RESEARCH INSIGHTS

The Stories We Tell: Why Cognitive Distortions Matter for Leaders

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Executive Summary

This study explored whether leaders' thought patterns (specifically cognitive distortions) and emotion regulation strategies (specifically cognitive reappraisal, cognitive defusion, and expressive suppression) relate to their work experiences. Findings suggest that leaders' cognitive distortions are related to their work experiences and that emotion regulation strategies can help leaders mitigate the effects of cognitive distortions. More specifically, the results of this study offer the following insights:

- Leaders' cognitive distortions related to all examined workplace topics (role ambiguity, role conflict, social support, perceived organizational support, job satisfaction, and burnout).
- Leaders' use of emotion regulation strategies (cognitive reappraisal and cognitive defusion) mitigated the impact their cognitive distortions had on burnout, specifically.
- Attempting to suppress emotional responses was relatively ineffective compared to the other two emotion regulation strategies (cognitive reappraisal and cognitive defusion).

These insights suggest that certain emotion regulation strategies may be helpful in ameliorating the deleterious effects of cognitive distortions on leaders' burnout. The current paper provides an overview of the different cognitive distortions and emotion regulation strategies explored and includes advice on what leaders can do to more effectively notice and manage cognitive distortions that emerge during distressing situations.

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Introduction

Influence is a common topic in leader development. Leaders are coached on how to talk to others so as to point them in a certain direction and are prepared for how others may try to influence them. But what about self-talk? *How do the conversations you have with yourself influence how you lead?* Previous research has shown that your own internal experiences, such as thoughts and feelings, can play a substantial role in how you interpret your surroundings and ultimately behave. For example, have you ever received a vague email from your supervisor asking for a meeting and spent hours worrying about what was wrong, only to find out the situation wasn't as bad as you thought it would be? In fact, you may have been so preoccupied with worrying that you didn't pay attention to a problem your colleagues discussed and as a result came across to them as disinterested and distant. Examples such as this highlight how thoughts and feelings can influence workplace productivity, interpretation of interpersonal interactions, and decision-making.

Understanding how leaders' thoughts and feelings may be influencing their perceptions of events is particularly important because leaders are subject to a constant flow of (often complex) information, and their subjective perceptions can influence strategic choices and policies for an entire organization. Moreover, research on emotional contagion has shown that leaders' emotional experiences can influence the emotional experiences of others (Moran, 2015). Therefore, leaders' ability—or inability—to effectively regulate their emotions is likely to send ripple effects throughout an organization. For these reasons, a critical aspect of leader development should be helping leaders understand the power of their thoughts and feelings, and what they can do to manage their reactions through self-influence techniques such as emotion regulation strategies.

In this paper, we share the results of an empirical study examining how leaders' thoughts relate to their emotional processes, as well as how leaders' thoughts and emotion regulation strategies relate to their leadership experience. In particular, we explore the frequency and potential impact of common faulty thought patterns called ***cognitive distortions*** and emotion-focused self-influence techniques called ***emotion regulation strategies***. More specifically, it examines the effectiveness of three different emotion regulation strategies (cognitive reappraisal, cognitive defusion, and expressive suppression) in helping leaders manage the impact of their cognitive distortions on their work experiences.

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What are Cognitive Distortions?

We like to think our thoughts and feelings are objective reflections of reality, but it's not that simple. Beck's cognitive theory (Beck, 1976, 1979) highlights that how individuals perceive the world around them directly relates to how they feel and behave; in other words, thoughts influence feelings and behaviors. These thoughts and perceptions, in turn, are shaped by a myriad of factors (e.g., life experiences) and can become predicably patternized and distorted, especially when faced with an emotionally challenging situation. These distortions, or thinking traps, are known as *cognitive distortions* and can impact how we present ourselves to colleagues, how we evaluate information, and how much effort we put into solving problems.

There are a number of common types of cognitive distortions. For example, ***all-or-nothing thinking*** is a cognitive distortion which reflects the tendency to view a situation in all-or-nothing terms (e.g., "I made a mistake in my business pitch, therefore it was a total failure" or "If this project gets canceled, none of my work matters"). Another common type of cognitive distortion is ***should statements***, which involves telling yourself that people, situations, or experiences "should" be a certain way (e.g. "I should have known he was going to ask me that question" or "They should have known better than to say that"). See Table 1 for a list of common types of cognitive distortions.

TABLE 1

Common Types of Cognitive Distortions

COGNITIVE DISTORTION	DEFINITION
All-or-nothing thinking	Viewing a situation or person in 'either-or' terms (i.e., two extremes).
Assuming my feelings reflect the entire reality	Believing my emotions reflect the entire reality/truth and letting them guide my interpretations.
Blaming (others or oneself)	*Others:* Placing responsibility on others for negative feelings and experiences, not considering my own responsibility *Oneself:* Placing responsibility on myself for negative feelings and experiences, not considering others' responsibility.
Jumping to conclusions	Drawing conclusions from little or no confirmatory evidence.
Ignoring the positives	Ignoring or dismissing positive experiences, insisting that they do not count.
Should statements	Telling myself that people, situations, or experiences 'should' be the way I expect them to be and not as they really are.
Overgeneralization	Taking single cases (usually negative) and generalizing them to all cases, often using words such as 'always,' 'never,' 'ever,' 'entire,' etc.
Labeling	Putting a fixed, global judgment (usually negative) on myself or others.
Tunnel vision	Focusing on one or a few details and failing to see the whole picture.
Magnifying the negatives/ minimizing the positives	*Magnifying the negatives:* Placing greater importance on the negatives when evaluating people or situations. *Minimizing the positives:* Placing lesser importance on the positives when evaluating people or situations.

Note. Definitions adopted from item definitions from the Cognitive Distortions Questionnaire (de Oliveira, 2015).

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Some researchers view cognitive distortions as survival mechanisms that help people cope with prolonged stress (e.g., trying to protect yourself from stress by blaming others or considering worst-case scenarios). However, these thought patterns can also lead to less-effective leadership. For example, the thought "I made a mistake in my business pitch, therefore it was a total failure" might lead you to not follow up with potential investors, essentially creating a self-fulfilling prophecy of defeat. Or the thought, "They should have known better than to say that," might keep you from asking important follow-up questions to better understand the reasons behind why something was said. Moreover, constantly ruminating (i.e., continuously thinking) about cognitive distortions can be stressful. Indeed, clinical research suggests a positive relation between cognitive distortions and depression or anxiety (de Oliveira, 2015).

However, despite what we believe to be important connections between cognitive distortions and leaders' effectiveness and well-being, only a handful of previous studies have examined cognitive distortions in the workplace. One study focusing on the impact of "mental strategies training" (which included identifying one's cognitive distortions) found that individuals who received the training reported higher levels of mental performance and job satisfaction (Neck & Manz, 1996). In another study, researchers found evidence that job-related cognitive distortions (which the authors termed "job dysfunctional thought processes") were significantly related to lower job satisfaction (Judge & Locke, 1993). Moreover, Steinbach (2019) recently reviewed the information processing literature and recommended that thought processes be studied in the context of leadership decisions, highlighting the importance of how information is processed in better understanding decision-making processes. We believe these findings suggest that (a) more research is needed on how cognitive distortions may be impacting leaders, and (b) testing the effectiveness of different methods for managing cognitive distortions could be an important leader development tool. To address this second question, we turned to research on emotion regulation strategies.

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Emotion Regulation Strategies

Scholars have argued that emotion processes are an important aspect of effective leadership (e.g., Humphrey, 2002); the current paper focuses on the emotion process of emotion regulation. ***Emotion regulation can be defined as an individual's ability to manage, influence, and adaptively respond to emotional experiences.*** Emotion regulation strategies are the processes that individuals use to help regulate their emotions (Gross & John, 2003). They allow for the possibility of intentionally changing emotional responses in distressing situations when such changes may be beneficial. Though previous research has explored a variety of emotion regulation strategies, we focus specifically on three: cognitive reappraisal, expressive suppression, and cognitive defusion (see Table 2).

TABLE 2

Three Emotion Regulation Strategies

EMOTION REGULATION STRATEGY	EXAMPLE
Cognitive Reappraisal involves reinterpreting an emotionally-evocative situation in a different way.	Considering what information might be missing or what assumptions might have been made.
Cognitive Defusion involves distancing yourself from the thought being experienced and viewing thoughts as thoughts rather than having literal meaning.	Imagining you are an external observer of your thoughts.
Expressive Suppression involves inhibiting behaviors that might express your emotions.	Smiling even though you feel angry.

Cognitive reappraisal and expressive suppression were selected because of their rich history being studied in the context of emotion regulation (e.g., Gross & John, 2003) and cognitive defusion was selected because of research supporting its effectiveness in managing negative thoughts (e.g., Larsson et al., 2016).

Although these emotion regulation strategies have been studied extensively in therapeutic settings (Gross, 2002; Gross & Levenson, 1993, 1997), there are relatively few studies that examine the use of these emotion regulation strategies in organizational settings or with leader populations. One study examined the use of cognitive reappraisal and expressive suppression in both leaders and their subordinates (Kafetsios et al., 2012). The authors found that, for subordinates, expressive suppression related to lower job satisfaction and greater emotional exhaustion, whereas cognitive reappraisal related to higher job satisfaction. For leaders, cognitive reappraisal related to greater positive mood. In another study, cognitive reappraisal related to improved task performance (Torrence & Connelly, 2019). Finally, one study used daily diaries to assess the relations between significant work events, emotion regulation, and work behaviors in a population of computer programmers (Matta et al., 2014). Results showed that cognitive reappraisal helped programmers react less strongly to negative events, highlighting the role that self-influence can play in shaping how individuals respond to the workplace. Taken together, these studies suggest that cognitive reappraisal (but not expressive suppression) may be an effective emotion regulation strategy within the context of leadership.

In the current study, we unite these different topics within a leader development context. Specifically, we examine the relations between cognitive distortions, emotion regulation strategies (cognitive reappraisal, cognitive defusion, and expressive suppression), a number of job factors (role conflict, role ambiguity, social support, and perceived organizational support), and job outcomes (job satisfaction and burnout). This approach provides a more comprehensive, holistic view of how cognitive distortions manifest in the workplace, what impact they might have on leaders, and which strategies are more (or less) effective for managing them.

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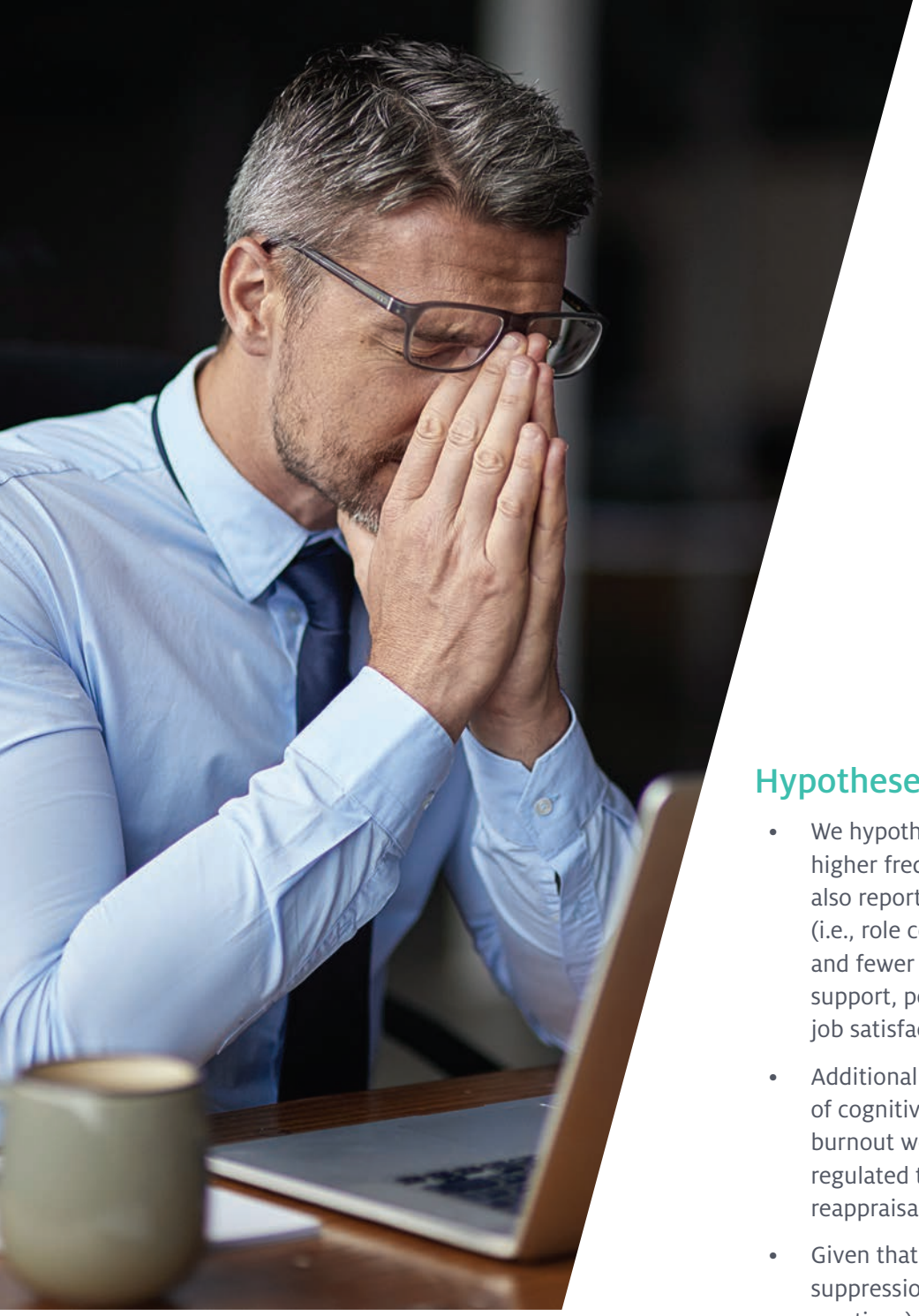

Hypotheses

- We hypothesized that leaders who reported higher frequencies of cognitive distortions would also report more negative work experiences (i.e., role conflict, role ambiguity, and burnout) and fewer positive work experiences (i.e., social support, perceived organizational support, and job satisfaction).
- Additionally, we hypothesized that the effects of cognitive distortions on job satisfaction and burnout would be weakened when leaders regulated their emotions using cognitive reappraisal and cognitive defusion strategies.
- Given that previous work found expressive suppression (i.e. trying to suppress emotional reactions) to be a relatively ineffective approach to regulating emotions (Cutuli, 2014), we also hypothesized that expressive suppression would not be effective in weakening the relationship between frequency of cognitive distortions and job satisfaction or burnout.

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Research Methods and Analyses

Who We Surveyed

A total of 293 individuals took part in the current study. Participants were recruited via an online research panel of leaders spanning different roles and industries. In the current sample, 154 (52.6%) participants were male and 139 (47.4%) were female. In terms of age, 103 (36%) participants were between the ages of 45 and 54 years, 85 (29%) participants were between the ages of 35 and 44 years, 73 (25%) participants were between the ages of 55 and 64 years, 16 (6%) participants were between the ages of 25 and 34 years, and 13 (4%) participants were 65 years of age or older. The majority were from the United States (*n* = 194; 66.2%), the United Kingdom (*n* = 14; 4.8%), Canada (*n* = 12; 4.1%), and Australia (*n* = 11; 3.8%); the remaining were from other countries across the world (details available upon request). In terms of ethnicity, 224 (76.5%) participants were White, 26 (8.9%) participants were Asian, 16 (5.5%) participants were Hispanic, Latino, or Spanish, 14 (4.8%) participants were Black or African American, and 13 (4.4%) participants reported being of another ethnicity.

What We Asked

A confidential online survey was distributed to all members of the panel containing questions relating to the following topics (detailed descriptions of these measures available in Appendix A):

TABLE 3

Overview of Survey

TOPIC	DESCRIPTION
Cognitive distortions (frequency)	The frequency with which participants reported experiencing 10 common types of cognitive distortions in the workplace.
Role conflict	The extent to which the participant experienced conflict in their role at work.
Role ambiguity	The extent to which the participant experienced ambiguity in their role at work.
Social support	The amount of work-related social support participants reported having (e.g., from colleagues).
Perceived organizational support	The amount of organizational support participants reported having.
Cognitive reappraisal	The extent to which participants reported utilizing cognitive reappraisal to manage emotions at work.
Cognitive defusion	The extent to which participants reported utilizing cognitive defusion to manage emotions at work.
Expressive suppression	The extent to which participants reported utilizing expressive suppression to manage emotions at work.
Job satisfaction	The extent to which participants reported being satisfied with their job.
Burnout	The extent to which participants reported feeling burned out, specifically feeling emotionally exhausted with regards to their work.

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Key Findings

Higher Frequency of Cognitive Distortions is Related to Negative Workplace Outcomes

Consistent with our predictions, we found that frequency of experiencing cognitive distortions was significantly negatively related to all positive job variables (perceived organizational support, job satisfaction, and social support) and significantly positively related to all negative job variables (role ambiguity, role conflict, and burnout); see Appendix B for a matrix of all correlations. Additionally, frequency of experiencing cognitive distortions was significantly negatively correlated with the use of reappraisal and cognitive defusion and significantly positively correlated with the use of expressive suppression. Taken together, these results suggest that frequency of experiencing cognitive distortions is related to higher burnout and lower job satisfaction.

WHAT THESE FINDINGS MEAN FOR LEADERS AND ORGANIZATIONS.

Cognitive distortions are not an entirely personal experience without professional impact; they occur in the workplace and can have work-related consequences. These findings suggest that leader development should include helping leaders both become more aware of the presence and nature of their own cognitive distortions and learn strategies for managing such cognitive distortions when they arise. Organizations can offer programs or resources focused on cultivating these foci, and leaders should take time to build these practices.

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(Some) Emotion Regulation Strategies Can Help Leaders Manage Cognitive Distortions

We used advanced statistical (structural equation) modeling to explore which emotion regulation strategies were effective in helping leaders cope with cognitive distortions. Specifically, we looked at cognitive reappraisal, cognitive defusion, and expressive suppression as possible interventions that could help people better manage cognitive distortions. Job-related factors (role conflict, role ambiguity, social support, and perceived organizational support) were included in the models as predictors of emotion regulation strategies, burnout, and job satisfaction to determine whether emotion regulation strategies influenced the relationship between cognitive distortions and burnout and job satisfaction. We hypothesized that cognitive reappraisal and cognitive defusion in particular could help lessen the effects of cognitive distortions (full models and analyses available upon request).

Results suggest that cognitive reappraisal and cognitive defusion, but not expressive suppression, ameliorate the negative impact of cognitive distortions on burnout. Moreover, these two emotion regulation strategies *completely* counteracted the effects of cognitive distortions (i.e., once we accounted for them in our analyses, frequency of cognitive distortions was no longer related to increased burnout). However, emotion regulation strategies did not influence the relationship between frequency of cognitive distortions and job satisfaction.

WHAT THESE FINDINGS MEAN FOR LEADERS AND ORGANIZATIONS.

These results have clear implications for leaders, especially leaders who find themselves experiencing cognitive distortions (and struggling to effectively manage them). First, it is important to be aware that experiencing cognitive distortions does relate to various work-related outcomes, including job satisfaction and burnout. Second, results suggest implementing interventions and programming in the workplace that focus on teaching and practicing cognitive reappraisal and cognitive defusion can be useful in helping leaders manage the impact that cognitive distortions have on burnout, specifically. At the Center for Creative Leadership, researchers are working to create potential interventions (e.g., a virtual card deck activity set) focused on introducing cognitive distortions, cognitive reappraisal, and cognitive defusion.

It is worth noting that results suggest that expressive suppression did not influence the relationship between cognitive distortions and burnout or job satisfaction. This is noteworthy, as leaders are often advised to not get "emotional" in business situations, which could result in leaders using expressive suppression. In fact, many organizations still suggest ignoring negative emotions (Pearson, 2017), arguing that negative emotions have no place in the workplace. Our results suggest that facing emotions and employing techniques such as cognitive reappraisal and cognitive defusion is better advice—particularly if organizations want to avoid leadership burnout.

The current results also point to a lack of evidence for emotion regulation strategies playing a role in the relationship between frequency of cognitive distortions and job satisfaction. There are many possible explanations for this finding: Measurement error, of course, could be one. However, the finding could also relate to differences between burnout and job satisfaction. For example, burnout, by definition, may be more emotional, while job satisfaction may be more situational (i.e., satisfaction with a specific job); therefore, it seems reasonable that emotion regulation strategies might be more effective at preventing burnout and have less of an impact when it comes to increasing job satisfaction.

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Exploring Cognitive Distortions, Cognitive Reappraisal, and Cognitive Defusion as New Leader Development Tools

Our findings suggest that learning about cognitive distortions, cognitive reappraisal, and cognitive defusion could be effective leader development tools. We encourage organizations, leaders, and leadership practitioners to consider how they might incorporate these tools in the service of leader development. Indeed, Flaxman and colleagues (2013) and Moran (2015) have made similar suggestions about using general techniques from Acceptance and Commitment Therapy in the workplace. Via a meta-analysis of interventions in occupational stress, Richardson and Rothstein (2008) found that cognitive-behavioral interventions were associated with larger effect sizes than other types of workplace stress-reduction interventions. Improving the psychological health of leaders through these techniques can be an important direction for leader development innovation. Indeed, from this study there is evidence that if leaders are experiencing higher frequencies of cognitive distortions, and they are less likely to engage in reappraisal and cognitive defusion, they may be more likely to show increases in burnout—thus making the potential creation and use of interventions even more important.

Interventions may take the form of increasing awareness of problematic thinking patterns, such as offering leaders an opportunity to learn about common cognitive distortions and recognize when such distortions are influencing their reactions and decisions. Interventions may also focus on introducing cognitive reappraisal and cognitive defusion; teaching and cultivating the use of such strategies in a classroom or coaching setting may act as a proactive method of helping leaders deal with inevitable mental and emotional drains during stressful times.[1]

[1] It's worth noting that, due to the somewhat personal and potentially sensitive nature of cognitive distortions, discussion of this topic in a classroom setting requires thoughtful consideration. For example, we discourage explicitly asking leaders to verbalize their cognitive distortions in group/public settings where they may not feel comfortable doing so.

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Tips for Managing Cognitive Distortions Using Cognitive Reappraisal and Cognitive Defusion

Interested in using these two emotion regulation strategies to improve your ability to manage cognitive distortions? Below are a few ideas to try.

- **Watch your self-talk:** One helpful starting point is to more consistently notice when you are experiencing cognitive distortions. An effective way to do this is to more intentionally watch your self-talk. Whenever you notice yourself feeling distressed at work—even if it is a mild form of distress, such as boredom or annoyance—take a moment to stop and ask yourself:

What assumptions am I making right now?

Am I making assumptions about myself?
(e.g., "I'm never going to persuade this colleague")

… the situation?
(e.g., "This inventory management process is inefficient")

… or others ?
(e.g., "He doesn't understand this problem because he's not from my part of the organization")

Are my assumptions reflecting the whole picture and many perspectives, or just focusing on one, potentially negative, part?

What feelings does my thought inspire?

To what extent is this thought useful or motivating, versus causing me distress or demotivating me?

What does this thought make me want to do?

- **Practice cognitive reappraisal by considering three challenging questions**: Select three challenging questions to ask yourself when you notice yourself experiencing a cognitive distortion: *What are some alternate explanations for this situation? What are external factors that might affect my perception of the situation? If I surveyed others, how might they interpret the situation?* Write them down on a sticky note or add them to a notes app on your phone and commit to asking yourself the three questions when you notice a cognitive distortion occurring. Then, practice generating a new, more balanced thought that reflects multiple perspectives and any new information you may have gleaned.
- **Practice cognitive defusion by trying out a thought exercise:** Just as you can start practicing cognitive reappraisal by selecting a handful of challenging questions to use with cognitive distortions, you can start practicing cognitive defusion by selecting a handful of cognitive defusion exercises to keep in your toolbox. For example, one exercise might be to imagine your thought (i.e., the cognitive distortion) as an object in your hand. Then, ask yourself, *"What does this object look like (shape, color)? Feel like? Smell like? Taste like? Sound like?"* Another exercise might be to add the phrase *"I'm noticing I'm having the thought that [insert thought]"* to the original thought and say it out loud. Then, repeat it again until you start noticing yourself distancing (or defusing) from the original thought. A third exercise might be to think about your current situation as if you were a fly on the wall watching everything happening. Then, reflect on the following questions: *What might you notice? How does this new perspective change how you see the situation?*

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Conclusion

In this study, we learned more about leaders' experience of cognitive distortions, how cognitive distortions relate to an array of work outcomes, and which strategies may be effective in managing cognitive distortions. While it is perhaps not surprising to learn that leaders, like everyone else, are susceptible to cognitive distortions, our study is the first (to our knowledge) to demonstrate that these distortions relate to a variety of important workplace outcomes, including burnout. This finding is significant given that burnout is a serious problem both for leaders' well-being and career longevity, and for organizations, in terms of reducing levels of exhaustion among leaders. The insights gained from this study suggest that leaders and leader development practitioners should explore ways to reduce the frequency of leaders' cognitive distortions and that engaging in cognitive reappraisal and/or cognitive defusion may be helpful in ameliorating the deleterious effects of cognitive distortions on burnout. Given that workplaces are predicted to grow ever more complex and ambiguous, having leaders who are able to note problematic thought patterns and regulate their emotional responses could be invaluable, both in terms of the long-term success of individual leaders and to future organizations.

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Appendix A

Measures Used in Study

TOPIC	MEASURE DESCRIPTION
Cognitive distortions	Frequency of cognitive distortions was assessed using the Cognitive Distortions Questionnaire (CD-Quest; de Oliveira, 2015), a 15-item self-report measure assessing the frequency and intensity of several different types of cognitive distortions during the past week. For the current study, we selected 10 cognitive distortions we felt were most non-redundant (with other distortions) and relevant to the workplace environment. See Table 1 for a list of the distortions. The response format was also modified for the current study such that participants (a) were asked about general tendency toward experiencing the distortions rather than in the past week, (b) were asked about frequency rather than both frequency and intensity, and (c) responded using a 1 (rarely) to 5 (always) Likert-type scale. The total score for the CD-Quest was used in the current study, which consisted of the sum of the 10 selected items. The internal consistency for the modified version of the CD-Quest was very good ($\alpha = 0.85$).
Emotion regulation strategies	We used the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), a 10-item self-report scale, to assess both cognitive reappraisal and expressive suppression. Items are rated on a 1 (strongly disagree) to 7 (strongly agree) Likert-type scale. A sample item assessing cognitive reappraisal is "When I want to feel less negative emotion, I change the way I'm thinking about the situation," and a sample item assessing expressive suppression is "I control my emotions by not expressing them." The instructions were modified to specify responding based on using these strategies at work (i.e., "We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions while at work"). The internal consistency for the ERQ was very good for both the cognitive reappraisal ($\alpha = 0.81$) and the expressive suppression ($\alpha = 0.83$) subscales. Cognitive defusion was measured using the Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014), a 7-item self-report measure. Items are rated on a 1 (always true) to 7 (never true) Likert-type scale. A sample item is "I tend to get very entangled in my thoughts." Given that our goal was to assess cognitive *de*fusion, we flipped the anchors of the scale such that higher scores indicated a stronger tendency toward cognitive defusion (or lack of fusion). In the current study, the CFQ was used to examine the participant's tendency to use cognitive defusion when attempting to regulate their emotions at work. The instructions were modified to read the following: "Please rate how true each statement is for you in terms of your experience while at work." The internal consistency for the CFQ was excellent ($\alpha = 0.93$).

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TOPIC	MEASURE DESCRIPTION
Role conflict and role ambiguity	Role conflict and role ambiguity were assessed using items from the Copenhagen Psychosocial Questionnaire-II (COPSOQ-II; Pejtersen et al., 2010), a self-reported battery of psychosocial constructs relevant to the workplace. Role conflict was assessed via a four-item role conflict subscale; a sample item is "Are contradictory demands placed on you at work?" Role ambiguity, which has been conceptualized as a job demand (Clausen & Borg, 2011; Urien et al., 2017), was operationalized using a three-item role clarity subscale that was reverse scored. A sample item is "Does your work have clear objectives?" For the purposes of the current study, we considered low role clarity to be conceptually similar to role ambiguity (e.g., Inoue et al., 2014) and thus used lower scores on the role clarity subscale to reflect role ambiguity. Both scales were rated on a 1 (to a very small extent) to 5 (to a very large extent) Likert-type scale. The role conflict (α = 0.82) and role ambiguity (α = 0.83) subscales demonstrated very good internal consistency.
Social support and perceived organizational support	Social support was assessed via a three-item subscale from the COPSOQ-II that was rated on a 1 (never/hardly ever) to 5 (always) Likert-type scale, and demonstrated good internal consistency (α = 0.74). A sample item is "How often do you get help and support from your colleagues?" We measured perceived organizational support using the four positively scored items from the short form of the Survey of Perceived Organizational Support (SPOS; Eisenberger et al., 1986). Items were measured on a 1 (strongly disagree) to 7 (strongly agree) Likert-type scale; a sample item is "The organization really cares about my well-being." The internal consistency for the items measuring perceived organizational support was excellent (α = 0.93).
Job satisfaction	The job satisfaction subscale of the Michigan Organizational Assessment Questionnaire (MOAQ; Cammann et al., 1979; Cammann, 1983) was used to assess job satisfaction. This subscale consists of three items rated on a 1 (strongly disagree) to 7 (strongly agree) Likert-type scale that are summed; a sample item is "All in all, I am satisfied with my job." The internal consistency for the job satisfaction subscale was very good (α = 0.88).
Burnout	Burnout was measured via the 9-item emotional exhaustion subscale of the Maslach Burnout Inventory (MBI; Maslach, 2016). The scale is a subjective measure of feeling burned out by the job. Items were assessed on a 1 (never) to 7 (every day) Likert-type scale; a sample item is "I feel emotionally drained from my work." The internal consistency for this subscale was excellent (α = 0.94).

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Appendix B

Zero-order Correlation Table

	COG DIST	REAP	SUP	COG DEF	ROLE CON	ROLE AMB	POS	SOC SUP	BURN-OUT	JOB SAT
CogDist	1	-.30**	.22**	-.55**	.27**	.25**	-.19**	-.14*	.38**	-.31**
Reap		1	-.01	.32**	.03	-.10	.10	.10	-.19**	.14*
Sup			1	-.13*	.20**	.06	-.06	-.15*	.09	-.09
CogDef				1	-.24**	-.23**	.20**	.10	-.43**	.26**
RoleCon					1	.45**	-.49**	-.14*	.52**	-.48**
RoleAmb						1	-.51**	-.22**	.36**	-.52**
POS							1	.41**	-.49**	.64**
SocSup								1	-.23**	.30**
Burnout									1	-.62**
JobSat										1

Note. CogDist = Cognitive Distortions Questionnaire; Reap = reappraisal subscale from the Emotion Regulation Questionnaire; Sup = suppression subscale from the Emotion Regulation Questionnaire; CogDef = reversed total score from the Cognitive Fusion Questionnaire; RoleCon = role conflict subscale from the Copenhagen Psychosocial Questionnaire; RoleAmb= reversed total score from the role clarity subscale from the Copenhagen Psychosocial Questionnaire; pOS = perceived organization support total score from the Survey of Perceived Organizational Support; SocSup = social support subscale from the Copenhagen Psychosocial Questionnaire; Burnout = emotional exhaustion subscale from the Maslach Burnout Inventory; JobSat = job satisfaction subscale from the Michigan Organizational Assessment Questionnaire

** $p < .01$; * $p < .05$

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