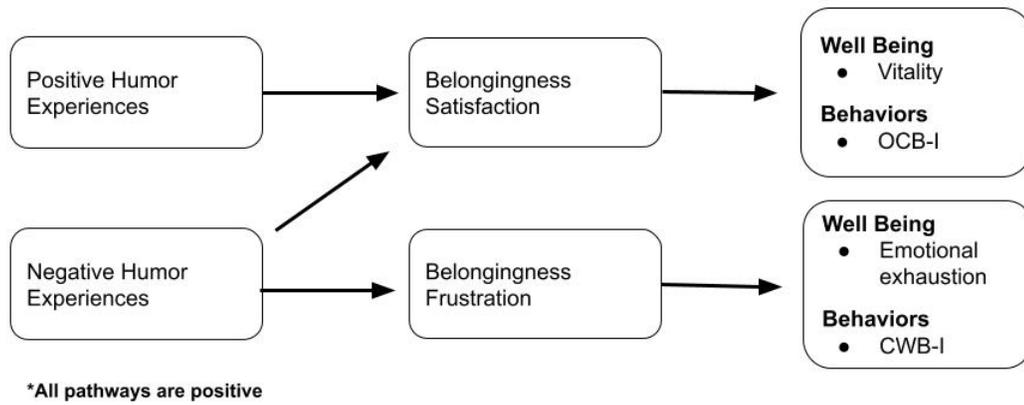†p ≤.10 * p ≤.05, ** p ≤ .01, *** p ≤ .001.
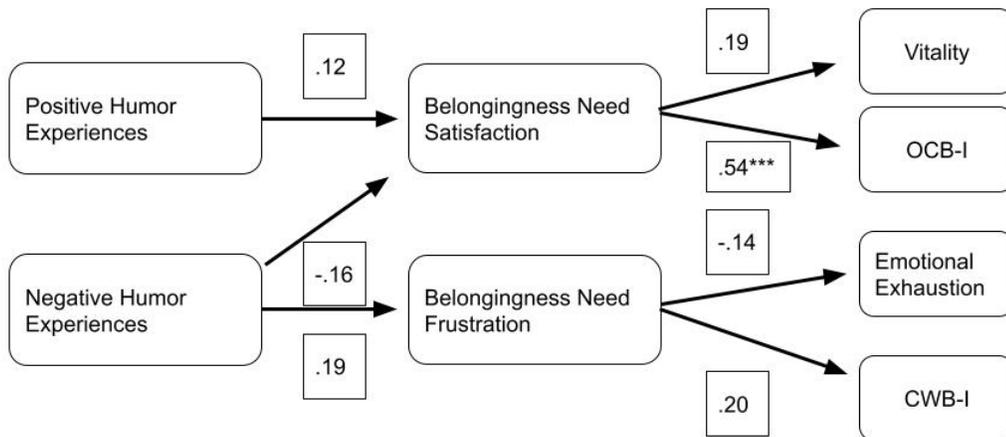
Figure 2.1. Hypothesized Model

Figure 2.2. Hypothesized Model with Standardized Directs Effects
*** p < .001

Appendix A: Adaptation of the Humor Styles Questionnaire

Martin and colleagues (2003) designed the humor styles questionnaire (HSQ) as a measurement for trait humor to capture the different dimensions of individual tendencies to embrace humor in their daily lives. The four-factor structure of the HSQ, which includes affiliative humor (original α = .80), self-enhancing humor (original α = .81), aggressive humor (original α = .87), and self-defeating humor (original α = .80) has demonstrated evidence for its dimensionality such that both a principal components analysis using Varimax rotation, and a confirmatory factor analysis supported four dimensions as the best model fit (R. A. Martin et al., 2003). Additionally, empirical studies on humor, especially workplace humor, have used it as a measure to identify the separation between positive and negative humor and their distinct relationships with variables of interest (e.g., Caudill & Woodzicka, 2017; T. Y. Kim et al., 2016; Romero & Arendt, 2011). With the intention to align with the existing literature, my empirical study investigating the role of the belongingness need as a potential framework for workplace humor and its outcomes would benefit from using the same measurement. However, this study investigates state humor, conceptualized as humor experiences, and therefore the scale measuring trait qualities needs adaptation before being used to measure state humor. Additionally, the limited options for measurements of state humor, or the experience of humor within a certain time frame, suggests a need for the development and validation of such a scale, especially one that maintains a commonly accepted structure of humor dimensions. Finally, the focus of the study in the context of the workplace also inspired the scale development and validation to produce a humor scale specific to the workplace.

Step 1: Adapting the existing Humor Styles Questionnaire (HSQ)

The original 32-item scale for humor styles has eight items for each of the four dimensions. First, I listed out all items and changed the grammar to be more specific to time by removing time-relevant adverbs such as "usually", "often", or "rarely" and changed the verbs to be past tense such as "like" to "liked", "laugh" to "laughed", or "enjoy" to "enjoyed". Additionally, due to research evidence suggesting that reverse-coded items do not increase scale variance and may add to participant cognitive load (e.g., Hughes, 2009; Suárez-Alvarez et al., 2018), I changed the nine[1] reversed-coded items to positively valenced wording to match the direction of the other items. Finally, I added the term "at work" to contextualize the items and ensure the measure specifically

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[1] The scale had ten reversed coded items, but one was mistakenly not changed. However, this item does not appear in the final scale and did not impact the final results for the adapted scale.

captured workplace humor experiences. After I made these changes, a subject matter expert reviewed the changes and suggested additional ones such as removing redundant words or extraneous phrases to shorten the items as much as possible for readability andparticipant ease. This also simplified items to clarify their meaning, enhance content validity, and reduce the chance of them being double-barreled. Participants were then asked to "please indicate the extent to which you agree with each statement based on your experiences in the past month." With response options ranging from (1) strongly disagree to (5) strongly agree.

Step 2: Participants and Procedure

Before using this scale in the empirical study, I pilot tested its items to confirm that the factor structure was maintained. From the pilot study data, I also shortened the scale due to the fact that it is common practice in organizational research to use shorter scales to avoid lengthy surveys (e.g., Thompson, 2007) and will promote field research of workplace humor. For the pilot study I recruited Portland State University (PSU) psychology students, who currently had, or had within the last three months, at least one full-time or part-time job, at which they had been working at it for at least three months, as participants. Seven out of nine classes offered extra credit to their students and as the researcher, I spoke to classes to promote the study, conveyed the importance of this study, and expressed my gratitude for those who participated. Students could access the survey for two weeks. Students were also encouraged to share the survey with family, friends, and coworkers. The final sample included 194 participants, 177 reported being PSU students and 157 said that they currently work (other responses indicated participants have worked within the last three months).

In addition to the adapted HSQ, I included other scales to examine convergent, discriminant, and criterion validity. For convergent validity, trait humor and socializing with coworkers provided appropriate comparisons due to the fact that state humor should be highly related to a stable form of humor, and it represents a form of socializing with coworkers. Two of the five constructs from the factor five model, conscientiousness and openness to experience, served as variables to identify discriminant validity. It is typical to use personality traits for discriminant validity with the construct of interest and these two traits have displayed the smallest relationships with humor compared to the other three traits (Vernon et al., 2008). For criterion validity, I chose two outcomes, burnout and OCB, that have theoretical reasoning for their role as outcomes and have been shown to relate to humor (e.g., (Cooper et al., 2018; Mesmer-Magnus et al., 2012).
Trait Humor. Participants filled out the 24-item Multidimensional Sense of Humor Scale by Thorson & Powell (1993), which has been one of the most commonly used humor scales in the workplace literature (Mesmer-Magnus et al., 2012). These items had five

response options ranging from (1) strongly disagree to (5) strongly agree with good reliability ($\alpha = .89$) and a sample item is "Other people tell me that I say funny things." *Socializing with coworkers*. The subscale of socializing with coworkers from the Fun at Work Climate scale by McDowell (2005) served as an additional scale for comparison. This 6-item scale also had five response options ranging from (1) strongly disagree to (5) strongly agree with good reliability ($\alpha = .78$). A sample item is "sharing each other's stories" with instructions asking the level of agreement that participants engaged in the stated activities.

Conscientiousness and Openness. Two of the five personality traits from the Five Factor Model (FFM) were measured using the IPIP-NEO-60 developed from the International Personality Item Pool (IPIP) with the Revised NEO Personality Inventory by (Maples-Keller and colleagues (2017). Each personality trait had 12-items with seven response options ranging from (1) strongly disagree to (7) strongly agree. Conscientiousness demonstrated good reliability ($\alpha = .78$) and a sample item is "Like to tidy up". Openness also had good reliability ($\alpha = .75$) and a sample item is "Have a vivid imagination."

Burnout. The Maslach Burnout Inventory-General Survey (MBI-GS) has been commonly used to measure burnout (Leiter & Schaufeli, 1996). The scale consisted of 16 items, using a 7-point frequency scale ranging from (1) never to (7) every day and demonstrated good reliability ($\alpha = .87$). A sample item is "I feel emotionally drained from my work."

Organizational Citizenship Behaviors. OCB are voluntary helping behaviors directed at others and the organization. Spector and colleagues (2010) developed and validated a 10-item checklist to measure the frequency of OCB. This measure has anchors ranging from 1 (never) to 5 (everyday) with good reliability ($\alpha = .86$). A sample item is "Helped coworker learn new skills or shared job knowledge."

Step 3: Exploratory Factor Analyses and Item Reduction

The initial cleaning of the data included deleting entries that did not answer beyond the first question asking for consent and anyone who didn't completely respond to the adapted humor style questionnaire items. This reduced the final sample size from 226 to 194. After confirming that all scales from the published literature demonstrated acceptable reliability, I computed scale scores for each variable by averaging the responses of each item. Next, I ran exploratory factor analyses to inspect the factor structure for the 32-items in the state humor measure to represent both two broader types of humor experiences, positive and negative, as well as the four subtypes based on Martin and colleagues' model (2003). I chose the most common rotation, Varimax, to maximize the sum of the variance of the squared factor loadings for each factor, so that the items are loaded highly onto a focal factor and at a low level on the other factors to show a "simple structure" (Russell, 2002). This process was done for a specification of two factors before rerunning the analysis to specify four factors.

I then choose 12 items to eliminate based on the results by examining the factor (cross) loadings for both the two-factor and four-factor structures, item means and variances, item content validity, and item discrimination validity. Finally, I also referred to the original scale development and took those factor loadings into account (i.e., items that originally had one of the lowest factor loadings). Based on the two-factor pattern matrix and four factor pattern matrix, four items displayed loadings onto multiple factors and, subsequently, were eliminated. For example, the item "I made people laugh by telling funny stories about myself at work" loaded onto both factors representing positive and negative humor. Similarly, the item "I usually could think of witty things to say when I was with other people at work" loaded onto the factors representing affiliative and self-defeating humor for the four-factor structure. Extreme and consistent ratings of some items by participants led to ceiling and floor effects for those items such that they had the lowest or highest means with low variance. For example, an overwhelming majority of participants agreed or strongly agreed with the item "I laughed with my work friends". Most participants also disagreed or strongly disagreed with the item "When saying funny things, I was usually not very concerned about how other people were taking it at work", which may have been a result of the social desirability bias. Within the 32-item scale, items with lower content validity were eliminated. For example, a less congruent item, "I have let people laugh at me more than I should have at work", implied more of an attitudinal framing, rather than behavioral, to represent an opinion more than a humor experience. In other cases, items were very similar to other retained items and the decision was based on word precision. For example, the item "If I was feeling depressed, I could usually cheer myself up with humor at work" had corresponding items that had less extreme language (i.e., "depressed" may not have been as relatable as items with the words "upset" and "unhappy"). Finally, items were eliminated for having some of the lowest correlations between the item itself and the subscale (factor) without it, referred to as the item discrimination index, also known as the item's corrected item-total correlation. Finally, some items were eliminated for more than one of the reasons listed. This process led to a 20-item shortened scale, five items for each humor dimension: affiliative, self-enhancing, aggressive, and self-defeating with the absolute values of all factor loadings at or above .50 for the four-factor structure.

A follow up exploratory factor analysis, using the same methods, with the selected 20 items demonstrated supportive results for a four-factor structure as four factors had eigenvalues larger than 1.00 and total item variance explained by the factors was 62.31%. The four factors represented affiliative, self-enhancing, aggressive, and self-defeating humor. The factor loadings ranged from .47 to .86. An EFA instructing two factors also demonstrated that the items appropriately divided into factors representing positive and negative humor, 10 items for each, with factor loadings ranging from .40 to .72. The correlations between factors varied such that affiliative humor significantly

related to the other 3 factors: r = .32 ($p < .001$) for the self-enhancing factor, aggressive (r = .16, $p < .05$) and self-defeating (r= .27, $p < .01$). In contrast, the self-enhancing factor was not related to either of the negative humor factors. The aggressive humor and self-defeating humor factors had a moderate significant relationship (r= .36, $p < .001$). Additionally, each of the four subscales had a significantly high correlation with its respective broader scale (i.e., positive and negative humor) with correlations ranging from .76-.86 ($p < .001$). Furthermore, the factors for positive and negative humor had a small significant correlation (r= .18, $p < 05$). Table 2.14 shows the complete correlation matrix among the factors, or types of humor. These results suggest that although each of the four types of humor are distinct, two underlying global factors exist for positive and negative humor. Finally, the correlation between the 20-item version of the scale had a significant correlation of .98 ($p < .001$) with the full 32-item scale, demonstrating that the item reduction maintained the original conceptual domain. Furthermore, the correlation between the 10-item version of positive humor had a significant correlation of .98 ($p < .001$) with its full 16-item version and the correlation between the 10-item version of negative humor had a significant correlation of .97 ($p < .001$) with its full 16-item version. The diverse sample with participants working in multiple industries retained good structural validity.

Step 4: Confirmatory Factor Analysis

To confirm the structure of the adapted 20-item HSQ, I ran confirmatory factor analysis (CFA) models using the maximum likelihood estimation method in Mplus (Muthén & Muthén, 2006). Due to limited resources, the same sample from the EFA was used with 194 participants. Model 1 consisted of all twenty items loaded onto an overall humor factor and did not fit the data well; Model 2 consisting of a two-factor structure for positive and negative humor demonstrated better results, approaching adequate fit indices ($\chi^2_{170 \text{ vs. } 169}$ = 1240.40 vs. 804.96, comparative fit index [CFI] = .37 vs. .63, root mean squared error of approximation [RMSEA] = .18 vs. .14, SRMR = .18 vs. .13, respectively, for Models 1 and 2). Model 3 had a four-factor structure and demonstrated adequate fit (χ^2_{164} = 300.05, CFI = .92 RMSEA = .07, SRMR = .06). Model 4 was a second-order CFA model with two factors loaded onto a positive humor factor and the other two factors loaded onto negative humor; it demonstrated almost identical fit when compared to Model 3 (χ^2_{165} = 302.41, CFI = .92 RMSEA = .07, SRMR = .06). Finally, Model 5 was a third-order CFA model that is similar to Model 4 but with the positive and negative humor factors loading onto a global humor factor had identical fit when compared to Model 4. See Table 2.15 for results of model fit indices. Model 3 demonstrated moderate to high inter-factor correlations for each factor (.52-.89), whereas Model 4 showed moderate second-order factor loadings for positive humor (.96 for affiliative humor and .36 for self-enhancing humor) and negative humor (.53 for aggressive humor and .78 for self-defeating humor). For Model 5, factor loadings for

positive and negative humor onto a global humor factor were .43 and .71, respectively. Although, the four-factor structure demonstrated better fit than the simple two-factor structure, the 2nd order factor structure had equivalent fit to it. The much lower factor loading of self-enhancing humor may explain why a simple two factor structure demonstrated poor fit. Based on theory and previous empirical evidence (e.g., (R. A. Martin et al., 2003; Mesmer-Magnus et al., 2012), positive and negative humor represent the higher-level constructs which can manifest as the dimensions of affiliative and self-enhancing humor in the case of positive humor and the dimensions of aggressive and self-defeating humor in the case of negative humor. The shared characteristics of benevolence and absence of a target demonstrates shared commonality for affiliative and self-enhancing humor just as the shared characteristics of antagonism and inclusion of a target demonstrates the shared commonality between aggressive and self-defeating humor. The distinction between the focus on the self or others, however, provides enough uniqueness to maintain that they are still separate dimensions at another factor level. The most appropriate model is a 2nd order factor structure based on theory, which best dictates classification for multi-dimensional constructs (Law et al., 1998). Therefore, collectively accounting for these results, theoretical reasoning, and previous literature, I concluded that the four subscales of humor are distinct but related and comprise of higher order humor factors. See Table 2.15 for CFA results. The reliabilities of all subscales were acceptable: positive humor $\alpha = .84$, negative humor $\alpha = .83$, affiliative humor $\alpha = .87$, self-enhancing humor $\alpha = .84$, aggressive humor $\alpha = .79$, self-defeating $\alpha = .85$.

Step 5: Convergent, Discriminant, and Criterion Validity

After reducing the number of items, I computed six new scales for positive and negative humor experiences, and their subscales for the four types of humor. I, then, ran correlations between all scales to observe their relationships and examine their convergent, discriminant, and criterion validity with the other variables. Positive and negative humor experiences showed a small correlation of .18 ($p < .01$), positive humor experiences showed large correlations with affiliative humor experiences (r= .76, $p < .001$) and self-enhancing humor experiences (r= .86, $p < .001$), and negative humor experiences also showed large correlations with aggressive humor experiences (r= .79, $p < .01$) and self-defeating humor experiences (r= .86, $p < .001$). These results support the established structure for positive and negative humor consisting of their respective subdimensions.

With respect to convergent validity, I examined the inter-correlations of the two subscales for positive and negative humor experiences with trait humor represented by the Multidimensional Sense of Humor Scale and the socializing with coworkers subscale. The correlation between trait humor and positive humor experiences was large (r= .67, $p < .001$), but small to moderate for negative humor experiences (r= .22, $p < .01$). Similarly,

the correlation between socializing with coworkers and positive humor experiences was moderate to large (r= .46, *p* <.001). Socializing with coworkers did not have a significant correlation with negative humor experiences (r = .12, ns). This aligns with findings by Chen and Ayoun (2019), which showed that affiliative humor had a significant positive relationship with socializing with coworkers (r= .51, *p* <.001), but aggressive humor did not. These patterns indicate that positive humor experiences show convergence with trait humor and socializing with coworkers whereas negative humor experiences' convergence with them is more nuanced. Despite this, the qualitative process using subject matter experts to establish construct validity reinforces the idea that negative humor experiences are indeed captured by the adapted scale.

   For discriminant validity, two of the five traits from the Five Factor Model (FFM) of personality, openness to experience and conscientiousness, served as variables to demonstrate their small relation to humor experiences. I chose these on the basis that those core personality traits are distinct from the type of humor one produces and experiences. Positive humor experiences and openness to experience had a small to moderate significant positive relationship (r= .22, p<.01) but negative humor experiences did not have a significant relationship with openness to experience (r = -.07, ns). This indicates that perhaps humor experiences that include joking with others and using humor to cope do have some association with the willingness to embrace new thoughts, behaviors, and experiences. Conversely conscientiousness and positive humor experiences did not have a significant relationship (r = -.04, ns), but it did with negative humor experiences (r= -.28, p<.001). These results suggest that tendency to care about diligence and dutifulness may prevent someone from engaging in humor that targets someone, even themself. However, these significant relationships found do not suggest the positive humor and openness to experience are not distinct constructs nor for negative humor and conscientiousness. In fact, the correlations align with previous evidence of associations between types of humor and the big 5 personality traits (Vernon, 2008). Overall, I found a moderate amount of evidence for discriminant validity of the positive and negative humor dimensions.

   Finally, I looked at the criterion validity for both types of humor experiences. Previous research suggests a link between humor exposure and burnout as well as organizational citizenship behaviors (OCB; Cooper et al., 2018; Guenter et al., 2013). Positive humor experiences showed a significant relationship with OCB (r= .30, p<.001) but not with burnout (r = .09, ns). In contrast, negative humor experiences demonstrated a significant positive relationship with burnout (r= .31, p<.001), but no significant relationship with OCB (r = .08, ns). This suggests that the valence of the variables may be an important factor for dictating the strength of relationships such that positive humor experiences relate mostly to positive outcomes and similarly for negative humor experiences and negative outcomes.

Conclusion

The adaptation and shortening of the established Humor Styles Questionnaire scale resulted in a 20-item state humor scale measuring humor experiences at work. Using a sample of 194 students with current or recent work experience, results from this pilot study demonstrated that the four-dimension structure of the original scale was maintained. Furthermore, through qualitative and quantitative processes I found evidence for good content and structural validity, and adequate construct and criterion validity in the measurement of positive and negative humor experiences. Limitations include using a student sample, which may have impacted the generalization of my findings to the general work population. Although the student sample provides diverse experiences across multiple industries and multiple types of work arrangements, they may not represent the general work population, in terms of weekly work hours or demographics such as age. Despite this, the adapted scale provides a more precise and valid measurement of state humor experiences at work than existing measures.

Table 2.14

Means, Standard Deviations, and Correlations Between Humor Dimensions (Pilot Study)

	Mean	*SD*	Positive	Negative	Affiliative	Self-Enhancing	Aggressive
Positive	3.60	.60					
Negative	2.19	.66	.178**				
Affiliative	3.98	.66	.756***	.214**			
Self-Enhancing	3.22	.79	.862***	.094	.320***		
Aggressive	1.95	.69	.172*	.788***	.160*	.125†	
Self-Defeating	2.42	.89	.130†	.859***	.195**	0.039	.362***

N = 194 †p <.10 * p <.05, ** p < .001.

Table 2.15

Results of Confirmatory Factor Analysis for adapted Humor Styles Questionnaire Dimensions (Pilot Study)

Model	χ^2	df	CFI	RMSEA	SRMR
One Factor	1240.404	170	0.37	0.18	0.18
Two Factor	804.959	169	0.63	0.14	0.13
Four Factor	300.052	164	0.92	0.07	0.06
2nd Order Factor	302.41	165	0.92	0.07	0.06
3rd Order Factor	302.41	164	0.92	0.07	0.06

Note: χ^2= chi-square, *df*= degrees of freedom, CFI= Comparative Fit Index, RMSEA= Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.
One Factor = all items on one factor; Two Factor = Positive and Negative Humor as separate factors; Four Factor = Affiliative Humor, Self-enhancing Humor, Aggressive Humor, Self-defeating Humor; 2nd Order Factor= The four humors underneath the two humors; 3rd Order Factor= Humors under 1 Factor to represent a general humor construct

Appendix B: Adapted Humor Styles Questionnaire Scale

1. I liked to tell jokes to amuse people at work
2. I laughed or joked around with people at work
3. I often joked around with my work friends
4. I enjoyed making people laugh at work
5. I didn't have to work very hard at making other people laugh at work
6. If I was by myself and I was feeling unhappy, I made an effort to think of something funny to cheer myself up at work
7. If I was feeling upset I usually tried to think of something funny about the situation to make myself feel better at work
8. My humorous outlook on life kept me from getting overly upset or depressed about things at work
9. It was my experience that thinking about some amusing aspect of a situation was often a very effective way of coping with problems at work
10. I could usually find things to laugh about even when I was by myself at work
11. I did not mind when people used humor as a way of criticizing or putting someone down at work
12. If I didn't like someone, I often used humor to put them down at work
13. I participated in laughing at others if my colleagues were doing it
14. If someone made a mistake, I often teased them about it at work
15. People were offended or hurt by my sense of humor at work
16. I often got carried away in putting myself down if it made my colleagues laugh
17. I often tried to make people like me more by saying something funny about my own weaknesses, blunders, or faults at work
18. Letting others laugh at me was my way of keeping my colleagues in good spirits
19. When I was with colleagues, I often seemed to be the one that other people joked about.
20. I often said funny things that put myself down at work

Appendix C: All Scales

Adapted Humor Styles Questionnaire (Martin et al., 2003)

Please indicate the extent to which you agree with each statement **based on the past month**. "Colleagues" refers to any person who also works in your organization.?

1. I liked to tell jokes to amuse people at work

2. I laughed or joke around with people at work

3. I often joked around with my work friends

4. I enjoyed making people laugh at work

5. I didn't have to work very hard at making other people laugh

6. If I was by myself and I was feeling unhappy, I made an effort to think of something funny to cheer myself up at work

7. If I was feeling upset, I usually tried to think of something funny about the situation to make myself feel better at work

8. My humorous outlook on life kept me from getting overly upset or depressed about things at work

9. It was my experience that thinking about some amusing aspect of a situation was often a very effective way of coping with problems at work

10. I could usually find things to laugh about even when I was by myself at work

11. I did not mind when people used humor as a way of criticizing or putting someone down at work

12. If I didn't like someone, I often used humor to put them down at work

13. I participated in laughing at others if my colleagues were doing it at work

14. If someone made a mistake, I often teased them about it at work

15. People were offended or hurt by my sense of humor at work

16. I often got carried away in putting myself down if it made my colleagues laugh

17. I often tried to make people like me more by saying something funny about my own weaknesses, blunders, or faults at work

18. Letting others laugh at me was my way of keeping my colleagues in good spirits

19. When I was with colleagues, I often seemed to be the one that other people joked about.

20. I often said funny things that put myself down at work

Response Options: (1) Strongly Disagree to (5) Strongly Agree

Work-related Basic Need Satisfaction scale (Van den Broeck et al., 2010)

Please indicate to what extent you have felt this way **over the past month**.

1. I feel like I can be myself at my job

2. At work, I often feel like I have to follow other people's commands (R)

3. If I could choose, I would do things at work differently (R)

4. The tasks I have to do at work are in line with what

5. I really want to do I feel free to do my job the way

6. I think it could best be done in my job, I feel forced to do things I do not want to do (R)

7. I really master my tasks at my job

8. I feel competent at my job

9. I am good at the things I do in my job

10. I have the feeling that I can even accomplish the most difficult tasks at work

11. I don't really feel connected with other people at my job (R)

12. At work, I feel part of a group

13. I don't really mix with other people at my job (R)

14. At work, I can talk with people about things that really matter to me

15. I often feel alone when I am with my colleagues (R)

16. Some people I work with are close friends of mine

Response Options: (1) Strongly Disagree to (5) Strongly Agree

Psychological Need Thwarting Scale (Bartholomew et al, 2011b)

Please indicate to what extent you have felt this way **<u>over the past month</u>.**

1. I feel prevented from making choices with regard to the way I train

2. I feel pushed to behave in certain ways

3. I feel forced to follow training decisions made for me

4. I feel under pressure to agree with the training regimen I am provided

5. Situations occur in which I am made to feel incapable

6. There are times when I am told things that make me feel incompetent

7. There are situations where I am made to feel inadequate

8. I feel inadequate because I am not given opportunities to fulfill my potential

9. I feel I am rejected by those around me

10. I feel others can be dismissive of me

11. I feel other people dislike me

12. I feel other people are envious when I achieve success

Response Options: (1) Strongly Disagree to (5) Strongly Agree

Thriving (Porath et al 2012)

Please indicate to what extent you have felt this way **over the past month.**

1. I find myself learning often

2. I continue to learn more as time goes by

3. I see myself continually improving

4. I am not learning (R)

5. I am developing a lot as a person

6. I feel alive and vital

7. I have energy and spirit

8. I do not feel very energetic (R)

9. I feel alert and awake

10. I am looking forward to each new day

Response Options: (1) Strongly Disagree to (7) Strongly Agree

Maslach Burnout Inventory - General Survey (MBI-GS; Leiter & Schaufeli, 1996)

Over the past month, how often have you had these feelings?

1. I feel emotionally drained from my work.

2. I feel used up at the end of the workday.

3. I feel tired when I get up in the morning and have to face another day on the job.

4. Working all day is really a strain for me.

5. I can effectively solve the problems that arise in my work.

6. I feel burned out from my work.

7. I feel I am making an effective contribution to what this organization does.

8. I've become less interested in my work since I started this job.

9. I have become less enthusiastic about my work.

10. In my opinion, I am good at my job.

11. I feel exhilarated when I accomplish something at work.

12. I have accomplished many worthwhile things in this job.

13. I just want to do my job and not be bothered.

14. I have become more cynical about whether my work contributes anything.

15. I doubt the significance of my work.

16. At my work, I feel confident that I am effective at getting things done

Response Options: (1) Never to (7) Everyday

Organizational Citizenship Behavior Checklist (OCB-C; Spector, Bauer, & Fox, 2010)

Over the past month, how often have you

1. Took time to advise, coach, or mentor a co-worker.

2. Helped co-worker learn new skills or shared job knowledge.

3. Helped new employees get oriented to the job.

4. Lent a compassionate ear when someone at work had a work problem.

5. Offered suggestions to improve how work is done.

6. Helped a co-worker who had too much to do.

7. Volunteered for extra work assignments.

8. Worked weekends or other days off to complete a project or task.

9. Volunteered to attend meetings or work on committees on own time.

10. Gave up meal and other breaks to complete work.

Response Options: (1) Never to (5) Everyday

Counterproductive Work Behavior Checklist (CWB-C; Spector, Bauer, & Fox, 2010)

Over the past month, how often have you

1. Purposely wasted your employer's materials/supplies

2. Complained about insignificant things at work

3. Told people outside the job what a lousy place you work for

4. Came to work late without permission

5. Stayed home from work and said you were sick when you weren't

6. Insulted someone about their job performance

7. Made fun of someone's personal life

8. Ignored someone at work

9. Started an argument with someone at work

10. Insulted or made fun of someone at work

Response Options: (1) Never to (5) Everyday

General Discussion

This manuscript details a proposed framework based on the belongingness need tenet of the SDT with the purpose of unifying and furthering the existing scientific understanding of workplace humor. Paper 1 reviews the disjointed workplace humor literature and then organizes it around a theoretically relevant and empirically supported mediator, the belongingness need, that also accounts for the distinction between positive and negative humor. Subsequently, paper 2 extends this by empirically testing a research model that is representative of this humor-belongingness need framework. This framework suggests that when conceptualizing workplace humor as amusing communications that represent a form of social play, the expected impact of workplace humor on the focal employee's well-being, attitude, and behavior results from the underlying processes related to the psychological belongingness need. Specifically, both types of humor function through the satisfaction of the belongingness need due to the shared amusement component, but negative humor also functions through the frustration of the belongingness need due to its additional antagonistic component. In alignment with previous evidence of humor's impact and theoretical reasoning, the emerging framework from the literature review that is paper 1 divides up macro-outcomes into the following categories: well-being, attitudes, and behaviors. Paper 2 selects four specific outcomes, vitality, OCB-I, emotional exhaustion, and CWB-I, which have strong evidence for their links to humor, to empirically test a representative research model. Results from the time 1 survey data indicated some support for the mediation of belongingness need satisfaction in the relations between positive humor and the positive outcomes, vitality and OCB-I. Results from the time 1 survey data also indicated some support for the mediation of

belongingness need frustration in the relations between negative humor and the negative outcomes, emotional exhaustion and CWB-I.

Theoretical Implications

This body of work acknowledges previous conceptualizations of humor and identifies similarities across published research to consolidate findings, so that researchers and practitioners can have a synergetic understanding of workplace humor. This major contribution of my work capitalizes on the information already available and furthers the understanding by returning the focus to the foundational concept of humor as a form of social play, which, when used effectively, can be leveraged as a social skill (R. A. Martin & Ford, 2018). Centering the conceptualization of humor around its social play function allows for, and acknowledges, the previously identified functions of workplace humor such as fostering morale, expressing concern or dissent, and most importantly, nurturing relationships (Cooper, 2008; Fine & Soucey, 2005; Mesmer-Magnus et al., 2012; Sliter et al., 2017). By endorsing this conceptualization researchers can faithfully maintain content validity for a complex construct with various forms and functions, and still examine humor within specific contexts.

Conclusions drawn from the review in paper 1 and from the empirical evidence in paper 2 also emphasize that positive and negative humor have divergent implications for workplace outcomes. The distinction between their nomological networks points to the necessity of identifying types of humor for research and practical use. In alignment with previous research (Mesmer-Magnus et al., 2012), positive humor consistently demonstrated its association with positive outcomes via a qualitative review (paper 1) and empirically (paper 2), and as a result showcases its significant value to organizations. In

contrast, the equivocal characteristics of negative humor, and its associations with

negative well-being and behavioral outcomes demonstrated in paper 2, suggest the need

for careful deliberation on the type of humor people may wish to embrace and accept.

The results from the examination of negative humor display a caveat to the value of

humor for its potential as a beneficial social skill. These conclusions emphasize the need

to separate out humor types and treat them as separate constructs based on their distinct

nomological networks.

Relating to the separation of positive and negative humor, a third contribution of

this work is the expansion on the nomological networks of belongingness need

satisfaction and frustration. Recent developments in the SDT literature indicate the

appropriateness and necessity to disentangle its focal constructs, meaning to separate the

three psychological needs from each other and to distinguish their satisfaction from their

frustration (Van den Broeck et al., 2016). My research answers this call by directing

attention to the interpersonally relevant need, belongingness. Furthermore, choosing a

social construct with distinct types (i.e., positive and negative humor) allowed for the

simultaneous investigation of belongingness need satisfaction and frustration, which in

turn provides more evidence for their differential nomological networks. Indeed, results

from paper 2 demonstrated a connection between positive humor and both belongingness

need satisfaction and frustration but found only a connection between negative humor

and belongingness need frustration. Additionally, earlier measurements of belongingness

need satisfaction and frustration both had positive relationships with OCB-I measured a

month later. This shows that although the two constructs tend to have opposite

relationships with the same constructs, they can also have relationships with the same

constructs in the same direction, providing further evidence against the refuted notion

that psychological need satisfaction and frustration are opposite ends of the same

spectrum for an overall construct.

Finally, my research brings attention to an often-overlooked social characteristic

of the workplace. A meta-analysis by Humphrey and colleagues (2007) exhibited that

social characteristics can explain additional variance for desired and undesired outcomes

such as performance, turnover intentions, organizational commitment, and role conflict,

over and above motivational characteristics, such autonomy, and work characteristics

such as physical demands. Indeed, organizational research has directed substantial

attention to the importance of certain social characteristics such as social support and

interpersonal aggression. Workplace humor should continue to be an additional social

characteristic of considerable interest, especially due to its intriguing relationships with

both positive and negative outcomes. The separation of positive and negative humor and

their divergent relationships with workplace outcomes offer promising avenues for future

research. The influence of such a social characteristic could provide further implications

for studying interpersonal interactions at work and warrants substantial investigations.

Practical Implications

The review and consolidation of the workplace humor literature and the

preliminary empirical evidence for its associations with the belongingness need and well-

being and behavioral outcomes provides some practical implications for researchers and

practitioners. Humor is a common exchange in workplaces, so understanding and

managing its influence will remain important to maximize its benefits and minimize its

detriments.

        The adapted version of the Humor Styles Questionnaire (HSQ) provides a helpful

measurement for state humor, or more specifically humor experiences in the workplace.

Beyond its utility for researchers, this measurement can benefit managerial practices. For

example, leaders can measure the extent to which employees experience different types

of humor to gain insight into interpersonal relations that may not be captured formally.

Furthermore, this could provide information on team dynamics and may add nuance to

the understanding of interpersonal interactions among team members. Identification of

types of humor experiences can also reveal if employees have similar or different

interpersonal experiences, which may signal to a leader if they need to reach out to

specific individuals reporting negative experiences or if they need to address the group as

a whole.

        The meta-analysis by Humphrey and colleagues (2007) reported that social

characteristics had a larger effect on turnover intentions and organizational commitment

than motivational or work characteristics. This implies that social characteristics like

workplace humor should be one of prioritized characteristics to monitor and manage for

organizations who wish to retain employees and nurture loyalty. Organizations know all

too well the financial cost, in addition to other losses, resulting from employee turnover

and lack of commitment. Leadership should not only ensure that positive social

characteristics exist but should celebrate and embrace them to create a positive

sustainable community among employees. Humor represents an inexpensive and versatile

social characteristic that leaders can model and encourage to promote a positive

environment. In doing so, both employees and organizations will more likely experience

beneficial outcomes such as job satisfaction, performance, and organizational

commitment.

Additionally, organizations should be wary of encouraging careless use, or any

form, of humor. Perceptive and proficient execution of humor may transform it into a

helpful social skill. For example, due to its consistent links to positive outcomes, benign

and benevolent levity provide a promising avenue without much risk of consequences.

Well-received humor enables relationship building for dyadic relationships, such as one

with a supervisor (Cooper, 2008), or groups (Fine & Soucey, 2005). Consequently,

research has shown the positive impact of humor in team meetings for team performance

over time (Lehmann-Willenbrock & Allen, 2014). Despite this, desired outcomes from

humor such as positive emotions or work engagement (Goswami et al., 2016) are not

guaranteed, especially if it is antagonistic. Negative humor has demonstrated its links to

negative outcomes such as higher emotional exhaustion (Guenter et al., 2013) and lower

psychological well-being (T. Y. Kim et al., 2016), lower coworker satisfaction, less team

cooperation, and lower organizational commitment (Romero & Arendt, 2011).

Additionally, paper 2 revealed that negative humor related to belongingness need

frustration and counterproductive work behaviors directed at individuals. These findings

should serve as a warning for organizations and leaders to reflect on the type of humor

endorsed in the workplace. Beyond these outcomes, negative humor can serve as way to

express forms of aggression or even discrimination (Ford & Ferguson, 2004). If

enhancing diversity is a priority for organizations, it is important to ensure the existing

climate is inclusive. Allowing antagonistic humor may unintentionally signal a hostile

and unwelcoming climate. In the current political state where diversity is increasingly

important and the general public is reassessing the line for humor when it concerns

marginalized, disadvantaged, or other vulnerable groups, organizations and employees

would do well to avoid humor that targets others in a professional setting.

Limitations

The inability to rule out reverse causation between variables presents a limitation

for my work. Humor may exist as an outcome to belongingness need perceptions and

they likely influence each other. People who feel comfortable with each other and affirm

their connections (i.e., experiencing belongingness need satisfaction) may employ humor

as a way to maintain and/or strengthen existing relationships. Alternatively, people who

feel disconnected from others (i.e., experiencing belongingness need frustration) may

view humor as an avenue to combat those feelings and they may choose to disguise their

dislike for others with negative humor. Furthermore, the well- (or ill-) being of a person

may dictate their humor exposure and production. Someone who has more energy may

engage in more interactions with coworkers, and more lighthearted conversations that

likely focus on benign levity. In contrast, those who experience chronic ill-being may

turn to humor to combat their situation through minimizing or distracting from the

disconnect they feel and creating a sense of connection via shared amusement.

Additionally, an emotionally exhausted employee may be more likely to express humor

targeting themself or others, as a parallel to their negative mindset.

Although the belongingness need can explain much of the mechanism behind

workplace humor, other plausible mechanisms could complement it to address additional

processes underlying this phenomenon. The clause "that produce positive emotions and

cognitions" is part of Romero and Cruthird's definition (2006) of humor as amusing

communications. Humor literature has proposed some theoretical models that include a positive affect component. The group humor effectiveness model (Romero & Pescosolido, 2008) proposes that positive affect links successful organizational humor and the viability of a workgroup. The wheel model of humor (Robert & Wilbanks, 2012), heavily influenced by the affective events theory (Weiss & Cropanzano, 1996), describes the process of emotional contagion through humorous events sparking individual positive affect, and then group positive affect successively, to create a cycle of humor and positive affect. Given its inclusion of positive and negative emotions, the affective events theory could provide another foundation for inspecting the divergent pathways of negative humor. Both theory and various studies demonstrate that the interpersonal construct of humor plays an influential role on affect, particularly positive emotions, providing an agreement among researchers in its nascent nomological network. Research should continue examining the role of emotions in predicting humor outcomes, while considering the role of the belongingness need.

Future Directions

Both the perception of a humorous stimulus and the diverse impact it can have heavily depend on personal and contextual factors. As the first future research direction, I suggest researchers must understand which factors to include as boundary conditions because it may impact the direction or significance of relations between humor and its outcomes, and subsequently impact conclusions. This is especially crucial for determining conditions that demonstrate a positive link between negative humor and belongingness need satisfaction, which future research may wish to prioritize.

For example, culture at different levels (e.g., national, organizational) can serve as an important moderator for workplace humor. By definition, humor consists of amusing communications (Romero & Cruthirds, 2006), but people differ on their perceptions of "amusing" content. Theoretically, culture dictates perceptions as it provides a general consensus for normalcy, values, and typical behavior, which can consequently dictate what qualifies as amusing content. One study demonstrated the importance of national culture with results showing that Australians had higher humor levels than a corresponding Chinese sample and correspondingly, only Australian workers' stress levels benefitted from positive humor (Wang et al., 2018). Future research should also consider group, organizational, and/or industrial culture as a determinant for the perceptions and influence of workplace humor. In general, having a joking culture within a workgroup can help with group interaction and compliance and also distinguish the in-group from the out-group to foster group commitment (Fine & Soucey, 2005). When a group has norms for levity in the "serious" context of work, employees more willingly share humorous exchanges and will be more likely to perceive levity in situations. Importantly, this can help group members acknowledge and give more emphasis to the levity rather than the hostility in the case of negative humor. Additionally, a more cohesive and/or considerate group culture signals to members the respect colleagues have for each other. Therefore, group members can perceive any negative content as "all in good fun" and to take the "criticism" lightly. Boundary conditions such as group norms, dynamics, and culture may provide insight for the relation between negative humor and belongingness need satisfaction and other positive outcomes. Alternatively, a considerate group culture may promote more use of positive humor and less use of negative humor,

which would increase the probabilities of employees experiencing the benefits of humor and avoiding any detrimental effects, relative to a competitive or aggressive group culture.

Source of humor also presents an important moderating factor on humor-work outcome relations, due to aspects such as power dynamics, existing relationship rapport, and knowledge of another's personality. For example, negative humor coming from someone who a) humorlessly criticizes colleagues consistently, b) has poor social relationships at work, and c) has more power within the organization's structure will not have the same reception as from a supportive colleague who generally has high quality social relationships. Additionally, a leader who expresses humor can convey various messages depending on their style of leadership (e.g., transformational versus abusive) and other individual differences, such as neuroticism. Engaging in levity may actually signal the wrong message to subordinates, as a leader's sense of humor can lead subordinates to perceive the acceptability of norm violation, which can in turn lead to deviant behavior (Yam et al., 2018). Another moderating factor, gender, can impact the extent to which a leader is viewed as competent such that women gain more for positive humor use, but lose more for use of negative humor as shown by effectiveness ratings (Decker & Rotondo, 2001). This collection of research highlights the fact that humor does play a significant role in employees' perceptions of their workplace and supervisors, but that different contextual and individual factors dictate what perceptions and attitudes form. Research should further the understanding of humor by continuing to examine the individual and contextual factors that influence the perception of levity in the workplace and potentially alter the progression from humor to its outcomes.

Furthermore, more research is sorely needed to refine and improve the existing measures of humor, as well as to develop new measures. For example, the reliability and validity of the HSQ displays satisfactory results for North American samples but does not present the same findings across cultures (Kong et al., 2019). Although the HSQ provides a good basis for measuring humor by presenting some distinction within the complex construct, and has been used by many empirical studies, researchers should be aware of its limitations. Indeed, Martin and colleagues (2003) stated that sense of humor, the basis of HSQ, functions as an umbrella term, or a category label, more than a specific construct. In general, the majority of humor scales focus on sense of humor, rather than its use or frequency, and many of the existing measures specifically examine humor from leaders (Mesmer-Magnus et al., 2012). Furthermore, few measures separate positive and negative humor. Humor research will benefit from continuous effort in developing supplemental measures to capture specific humor constructs. Measures that capture humor behaviors or expressions from other sources, such as coworkers, are also lacking. Researchers should intentionally choose measures that fit their conceptualization of humor and their specific hypotheses and research questions. For example, the coping humor scale (R. A. Martin & Lefcourt, 1983) appropriately addresses inquiries regarding the benefits of humor when confronted with a stressful situation, but not necessarily appropriate for use in research on how humor impacts an individual's sense of belonging. Future research should examine the validity and reliability of humor measures for specific functions and identify boundary conditions that impact its psychometric properties.

Conclusion

Humans universally engage in humor, and that does not stop during work hours. Something as common as humor should have extensive research to understand its benefits, limitations, and detriments as a form of playful communication. Communication is core to effective problem solving, collaboration, and other work activities and experiences among colleagues. Correspondingly, humor has consistent links with beneficial outcomes, such as performance, work engagement, creativity, and team cohesion (e.g., Mesmer-Magnus et al., 2012), which have significant implications for organizations' bottom lines. Even if humor may not be viewed as a fundamental aspect of work, its prevalent presence still has significant power for shaping work experiences. In order to move toward a comprehensive understanding, research on humor needs clear conceptualizations and unifying frameworks that maintain its foundational function as a form of social play. Utilizing the self-determination theory and its belongingness need tenet, my present work has taken a formative step toward such a comprehensive understanding. Interpersonal connections remain one of the most prominent features of work as employees seek a sense of belonging. Unsurprisingly, people constantly use humor as one way to share amusement, to connect, and to communicate with others, thus, it deserves serious consideration.

References

Andersson, L. M., & Pearson, C. M. (1999). Tit for Tat? The Spiraling Effect of Incivility

in the Workplace. *Academy of Management Review*, *24*(3), 452–471.

https://doi.org/10.5465/amr.1999.2202131

Apter, M. J. (1982). *The experience of motivation : the theory of psychological reversals*.

Academic Press.

Avolio, B. J., Howell, J. M., & Sosik, J. J. (1999). A funny thing happened on the way to

the bottom line: Humor as a moderator of leadership style effects. *Academy of*

Management Journal, *42*(2), 219–227. https://doi.org/10.2307/257094

Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani,

C. (2011). Self-Determination Theory and Diminished Functioning. *Personality and*

Social Psychology Bulletin, *37*(11), 1459–1473.

https://doi.org/10.1177/0146167211413125

Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., & Thøgersen-Ntoumani, C. (2011).

Psychological need thwarting in the sport context: Assessing the darker side of

athletic experience. *Journal of Sport and Exercise Psychology*, *33*(1), 75–102.

https://doi.org/10.1123/jsep.33.1.75

Baumeister, R. F., & Leary, M. R. (1995). The Need to Belong: Desire for Interpersonal

Attachments as a Fundamental Human Motivation. *Psychological Bulletin*, *117*(3),

497–529. https://doi.org/10.1037/0033-2909.117.3.497

Bidee, J., Vantilborgh, T., Pepermans, R., Griep, Y., & Hofmans, J. (2016). Temporal

dynamics of need satisfaction and need frustration. Two sides of the same coin?

European Journal of Work and Organizational Psychology, *25*(6), 900–913.

https://doi.org/10.1080/1359432X.2016.1176021

Bitterly, T. B., Brooks, A. W., & Schweitzer, M. E. (2017). Risky business: When humor

increases and decreases status. *Journal of Personality and Social Psychology*,

112(3), 431–455. https://doi.org/10.1037/pspi0000079

Blanchard, A. L., & Cann, A. (2014). Making sense of humor at work. *Article in The

Psychologist-Manager Journal*. https://doi.org/10.1037/mgr0000011

Brown, C. L., & Fredrickson, B. L. (2021). Characteristics and consequences of co-

experienced positive affect: understanding the origins of social skills, social bonds,

and caring, healthy communities. *Current Opinion in Behavioral Sciences*, *39*, 58–

63. https://doi.org/10.1016/j.cobeha.2021.02.002

Byrne, D., & Neuman, J. H. (1992). Chapter 2 The Implications of Attraction Research

for Organizational Issues. *Advances in Psychology*, *82*(C), 29–70.

https://doi.org/10.1016/S0166-4115(08)62598-4

Cann, A., Zapata, C. L., & Davis, H. B. (2009). Positive and Negative Styles of Humor in

Communication: Evidence for the Importance of Considering Both Styles.

Communication Quarterly, *57*(4), 452–468.

https://doi.org/10.1080/01463370903313398

Caudill, A., & Woodzicka, J. (2017). Funny business: Using humor for good in the

workplace. *Humor*, *30*(1), 43–62. https://doi.org/10.1515/humor-2016-0039

Chen, H., & Ayoun, B. (2019). Is negative workplace humor really all that "negative"?

Workplace humor and hospitality employees' job embeddedness. *International

Journal of Hospitality Management*, *79*, 41–49.

https://doi.org/10.1016/j.ijhm.2018.12.010

Chernick, M. R., González-Manteiga, W., Crujeiras, R. M., & Barrios, E. B. (2011).

Bootstrap Methods. In *International Encyclopedia of Statistical Science* (pp. 169–

174). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-04898-2_150

Conger, A. J. (1974). A Revised Definition for Suppressor Variables: a Guide To Their

Identification and Interpretation. *Educational and Psychological Measurement*,

34(1), 35–46. https://doi.org/10.1177/001316447403400105

Cooper, C. (2005). Just Joking Around? Employee Humor Expression As An Ingratiatory

Behavior. *Academy of Management Review*, *30*(4), 765–776.

https://doi.org/10.5465/amr.2005.18378877

Cooper, C. (2008). Elucidating the bonds of workplace humor: A relational process

model. *Human Relations*, *61*(8), 1087–1115.

https://doi.org/10.1177/0018726708094861

Cooper, C., Cohen-Chen, S., Huo, Y., Niven, K. R., Reich, T., & Yam, K. C. (2019).

Laugh It Up? Theoretical and Contextual Insights on Workplace Humor within and

across Hierarchies. *Https://Doi.Org/10.5465/AMBPP.2019.12359symposium*,

2019(1), 12359. https://doi.org/10.5465/AMBPP.2019.12359SYMPOSIUM

Cooper, C., Kong, D. T., & Crossley, C. D. (2018). Leader humor as an interpersonal

resource: Integrating three theoretical perspectives. *Academy of Management

Journal*, *61*(2), 769–796. https://doi.org/10.5465/amj.2014.0358

Dalal, R. S. (2005). A meta-analysis of the relationship between organizational

citizenship behavior and counterproductive work behavior. *Journal of Applied

Psychology*, *90*(6), 1241–1255. https://doi.org/10.1037/0021-9010.90.6.1241

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-Determination Theory in Work

    Organizations: The State of a Science. *Annual Review of Organizational Psychology*

    and Organizational Behavior, *4*(1), 19–43. https://doi.org/10.1146/annurev-

    orgpsych-032516-113108

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-

    determination in personality. *Journal of Research in Personality*, *19*(2), 109–134.

    https://doi.org/10.1016/0092-6566(85)90023-6

Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of Goal Pursuits: Human

    Needs and the Self-Determination of Behavior. *Psychological Inquiry*, *11*(4), 227–

    268. https://doi.org/10.1207/S15327965PLI1104_01

Decker, W. H., & Rotondo, D. M. (2001). Relationships Among Gender , Type Of

    Humor , And Perceived Leader Effectiveness. *Journal of Managerial Issues*, *13*(4),

    450–465. https://www.jstor.org/stable/40604364

Demerouti, E., Bakker, A. B., Vardakou, I., & Kantas, A. (2003). The convergent validity

    of two burnout instruments: A multitrait-multimethod analysis. *European Journal of*

    Psychological Assessment, *19*(1), 12–23. https://doi.org/10.1027//1015-5759.19.1.12

Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and Work Engagement: A

    Thorough Investigation of the Independency of Both Constructs. *Journal of*

    Occupational Health Psychology, *15*(3), 209–222. https://doi.org/10.1037/a0019408

Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A

    Meta-Analysis of Antecedents and Consequences of Leader-Member Exchange.

    Journal of Management, *38*(6), 1715–1759.

    https://doi.org/10.1177/0149206311415280

Evans, J. B., Slaughter, J. E., Ellis, A. P. J., & Rivin, J. M. (2019). Gender and the

evaluation of humor at work. *Journal of Applied Psychology*, *104*(8), 1077–1087.

https://doi.org/10.1037/apl0000395

Fine, G. A., & Soucey, M. de. (2005). Joking cultures: Humor themes as social regulation

in group life. *Humor - International Journal of Humor Research*, *18*(1), 1–22.

https://doi.org/10.1515/humr.2005.18.1.1

Ford, T. E., Breeden, C. J., O'Connor, E. C., & Banos, N. C. (2017). Jokes and Humor in

Intergroup Relations. In *Oxford Research Encyclopedia of Communication*. Oxford

University Press. https://doi.org/10.1093/acrefore/9780190228613.013.431

Ford, T. E., & Ferguson, M. A. (2004). Social Consequences of Disparagement Humor:

A Prejudiced Norm Theory. *Personality and Social Psychology Review*, *8*(1), 79–94.

Garrick, J. (2006). The Humor of Trauma Survivors.

Http://Dx.Doi.Org/10.1300/J146v12n01_09, *12*(1–2), 169–182.

https://doi.org/10.1300/J146V12N01_09

Gillet, N., Lafrenière, M. A. K., Vallerand, R. J., Huart, I., & Fouquereau, E. (2014). The

effects of autonomous and controlled regulation of performance-approach goals on

well-being: A process model. *British Journal of Social Psychology*, *53*(1), 154–174.

https://doi.org/10.1111/bjso.12018

Gkorezis, P., Hatzithomas, L., & Petridou, E. (2011). The Impact of Leader's Humor on

Employees' Psychological Empowerment: the Moderating Role of Tenure. *Journal

of Managerial Issues*, *1*(23), 83–95.

Gkorezis, P., Petridou, E., & Xanthiakos, P. (2014). Leader positive humor and

organizational cynicism: LMX as a mediator. *Leadership and Organization*

WHY SO SERIOUS?   120

Development Journal, *35*(4), 305–315. https://doi.org/10.1108/LODJ-07-2012-0086

Goswami, A., Nair, P., Beehr, T., & Grossenbacher, M. (2016). The relationship of

leaders' humor and employees' work engagement mediated by positive emotions:

Moderating effect of leaders' transformational leadership style. *Leadership and*

Organization Development Journal, *37*(8), 1083–1099.

https://doi.org/10.1108/LODJ-01-2015-0001/FULL/PDF

Graen, G., & Uhl-Bien, M. (1991). The Transformation of Professionals into Self-

Managing and Partially Self-Designing Contributors: Toward a Theory of

Leadership-Making. *Management Department Faculty Publications*.

https://digitalcommons.unl.edu/managementfacpub/16

Gruner, C. R. (2017). The game of humor: A comprehensive theory of why we laugh.

The Game of Humor: A Comprehensive Theory of Why We Laugh, 1–197.

https://doi.org/10.4324/9781315132174

Guenter, H., Schreurs, B., Van Emmerik, I. H., Gijsbers, W., & Van Iterson, A. (2013).

How adaptive and maladaptive humor influence well-being at work: A diary study.

Humor, *26*(4), 573–594. https://doi.org/10.1515/humor-2013-0032

Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process*

Analysis: A regression-based approach. (second). Guilford Press.

https://books.google.com/books?hl=en&lr=&id=8ZM6DwAAQBAJ&oi=fnd&pg=P

P1&ots=21CemNXgWF&sig=SGmZASuEhUm8gkPXKff4BKcOd_o#v=onepage&

q&f=false

Heintz, S. (2017). Putting a spotlight on daily humor behaviors: Dimensionality and

relationships with personality, subjective well-being, and humor styles. *Personality*

and Individual Differences, *104*, 407–412.

https://doi.org/10.1016/j.paid.2016.08.042

Hughes, G. D. (2009). The Impact of Incorrect Responses to Reverse-Coded Survey

Items. *RESEARCH IN THE SCHOOLS Mid-South Educational Research*

Association, *16*(2), 76.

Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating Motivational,

Social, and Contextual Work Design Features: A Meta-Analytic Summary and

Theoretical Extension of the Work Design Literature. *Journal of Applied*

Psychology, *92*(5), 1332–1356. https://doi.org/10.1037/0021-9010.92.5.1332

Ilies, R., Lanaj, K., Pluut, H., & Goh, Z. (2018). Intrapersonal and interpersonal need

fulfillment at work: Differential antecedents and incremental validity in explaining

job satisfaction and citizenship behavior. *Journal of Vocational Behavior*, *108*(July),

151–164. https://doi.org/10.1016/j.jvb.2018.07.005

Jordan, P. J., & Troth, A. C. (2020). Common method bias in applied settings: The

dilemma of researching in organizations. *Australian Journal of Management*, *45*(1),

3–14. https://doi.org/10.1177/0312896219871976

Jungert, T., Van den Broeck, A., Schreurs, B., & Osterman, U. (2018). How Colleagues

Can Support Each Other's Needs and Motivation: An Intervention on Employee

Work Motivation. *Applied Psychology*, *67*(1), 3–29.

https://doi.org/10.1111/apps.12110

Kalnins, A. (2022). When does multicollinearity bias coefficients and cause type 1

errors? A reconciliation of Lindner, Puck, and Verbeke (2020) with Kalnins (2018).

Journal of International Business Studies, *53*(7), 1536–1548.

https://doi.org/10.1057/S41267-022-00531-9/FIGURES/2

Karl, K. A., & Peluchette, J. V. (2006). Does Workplace Fun Buffer the Impact of

Emotional Exhaustion on Job Dissatisfaction?: A Study of Health Care Workers.

Journal of Behavioral and Applied Management.

Kim, H. S., & Plester, B. A. (2019). Harmony and Distress: Humor, Culture, and

Psychological Well-Being in South Korean Organizations. *Frontiers in Psychology*,

9. https://doi.org/10.3389/fpsyg.2018.02643

Kim, T. Y., Lee, D. R., & Wong, N. Y. S. (2016). Supervisor Humor and Employee

Outcomes: The Role of Social Distance and Affective Trust in Supervisor. *Journal*

of Business and Psychology, *31*(1), 125–139. https://doi.org/10.1007/s10869-015-

9406-9

Kong, D. T., Cooper, C. D., & Sosik, J. J. (2019). The state of research on leader humor.

Organizational Psychology Review, *9*(1), 3–40.

https://doi.org/10.1177/2041386619846948

Krus, D. J., & Wilkinson, S. M. (1986). Demonstration of properties of a suppressor

variable. *Behavior Research Methods, Instruments, & Computers*, *18*(I), 21–24.

Kuiper, N. A., Martin, R. A., & Olinger, L. J. (1993). Coping humour, stress, and

cognitive appraisals. *Canadian Journal of Behavioural Science/Revue Canadienne*

Des Sciences Du Comportement, *25*(1), 81–96. https://doi.org/10.1037/h0078791

Law, K. S., Wong, C. S., & Mobley, W. H. (1998). Toward a taxonomy of

multidimensional constructs. *Academy of Management Review*, *23*(4), 741–755.

https://doi.org/10.5465/AMR.1998.1255636

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. Springer New York.

Lehmann-Willenbrock, N., & Allen, J. A. (2014). How fun are your meetings?

    Investigating the relationship between humor patterns in team interactions and team

    performance. *Journal of Applied Psychology*, *99*(6), 1278–1287.

    https://doi.org/10.1037/a0038083

Leiter, M. P., & Schaufeli, W. B. (1996). Consistency of the burnout construct across

    occupations. *Anxiety, Stress & Coping*, *9*(3), 229–243.

    https://doi.org/10.1080/10615809608249404

Maples-Keller, J. L., Williamson, R. L., Sleep, C. E., Carter, N. T., Campbell, W. K., &

    Miller, J. D. (2017). Using Item Response Theory to Develop a 60-Item

    Representation of the NEO PI–R Using the International Personality Item Pool:

    Development of the IPIP–NEO–60.

    Https://Doi.Org/10.1080/00223891.2017.1381968, *101*(1), 4–15.

    https://doi.org/10.1080/00223891.2017.1381968

Martin, D., Rich, C. O., & Gayle, B. M. (2004). Humor works: Communication style and

    humor functions in manager/subordinate relationships.

    Https://Doi.Org/10.1080/10417940409373293, *69*(3), 206–222.

    https://doi.org/10.1080/10417940409373293

Martin, R. A., & Ford, T. E. (2018). *The psychology of humor: an integrative approach*

    (second edition). Academic Press.

Martin, R. A., & Lefcourt, H. M. (1983). Sense of humor as a moderator of the relation

    between stressors and moods. *Journal of Personality and Social Psychology*, *45*(6),

    1313–1324. https://doi.org/10.1037/0022-3514.45.6.1313

Martin, R. A., Puhlik-Doris, P., Larsen, G., Gray, J., & 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, *37*(1), 48–75. https://doi.org/10.1016/S0092-6566(02)00534-2

Martineau, W. H. (1972). A Model of the Social Functions of Humor. In *The Psychology*

    of Humor (pp. 101–125). Elsevier. https://doi.org/10.1016/B978-0-12-288950-

    9.50011-0

Mesmer-Magnus, J., Glew, D. J., & Viswesvaran, C. (2012). A meta-analysis of positive

    humor in the workplace. *Journal of Managerial Psychology*, *27*(2), 155–190.

    https://doi.org/10.1108/02683941211199554

Morreall, J. (1987). *The Philosophy of Laughter and Humor* (J. Morreall (ed.)). State

    University of New York Press. https://philpapers.org/rec/MORTPO-48

Panksepp, J., & Burgdorf, J. (2003). "Laughing" rats and the evolutionary antecedents of

    human joy? *Physiology & Behavior*, *79*(3), 533–547. https://doi.org/10.1016/S0031-

    9384(03)00159-8

Park, L. S., & Martinez, L. R. (2022). An "I" for an "I": A Systematic Review and Meta-

    Analysis of Instigated and Reciprocal Incivility. *Journal of Occupational Health*

    Psychology, *27*(1), 7–21. https://doi.org/10.1037/OCP0000293

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common

    method biases in behavioral research: A critical review of the literature and

    recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903.

    https://doi.org/10.1037/0021-9010.88.5.879

Porath, C., Spreitzer, G., Gibson, C., & Garnett, F. G. (2012). Thriving at work: Toward

    its measurement, construct validation, and theoretical refinement. *Journal of*

Organizational Behavior, *33*(2), 250–275. https://doi.org/10.1002/job.756

Pundt, A., & Venz, L. (2017). Personal need for structure as a boundary condition for

humor in leadership. *Journal of Organizational Behavior*, *38*(1), 87–107.

https://doi.org/10.1002/job.2112

Robert, C., Dunne, T. C., & Iun, J. (2016). *The Impact of Leader Humor on Subordinate

Job Satisfaction : The Crucial Role of Leader – Subordinate Relationship Quality*.

https://doi.org/10.1177/1059601115598719

Robert, C., & Wilbanks, J. E. (2012). The Wheel Model of humor: Humor events and

affect in organizations: *Https://Doi.Org/10.1177/0018726711433133*, *65*(9), 1071–

1099. https://doi.org/10.1177/0018726711433133

Romero, E., & Arendt, L. A. (2011). Variable Effects of Humor Styles on Organizational

Outcomes. *Psychological Reports*, *108*(2), 649–659.

https://doi.org/10.2466/07.17.20.21.PR0.108.2.649-659

Romero, E., & Cruthirds, K. (2006). The use of humor in the workplace. *IEEE

Engineering Management Review*, *34*(3), 18–18.

https://doi.org/10.1109/EMR.2006.261378

Romero, E., & Pescosolido, A. (2008). Humor and group effectiveness. *Human

Relations*, *61*(3), 395–418. https://doi.org/10.1177/0018726708088999

Rouse, P. C., Turner, P. J. F., Siddall, A. G., Schmid, J., Standage, M., & Bilzon, J. L. J.

(2020). The interplay between psychological need satisfaction and psychological

need frustration within a work context: A variable and person-oriented approach.

Motivation and Emotion, *44*(2), 175–189. https://doi.org/10.1007/s11031-019-

09816-3

Ruch, W., & McGhee, P. E. (2014). Humor Intervention Programs. *The Wiley Blackwell Handbook of Positive Psychological Interventions*, 179–193. https://doi.org/10.1002/9781118315927.CH10

Russell, D. W. (2002). In Search of Underlying Dimensions: The Use (and Abuse) of Factor Analysis in Personality and Social Psychology Bulletin. *PSPB*, *28*(12), 1629–1646. https://doi.org/10.1177/014616702237645

Shaffer, J. A., & Postlethwaite, B. E. (2012). A Matter of Context: A Meta-Analytic Investigation of the Relative Validity of Contextualized and Noncontextualized Personality Measures. *Personnel Psychology*, *65*(3), 445–494. https://doi.org/10.1111/J.1744-6570.2012.01250.X

Sischka, P. E., Melzer, A., Schmidt, A. F., & Steffgen, G. (2021). Psychological Contract Violation or Basic Need Frustration? Psychological Mechanisms Behind the Effects of Workplace Bullying. *Frontiers in Psychology*, *12*(April), 1–14. https://doi.org/10.3389/fpsyg.2021.627968

Sliter, M., Jones, M., & Devine, D. (2017). Funny or Funnier? In *The Handbook of Stress and Health* (Issue 1, pp. 523–537). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118993811.ch32

Sliter, M., Kale, A., & Yuan, Z. (2014). Is humor the best medicine? The buffering effect of coping humor on traumatic stressors in firefighters. *Journal of Organizational Behavior*, *35*(2), 257–272. https://doi.org/10.1002/JOB.1868

Spector, P. E. (2006). Method Variance in Organizational Research Truth or Urban Legend? *Organizational Research Methods Spector*. https://doi.org/10.1177/1094428105284955

Spector, P. E., Bauer, J. A., & Fox, S. (2010). Measurement artifacts in the assessment of counterproductive work behavior and organizational citizenship behavior: Do we know what we think we know? *Journal of Applied Psychology*, *95*(4), 781–790. https://doi.org/10.1037/a0019477

Spector, P. E., & Fox, S. (2006). The Stressor-Emotion Model of Counterproductive Work Behavior. In *Counterproductive work behavior: Investigations of actors and targets.* (pp. 151–174). American Psychological Association. https://doi.org/10.1037/10893-007

Suárez-Alvarez, J., Pedrosa, I., Lozano, L. M., García-Cueto, E., Cuesta, M., & Muñiz, J. (2018). Using reversed items in Likert scales: A questionable practice. *Psicothema*, *30*(2), 149–158. https://doi.org/10.7334/PSICOTHEMA2018.33

Terrion, J. L., & Ashforth, B. E. (2002). *From "I" to "we": The role of putdown humor and identity in the development of a temporary group*.

Thorson, J. A., & Powell, F. C. (1993). Development and validation of a multidimensional sense of humor scale. *Journal of Clinical Psychology*, *49*(1), 13–23. https://doi.org/10.1002/1097-4679(199301)49:1<13::AID-JCLP2270490103>3.0.CO;2-S

Treger, S., Sprecher, S., & Erber, R. (2013). Laughing and liking: Exploring the interpersonal effects of humor use in initial social interactions. *European Journal of Social Psychology*, *43*(6), 532–543. https://doi.org/10.1002/EJSP.1962

Trépanier, S. G., Fernet, C., & Austin, S. (2016). Longitudinal relationships between workplace bullying, basic psychological needs, and employee functioning: a simultaneous investigation of psychological need satisfaction and frustration.

European Journal of Work and Organizational Psychology, *25*(5), 690–706.

https://doi.org/10.1080/1359432X.2015.1132200

Van den Broeck, A., Ferris, D. L., Chang, C.-H., & Rosen, C. C. (2016). A Review of

Self-Determination Theory's Basic Psychological Needs at Work. *Journal of

Management*, *42*(5), 1195–1229. https://doi.org/10.1177/0149206316632058

Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010).

Capturing autonomy, competence, and relatedness at work: Construction and initial

validation of the Work-related Basic Need Satisfaction scale. *Journal of

Occupational and Organizational Psychology*, *83*(4), 981–1002.

https://doi.org/10.1348/096317909X481382

Vander Elst, T., van den Broeck, A., de Witte, H., & de Cuyper, N. (2012). The

mediating role of frustration of psychological needs in the relationship between job

insecurity and work-related well-being. *Work and Stress*, *26*(3), 252–271.

https://doi.org/10.1080/02678373.2012.703900

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability:

Basic psychological need satisfaction and need frustration as a unifying principle.

Journal of Psychotherapy Integration, *23*(3), 263–280.

https://doi.org/10.1037/a0032359

Vernon, P. A., Martin, R. A., Schermer, J. A., & Mackie, A. (2008). A behavioral genetic

investigation of humor styles and their correlations with the Big-5 personality

dimensions. *Personality and Individual Differences*, *44*(5), 1116–1125.

https://doi.org/10.1016/J.PAID.2007.11.003

Wang, R., Kwan, D., Chan, S., Goh, Y. W., Penfold, M., & Harper, T. (2018). Humor

and workplace stress: a longitudinal comparison between Australian and Chinese

employees. *Asia Pacific Journal of Human Resources*, *56*, 175–195.

https://doi.org/10.1111/1744-7941.12157

Warren, C., & McGraw, A. P. (2015). Opinion: What makes things humorous.

Proceedings of the National Academy of Sciences, *112*(23), 7105–7106.

https://doi.org/10.1073/PNAS.1503836112

Weiss, H. M., & Cropanzano, R. (1996). Affective Events Theory: A theoretical

discussion of the structure, causes and consequences of affective experiences at

work. - PsycNET. *Research in Organizational Behavior: An Annual Series of

Analytical Essays and Critical Reviews*, *18*, 1–74.

https://psycnet.apa.org/record/1996-98665-001

Wijewardena, N., Härtel, C. E. J., & Samaratunge, R. (2017). Using humor and boosting

emotions: An affect-based study of managerial humor, employees' emotions and

psychological capital: *Https://Doi.Org/10.1177/0018726717691809*, *70*(11), 1316–

1341. https://doi.org/10.1177/0018726717691809

Wyer, R. S., & Collins, J. E. (1992). A theory of humor elicitation. *Psychological

Review*, *99*(4), 663–688. https://doi.org/10.1037/0033-295X.99.4.663

Yam, K. C., Christian, M. S., Wei, W., Liao, Z., & Nai, J. (2018). The Mixed Blessing of

Leader Sense of Humor: Examining Costs and Benefits. *Academy of Management

Journal*, *61*(1), 348–369. https://doi.org/10.5465/amj.2015.1088

Yang, L.-Q., & Caughlin, D. E. (2017). Aggression-preventive supervisor behavior:

Implications for workplace climate and employee outcomes. *Journal of

Occupational Health Psychology*, *22*(1), 1–18. https://doi.org/10.1037/a0040148

Yip, J. A., & Martin, R. A. (2006). Sense of humor, emotional intelligence, and social

    competence. *Journal of Research in Personality*, *40*(6), 1202–1208.

    https://doi.org/10.1016/J.JRP.2005.08.005