

# Seeing Leadership More Clearly: Applying the Johari Window to Enhance 360 Leadership Assessments

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## CONTENTS

Executive Summary.....	1
Seeing Leadership More Clearly: A New Approach for Applying the Johari Window to 360 Assessments .....	1
The Promise of Multisource Leadership Assessments .....	3
Getting More Out of One’s Multisource Leadership Assessment.....	3
The Johari Window: A Framework to Facilitate Sensemaking.....	4
Prevailing Questions with the Johari Window ..	5
What We Did .....	6
What We Found.....	7
Is The Johari Window The Best-Fitting Framework? .....	7
Where Do Key Insights Come From the Johari Window?.....	9
Can the Johari Window Help Predict Leader Effectiveness? .....	10
Discussion .....	11
Practical Implications .....	11
Conclusion .....	12
References.....	13
About the Authors .....	15

# Executive Summary

Multisource leadership assessments, known as 360 assessments, are often a key component of leadership development programs. These assessments gather feedback from various sources, such as direct reports, peers, and even board members, to provide leaders with insights into their strengths and weaknesses. Despite their benefits, the vast amount of information in these assessments can be overwhelming, making it challenging for leaders to identify which areas to focus on and how to reconcile differing feedback.

To address this, the Johari Window framework can help leaders make sense of their 360 assessments by classifying information into four categories: consensus, self, blind-spots, and unknowns (see Figure E1). This framework may help organize the data, allow leaders to better understand their competencies and areas for improvement, and ultimately enhance their leadership development experience.

## THE JOHARI WINDOW: A FRAMEWORK FOR INTERPRETING 360 ASSESSMENTS

	Unknown to Others	Known to Others
Known to Self	Self	Consensus
Unknown to Self	Unknown	Shared Blind Spots Unique Blind Spots

**FIGURE E1**

While the Johari Window is intuitively appealing, it is essential to verify if it accurately reflects what 360 assessments actually reveal to leaders. For example, this framework may not align with assessment data, potentially leading leaders astray despite its ability to simplify complex information. To be effective, the Johari Window should balance complexity and

simplicity, possibly by adjusting its structure to better fit empirical data, either by collapsing or expanding its panes.

Interestingly, our findings indicate that leaders may limit the value of their 360 assessments if they focus on a single pane of the Johari Window. While simplifying the model might seem appealing, it would reduce the framework's accuracy in reflecting the full scope of 360 assessment data, potentially leading to misinterpretations and the omission of valuable insights for leader development. Leadership development professionals can trust that, despite its simplicity, the Johari Window adequately captures, and does not overlook, critical aspects of 360 data.

Additionally, it's crucial to assess whether the information in the windowpanes correlates with leader effectiveness, as leaders use 360 assessments to enhance their skills and abilities in the hopes of improving key outcomes. Our findings data suggest that each of the windowpanes of the Johari Window (i.e., consensus, blind-spots, and self-ratings) contributes substantial amounts of information and can be used to distinguish among leaders based on their 360 ratings and allow one to forecast key measures of a leader's effectiveness (e.g., their division's performance).

Taken as a whole, our research supports the use of the Johari Window as a sensemaking tool for 360 assessments. As such, we offer guidance to help leaders and development professional apply this framework (see Figure E2, following page) while reviewing their 360 assessments to maximize the value of their development experiences. Such an organizing framework, especially given its empirical support in this study, is likely to help leaders engage in the type of deliberate, systematic reflection process that, ultimately, contributes to improved self-awareness and leadership development.

### Use the Johari Window to Introduce 360 Assessments

- Provides An Organizing Framework
- Reduces the Complexity of the Data

### Guide Leaders Through their 360s Using the Johari Window

- Consider Each Pane Separately
- Move Across the Panes by Highlighting Tensions and Connections

### Prioritize Development Efforts By Considering Each of the Panes of the Johari Window

FIGURE E2



## The Promise of Multisource Leadership Assessments

Multisource leadership assessments (i.e., 360 assessments) are a mainstay of leadership development programs (Day, 2000). These assessments typically collect perspectives of a single leader from multiple raters (e.g., direct reports, peers, bosses) across multiple competencies (Fleenor et al., 2020; Loinon et al., in press). Thus, 360 assessments can often afford greater self-awareness by identifying a leader's:

- **Strengths** (i.e., competencies where the leader is perceived to excel)
- **Weakness** (i.e., competencies where the leader is thought to need development)
- **Area of consensus** (i.e., competencies where other rating sources agree)

- **Self-other agreement** (i.e., competencies where the leader and (a) rating source(s) agree)

Oftentimes, these assessments are bundled with other leadership development activities, like coaching sessions (de Haan & Nilsson, 2023), action learning (McCauley, 2008), or in conjunction with new or challenging “on the job” experiences (McCauley et al., 1994). Thus, 360 leadership assessments can afford powerful “windows” into one’s current leadership capabilities and be used to supplement other critical leadership development activities (Day et al., 2014).

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## Getting More Out of One’s Multisource Leadership Assessment

Despite their utility, the value of 360 assessments for leaders can sometimes be difficult to realize (Day, 2000; Day et al., 2014; Fleenor et al., 2020). For instance, leaders are often presented with an array of values and scores (i.e., each competency that is assessed X all of the sources who were contacted). The sheer volume of information can make it difficult for leaders to understand, prioritize, and apply insights that are available in their 360 assessment.

With so much information, leaders may struggle to make sense of their assessment results (Fleenor et al., 2020). Leaders may find it hard to determine which competency they should focus on, which sources are the most important, or how should they reconcile areas of disagreement among their rates. Thus, making sense of one’s 360 assessment is a critical, at times challenging, and often overlooked first step for leaders when seeking to maximize the value of these assessments.

## The Johari Window: A Framework to Facilitate Sensemaking

Sensemaking, whether in relation to a leader’s 360 assessment or more broadly, represent a process by which one engages in deeper processing of information (DeRue et al., 2012; Hammond et al., 2017; Weick, 1993). This process is thought to begin by “bracketing” or setting information apart. For a 360 assessment, a leader needs to be able to isolate or determine what information is more or less important. Once information is “bracketed,” the leader can engage in deeper interpretation. That is, once a leader has isolated key findings, then they can pose powerful questions (e.g., “How do these results mirror other feedback I’ve heard?”). These questions would ideally facilitate a new way of enacting one’s leadership. That is, leaders could “try on” new approaches while engaging with different stakeholders (e.g., their employees, peers, superiors, board members).

Because “bracketing” or “setting apart” information is a vital first step in sensemaking, there is value in considering how a leader might get off on the right track. One way for a leader to help “set apart” information, and begin making sense of their 360 assessment, is to use a framework or model that facilitates the classification of the immense amount of data afforded in their assessments. Such a framework can help the leader quickly ascertain what the data is telling them. For multisource ratings, a longstanding and popular framework is the Johari Window (Luft & Ingham, 1955). The framework (see Figure 1) makes several simplifying assumptions that are meant to help classify and categorize all the information afforded in a leader’s 360 assessment.

### THE JOHARI WINDOW: A FRAMEWORK FOR INTERPRETING 360 ASSESSMENTS

	Unknown to Others	Known to Others
Known to Self	Self	Consensus
Unknown to Self	Unknown	Shared Blind Spots Unique Blind Spots

FIGURE 1

More specifically, based on the Johari Window, information in a 360 assessment can be classified by answering two questions: (1) Is the information known to the self (i.e., the leader)? and (2) Is the information known to others (i.e., the raters)?

These two questions, then, yield four “panes” within the window (i.e., a 2x2 table). Each pane within the table represents different ways in which a leader’s competencies are understood and viewed (Loignon et al., in press; Luft & Ingham, 1955; Vergauwe et al., 2022). Information that is known to both the leader and others represents “consensus.” Such information, since it is shared, is thought to be more easily understood and acted upon by a leader and others (Fleenor et al., 2010; Gooty & Yammarino, 2016; Lee & Carpenter, 2018). There is also information that is known only by the leader and unknown by others (i.e., labeled “self”). This unique information held by the leader may represent aspects of their skills or personality that they have yet to share or display to others, but is salient enough that they can recognize it personally (McAbee & Connelly, 2016). The Johari Window also includes a pane that represents blind-spots, or information that is unknown to the leader, but known by others. Such blind-spots may reflect areas for improvement that the leader has yet to realize or hidden potential that only others can see (Fleenor et al., 2010). Importantly, blind-spots may be shared (i.e., multiple sources know something that the leader does not) or unique (i.e., a specific source, like board members, have a particular distinct view from the leader and other sources) (Loignon et al., in press). Lastly, the Johari Window presumes that some information is also simply “unknown” to both the leader and others. Such information is largely irrelevant for that particular 360 assessment but may emerge in latter assessments due to subsequent interactions between the leader and their raters.

## Prevailing Questions with the Johari Window

The Johari Window holds promise as a conceptual framework. It takes a vast amount of information and affords four “panes” through which the leader can view themselves. Unfortunately, this framework has never been empirically tested. Thus, there are several important questions that persist when deciding whether this framework would be helpful for a leader’s development. These include:

- *Is the Johari Window, although intuitively appealing, consistent with what 360 assessments are, in fact, telling a leader?*  
The Johari Window may not represent leader’s 360 assessment data and, therefore, despite its potential to simplify these data it, instead, would lead them astray.
- *If it is consistent, does the structure of the Johari window “fit” the empirical data?* Put differently, could the Johari window be made simpler (i.e., collapsing windowpanes) or should it be expanded to better reflect the data (i.e., adding windowpanes). Ultimately, if a framework is to be useful in guiding one’s sensemaking, it should strike an optimal balance between complexity and parsimony.

- *Lastly, do any the windowpanes matter?*  
Ultimately, leaders want to enhance their effectiveness. That is, leaders often seek out development to improve their knowledge, skills, and abilities and such improvement is why leaders ask their raters to complete a 360 assessment in the first place (Day & Dragoni, 2015). Therefore, it’s important to consider whether the information contained in the various windowpanes relates to indicators of a leader’s effectiveness. Put simply, does a leader’s self-awareness really matter (Loignon et al., in press)? The Johari window presumes that shared information, blind-spots, and a leader’s unique perspective should matter, but we are unaware of any direct, empirical tests of these questions.

By answering these questions, we can determine the appropriateness of the Johari window as a sensemaking framework for 360 assessments, identify key relationships between these assessments and leader effectiveness, and provide specific guidance to help leaders maximize the value of their development.



# What We Did

To examine these questions, we built upon recent developments in multisource assessments of leadership (Vergauwe et al., 2022). This work developed structural equation models that translate the underlying assumptions made by the Johari Window into algebraic formulae that can then be used to determine whether the framework “fits” the data that is gathered with 360 assessments. Such an analysis is necessary to determine whether the Johari window is a useful framework for interpreting 360 assessments and sensemaking.

Vergauwe et al.’s (2022) findings offered initial support for the framework in that the Johari Window, when tested empirically using structural equation modeling, did correspond with the 360-assessment data in their sample. Drawing upon their research, we sought to replicate and extended their analyses (Loignon et al., in press). Specifically, we tested very similar models in a distinct setting using CCL’s Benchmarks for Executives data provided by senior executives attending CCL’s Leadership at the Peak™. This program enhances senior leaders’ understanding of their leadership skills, provides recommendations for increasing their influence with key stakeholders (e.g., boards, shareholders), and recommends ways to improve their well-being.

Our sample consisted of 491 executives. The participating leaders represent a diverse group, hailing from over 30 different industries, leading small firms with less than 100 employees to large firms with more than 10,000 employees, and originating from more than 32 different countries. For those interested, more details about the sample and methodology can be found in our manuscript (Loignon et al., in press).

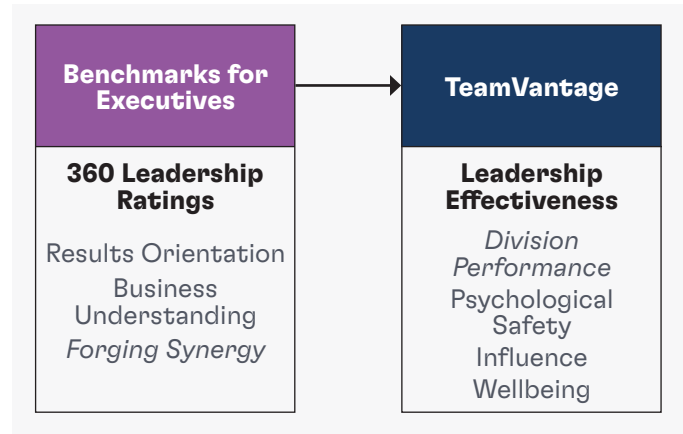
The context for our research (Johns, 2024) is important because executives are responsible for strategic decisions that have organization-wide effects (Carpenter et al., 2004; Hambrick, 2007), often report to distinct and powerful stakeholders (i.e., board members) (Mizruchi, 1996), and are confronted by challenges that are unique to their level in the organization (Balakrishnan et al., 2020).

We also extended earlier research by incorporating several measures of effectiveness. Importantly, we

were able to leverage multiple measures captured using CCL’s TeamVantage™ assessment. For this assessment, senior leaders attending the program are asked to identify a team that they lead and invite their team members evaluate their experience in the group. From this assessment, then, leader effectiveness was operationalized based on the level of performance in their division (as reported by their team members) (Hackman, 1987), and the level of influence a leader is granted within their team (Badura et al., 2022; DeRue & Ashford, 2010). This is important because we could assess, empirically, whether the different “panes” of the Johari window afford unique information when predicting a leader’s effectiveness. Again, more details regarding these assessments are included in the full manuscript (Loignon et al., in press).

Figure 2 visually summarizes our design, where multisource ratings of leadership (i.e., 360 assessments) were operationalized using a leader’s Benchmarks for Executives™ results. These scores were then used to predict several measures captured on their TeamVantage™ assessment. Importantly, and as we describe below, before testing these predictive relationships, we considered whether the Johari Window, versus several alternatives, was an appropriate way of operationalizing a leader’s 360 assessment ratings.

## THE CURRENT STUDY DESIGN



**FIGURE 2**

Note. Findings pertaining to the italicized competency (*Forging Synergy*) and measure of leader effectiveness (*division performance*) are presented here. Complete results for other competencies and measures of effectiveness are available in the original manuscript (Loignon et al., in press).





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## What We Found

Our work yields three valuable and inter-related findings for leadership development practitioners.

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### Window The Best-Fitting Framework?

First, we compared the Johari window to several, alternative models.<sup>1</sup> These tests allow us to determine whether there is a simpler version of the framework that would still accurately represent a leader's 360 ratings. If the Johari window (in its complete form or streamlined) departs from the leaders' data, then this would create inconsistencies and inaccuracies that would undermine the utility of this model.

To visually depict the alternative models that we test, we present modified versions of the original Johari Window (i.e., presented earlier Figure 1). If these alternative models fit better than the Johari Window, it suggests there may be more appropriate ways of

conceptualizing a leader's 360 assessments. First, in Figure 3A, we present one alternative of the Johari Window where we focus solely on what is known to the self and others. In this model, the only relevant information afforded by 360 assessments would be what is shared among the leader and the other raters. This perspective, then, would emphasize consensus (i.e., the upper right-hand pane) and omit data pertaining to the other panes.<sup>2</sup> Importantly, this model would be far more parsimonious. That is, in their report, a leader would get a single, overall rating for each competency representing the information that is shared among raters.

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<sup>1</sup> For the sake of parsimony, we focus on two alternative models here. The other models we tested also failed to fit better than the empirical model that corresponds Johari Window. Complete findings are reported in the full manuscript (see Table 1; Loinon et al., in press).

<sup>2</sup> This model would consistent with a higher-order factor model (Credé & Harms, 2015).

**ALTERNATIVE VERSION JOHARI WINDOW THAT EMPHASIZES CONSENSUS**

	Unknown to Others	Known to Others
Known to Self		<b>Consensus</b> Direct Reports Peers Board Members Self
Unknown to Self		

**FIGURE 3A**

A second alternative would be to keep each source distinct and not consider, at least explicitly, what is known or unknown among them (Figure 3B). In this model, we would simplify the Johari Window by collapsing across all four panes and only consider multiple rating sources (e.g., direct reports, peers, board members, self).<sup>3</sup> This perspective, again, is simpler than the Johari Window. It would remove four distinct window panes and leave the leader with a single pane. The pane itself would have different, yet related, features reflecting the various sources. More concretely, in their feedback report, a leader would simply get four values: one for each source. There would be no exhibition or description pertaining to what is shared or known among these sources and what is unique to each source.

**ALTERNATIVE VERSION JOHARI WINDOW THAT EMPHASIZES SOURCES**

	Unknown to Others	Known to Others
Known to Self	Direct Reports Peers Board Members Self	
Unknown to Self		

**FIGURE 3B**

Our analyses suggest that, when compared to these alternatives, the Johari Window fit our data much better. This means that, it would be unadvisable to (1) exclude entire “panes” of the window or (2) collapse across panes. Although these models would be much more parsimonious, using them would limit the fidelity of the framework to the actual data provided by 360 assessments. This lack of fidelity could create inconsistencies between how leaders interpret their data and what it, in fact, suggests. It might also lead one to omit important information that could be useful for a leader’s development.

	Unknown to Others	Known to Others
Known to Self	Direct Reports Peers Board Members Self	
Unknown to Self		

<sup>3</sup> This model is often referred to as a correlated-factors model (Vergauwe et al., 2022)

## Where Do Key Insights Come From the Johari Window?

Next, because we found support for the Johari Window, we further applied the model to the executives' 360 data to better understand multisource ratings of leadership. The data suggest that each of the three possible windowpanes contributes substantial amounts of information when distinguishing among leaders based on their 360 ratings (see Figure 4).<sup>4</sup>

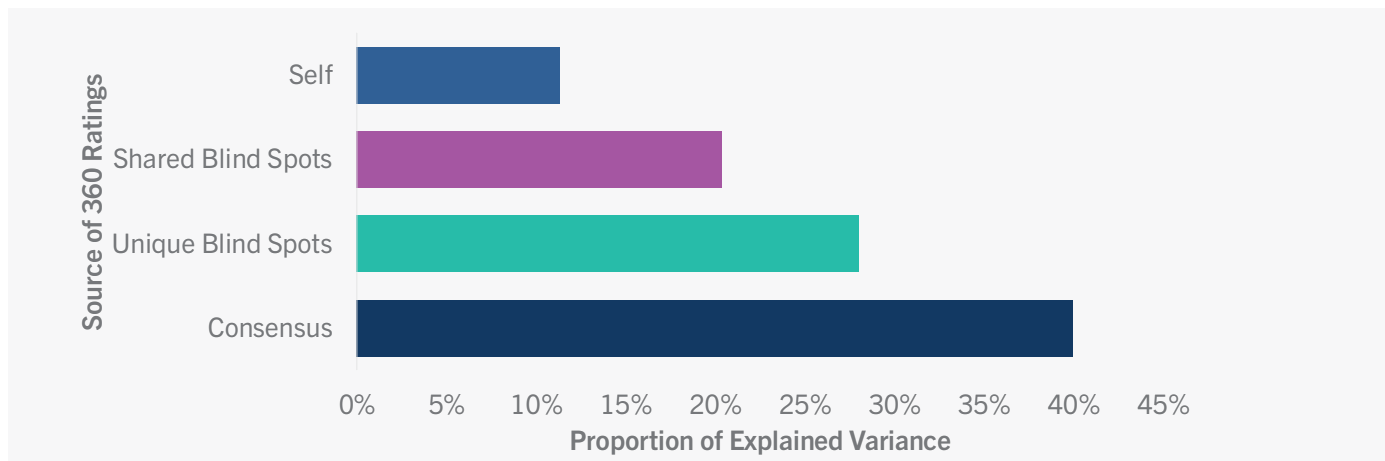
Looking at these findings in more detail, we see that the self contributes the least amount of information. This means that what leaders say about themselves does differ, but these differences are smaller in magnitude compared to other "panes." This might suggest, then, that the ability of leaders to distinguish amongst themselves, based on their self-observations alone, is limited compared to what other raters could tell them.

We also see that blind-spots account for a sizeable portion of information (Figure 4). Thus, what is unknown to the leaders and known to others helps differentiate

leaders based on their 360 assessments. Interestingly, we also see that shared blind-spots yield slightly less information than the unique blind-spots. This suggests that, although it is not uncommon for multiple sources to agree about qualities of the leaders they do not know themselves, each type of rater in the 360 assessment helps differentiate leaders. For example, board members will provide unique information that helps differentiate leaders compared to what direct reports or peers observe.

Finally, we see that what a leader and their raters agree upon (i.e., consensus) provides the highest amount of information and is critical for distinguishing leaders in our sample. That is, a leader and their raters can, and often do, agree on their strengths and weakness. Such consensus, in and of itself, is often a powerful predictor of important leadership outcomes (Fleenor et al., 2010; Gooty & Yammarino, 2016; Sin et al., 2009).

### LEVERAGING THE JOHARI WINDOW TO ENHANCE THE VALUE OF 360 ASSESSMENTS



**FIGURE 4**

Note. Proportion of explained variance reflects the degree to which distinct sources contribute to differences in 360 ratings. These values were estimated based on the relative magnitude of the factor loadings from the model, or the extent to which the items represent their intended competency. These scores are based on the empirical model that corresponds to the Johari window (Reise, 2012).

<sup>4</sup>Our reference to three panes, rather than four, reflects the fact that what is unknown to both the leader and their raters cannot be empirically realized in our models

## Can the Johari Window Help Predict Leader Effectiveness?

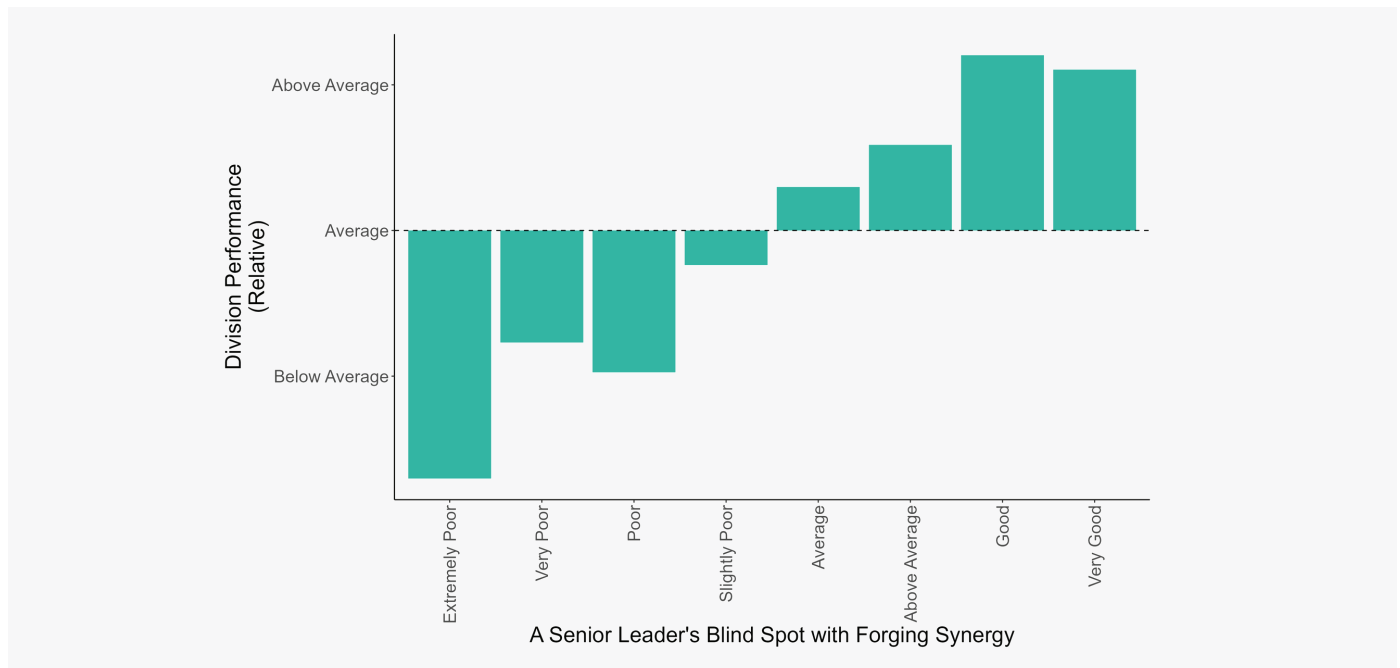
Along with providing information about the leader's standing on various competencies, 360 assessments become particularly powerful when they're used to forecast and predict outcomes that leaders care about (Fleenor et al., 2010, 2020). Arguably, a particular fascinating component of the Johari Window is what is known to others but unknown to the leader. That is, blind-spots are often interesting because they unearth what leaders had not known about themselves previously (Day et al., 2014).

Our analyses allowed us to test whether this kind of information had any relationship with key measures of leader effectiveness. Figure 5 depicts the association between a leader's shared blind spot and forging synergy. On the left-hand side of this figure, we see that leaders whose blind-spots are exceptionally poor (i.e., far below the typical participant in our sample) are also the leaders who lead divisions that receive the lowest performance evaluations (i.e., not meeting their objectives). The right-hand side of Figure 5 depicts

leaders who are seen by others as relatively higher on forging synergy. These leaders are most likely to head up divisions whose performance is higher than others in the sample.

Importantly, these scores correspond to a *shared* reputation that is entirely unknown to the leader but consistently observed by all their raters. So, the leaders on the left-hand side of Figure 5 have a relative deficit in forging synergy that they are largely unaware of. The leaders on the right-hand side of this figure, on the other hand, have a hidden "reservoir" of capabilities that they too do not know about. Although the latter scenario is preferable (i.e., reservoirs are better than deficits), neither scenario is likely to be ideal (Fleenor et al., 2010; Sin et al., 2009). For leaders with negative blind-spots, they have an immediate area for improvement that may be going unaddressed. For leaders with positive blinds-spots, they have an untapped resource that could be unrealized.

### A LEADER'S SHARED BLIND SPOT PREDICTS THEIR DIVISION'S PERFORMANCE



**FIGURE 5**

Note. X-axis refers to shared blind spot in this figure. Text-based labels along the x-axis are provided to summarize what is, in fact, an integer measure. Because these data are cross-sectional and we cannot rule out alternative explanations, the relationship between the shared blind spot for forging synergy and division performance should be considered predictive rather than causal (Antonakis et al., 2010). That is, we cannot say, for example, that being perceived as stronger on forging synergy causes increases in division performance.

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# Discussion

Multisource leadership assessments are regularly incorporated into leadership development and have the potential to afford powerful insights. Nevertheless, the value of these assessments may go unrealized if the leader cannot make sense of their data. Fortunately, our study yields three inter-related findings offering support for the Johari window as an organizing framework when interpreting 360 leadership assessments.

- Specifically, we found that Johari Window, as originally conceptualized, corresponds to empirical, multisource leadership ratings and thus has a strong fidelity to actual data.
- We also found clear and consistent trends in that each “pane” within the Johari Window affords valuable information and helps differentiate leaders in our sample.
- Finally, information that is uniquely specified by the Johari Window (i.e., shared blind-spots) can help predict a leader’s effectiveness.

When taken as a whole, these data point towards the value of using the Johari Window when debriefing 360 assessments and its potential to facilitate stronger sensemaking. In the next section, we provide three recommendations for how our findings may further support a leader’s use of their 360 assessments.

## Practical Implications

First, and foremost, our findings provide evidence supporting the use of the Johari Window as a tool for introducing 360 assessments. Such introductions can help leaders quickly see what is captured within their 360s and begin to leverage their data. Ideally, this would happen before they even begin to review their results as the framework could help them understand what they’re about to see. Importantly, our results, and those of others, suggest the framework is consistent with empirical data (Loignon et al., in press; Vergauwe et al., 2022). Thus, leadership development professionals can have confidence that the Johari window, while pithy, does not (1) omit key aspects of the data or (2) diverge from how these data typically manifest.

Second, and relatedly, the Johari window could also be a framework for guiding leaders through the sensemaking process with their 360s. Leaders could first be asked to “notice” and “set apart” each of the three panes of the Johari window as a means of “bracketing” the information during their initial sensemaking. Then, leaders could be encouraged to “move” across the panes of the Johari Window to help them identify important themes and ask powerful questions. For example, this step could focus on tensions across the panes (e.g., “Where are there competencies with consensus versus those with blind-spots?”). Alternatively, while moving across the Johari Window, leaders could look for connections (e.g., “Which competencies both have “unique” vs. “shared” blind spots?”).





might reflect things that a leader could try to enact more consistently to capitalize on or begin to modify to mitigate. If one were to ignore this “pane” of the Johari Window, then they might miss out on the power of jump-starting their development from a “shared reality” with their raters (Loignon et al., 2019). Blind-spots may also afford a more nuanced understanding of how to improve one’s approach to leadership. For example, as noted previously, blind-spots can reflect unknown or hidden strengths. That is, leaders may not see themselves as being as effective on a given dimension of leadership to the degree that others do. These kinds of

blind-spots are problematic, in their own right, because they represent untapped potential (Lee & Carpenter, 2018). So, even within a single “pane” of the Johari Window there may be interesting nuances.

Third, we present evidence that 360 assessments, especially when viewed through the lens of the Johari Window, can help predict outcomes that leader’s care about. Thus, the data captured in one’s 360 is not divorced from objectives that leaders and their teams are pursuing. Practically, then, leaders can presume that making improvements in the different panes of the Johari Window would foretell similar improvements in key indicators of leader effectiveness (e.g., division performance, influence). Thus, the panes of the Johari window can not only help guide a leader’s development but may also tell us about how well a leader is doing.

Next, the Johari Window may help leaders decide how they should prioritize their development efforts. Most notably, our data suggest that leaders risk limiting the value of their 360s if they choose to focus on a single pane. A leader, for example, may solely focus on blind-spots. In fact, we might expect this given people’s tendency to emphasize negative information (Kahneman, 2011). However, consider that self-ratings themselves can be quite powerful. Because sensemaking is, often, an automatic and passive process (Ashford & DeRue, 2012), encouraging leaders to simply stop and reflect how they personally see themselves, in a structured fashion across multiple dimensions of leadership, can be powerful and raise important questions (e.g., “Why did I rate myself higher on one competency versus another?”). Alternatively, consensus highlights areas of agreed upon strengths and weaknesses. This consensus

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## Conclusion

Windows, whether in our apartments, homes, or offices, afford a unique perspective to the outside world. In much the same way, the Johari window can provide valuable perspectives for leaders hoping to make sense of their 360 assessments. In fact, a multitude of insights can emerge as a leader considers, moves across, and then dwells upon, the specific panes of the Johari window.

Such an organizing framework, especially given its empirical support in this study, is likely to help leaders engage in the type of deliberate, systematic reflection process that, ultimately, contributes to improved self-awareness and leadership development (Day et al., 2014).

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## About the Authors



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As a Senior Research Scientist at CCL, Andy Loignon currently works on projects related to collective leadership, work teams, and socioeconomic status in the workplace. He is currently studying topics like collective leadership, network models of boundary spanning, and how influence is shared and negotiated in groups. You can find some of his other research by visiting his [Google Scholar](#) page.



### John Fleenor, PhD

John has been involved in CCL research for over three decades. Currently, he is the Senior Researcher, Portfolio and was named a CCL Senior Fellow in 2020. His primary contributions have been in assessment research, with a focus on self-other rating agreement in 360-degree feedback. Recently, he has become involved in research on new models of 360 ratings. His previous research is available on his [Google Scholar](#) page.

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