

## Behavioral assessment of persuasion: argumentative and rhetorical skills

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### ABSTRACT

The ability to persuade others is important for anyone in any position. This research is organized into two studies. Study 1 reviews relevant literature and specifies persuasion as argumentation and rhetoric. It then investigated the relationships among five components of these two skills assessed with a behavioral observation method to ascertain the convergent and discriminant validity of the measure. Responses of 214 men and women in a large steel company in Iran who were being screened into positions in expert non-managerial roles were analyzed. Results showed evidence that argumentation and rhetoric are distinguishable skills with no male/female differences and evidence of reliability and construct validity. Study 2 found that rhetoric, but not argumentation, was related to ratings of the current job performance of 54 male managers being considered for promotion. Implications of the results for the theory of persuasion, organizational practices, and future research are discussed.

### KEYWORDS

Argument; Leadership;  
Persuasion; Rhetoric

### ARTICLE HISTORY

Received 19 May 2023;  
Revised 26 September  
2023; Accepted 3 October  
2023

### Introduction

According to the Future of Jobs Report, cross-functional cognitive and interpersonal capabilities are more important than capabilities to manipulate machines, and they are in increasing demand [1]. At the top of this list are critical thinking, persuasion, social influence, and negotiation. These have remained important with year-on-year consistency, and employers see them rising in prominence in the lead-up to 2025. Persuasion, in particular, is a widely recognized important competency. In addition, the ability to persuade others is an important aspect of various forms of leadership. To effect change, leaders must persuade staff of a sense of urgency, the need for a coalition, and a common vision and strategy [2]. Leaders are agents of influence, especially to align boards, investors, and external partners with the organization's strategy [3]. They strive to make strategic thinking everyone's everyday job [4-6]. Persuasion involves developing networks of committed people by keeping people involved with enthusiasm, resulting in sound investment in change initiatives [7]. In managing social media, it is important to attract users and persuade them to become readers, contributors, collaborators, and leaders [8].

Persuasion at work has become an increasingly important managerial skill in today's demanding and competitive work environments [9,10]. Persuasion, not coercion, is the more appropriate way to get others to do what managers want them to do positively and genuinely [10,11]. Managers spend about 80% of their time communicating with others, trying to convince others to do certain tasks and accomplish specific goals [12]. Leaders who can successfully persuade others of their goals and visions get others to follow. The power to persuade others is one of the central core competencies for leaders; if employees are convinced that there is a promising path to achieve a certain

goal, leaders have endowed goals with meaning [13]. Effective persuaders can build successful teams and lead change [14]. Outside of organizations, persuasive public speakers make a difference in society, gain benefits, and earn the respect of their communities [15]. Influence Behavior has been studied with several research methods, including coding of qualitative descriptions of influence behavior (e.g., from critical incidents or diaries), manipulation of influence behavior in field experiments (e.g., with feedback and training), and manipulation of influence tactics in laboratory experiments (e.g., with actors, role-play exercises, or scenarios) [16].

In order to select an appropriate method to assess argumentative skills, we considered alternative methods. Critical thinking tests such as the Watson-Glaser Critical Thinking Appraisal, Ennis-Weir Critical Thinking Essay Test, California Critical Thinking Skills Test, Halpern Assessment, and Cornell Critical Thinking Test are written tests that offer no opportunities to give or get feedback [17-21]. We did not find methods to assess the behaviors comprising rhetorical skills. The method used most often to study proactive influence tactics is a behavior description questionnaire [22]. Again, it does not assess overt Behaviors.

For these studies, we wanted a technique to study overt behaviors comprising argumentative and rhetorical skills. We used Analytical Writing and Discussion (AWD) to measure behaviors leading to persuasion [23,24]. AWD consists of two sets of overt Behavioral competencies: the skills to engage in logical argument and clear rhetorical communication. Using AWD provides a systematic procedure to conduct a standardized dialogue about reasoning tasks between an assessor and each candidate, something that needs to be

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provided by standardized interviews and certainly not by tests and questionnaires. By contrast, using samples of behavior in writing and oral discussion together is useful because the candidates have enough time to think in the writing sections. Then, they have time to discuss with an assessor in the oral section. The method allows candidates to show abilities in both writing (one-way) and oral arguments (dialogue). In a dialogue situation, the candidates are given feedback and may learn the challenges made by the assessor to correct their arguments in real-time. In the first part of this article, we study the determinants of persuasion and their relationships. In the second part of this article, we study the relationship of components of persuasion, argumentative, and rhetorical skills concerning managerial performance.

### Determinants of persuasion

Aristotle's analysis provides a historical framework for understanding persuasion [25]. He suggested three modes of persuasion furnished by the spoken word [26]:

1. A speaker may persuade others using arguments and information, including an appeal to logic, reason, and facts, which Aristotle called *logos*.
2. A speaker can persuade by connecting with us through the skillful use of classical rhetoric, including arousing and appealing to emotions, called *pathos*.
3. The listener may be persuaded by a speaker's attributes, including background, reputation, accomplishments, and expertise.

Aristotle referred to this mode of persuasion as *ethos*. These sets of personal information were not available in this study.

We investigated the role of the first two avenues of persuasion, namely, argumentation and rhetoric. Both argumentation and rhetoric are used here in the classical neutral sense of effective dialogues with others, not the contemporary, often negative sense of inflammatory and political speech.

A long-standing analysis of persuasion that has received renewed recent attention is Berrien's Persuasion Tools Model, developed by Kenneth Berrien in the 1940s [27]. This model is based on the degree to which a person uses intuition and influence. In this model, four approaches to negotiations are:

1. emotion (high-influencing and high-intuition approach),
  2. logic (high-influencing and low-intuition approach),
  3. bargaining (low-influencing and high-intuition approach), and
  4. compromise (low influencing and low intuition approach).
- So, either or both emotion and logic are appropriate approaches to persuasion based on the situation.

### Argumentation

The complex competency to engage in effective argumentation is a set of critical thinking behaviors. Critical thinking analyzes information and reasoning to construct sound and insightful new knowledge, understandings, hypotheses, and beliefs [28]. Critical thinking involves analyzing arguments, claims, or evidence [19,29]; making inferences using reasoning [19,29-32]; and judging or evaluating [33]. The contents of many critical thinking books explain the processes of argument [34,35].

Critical thinking skills are used every day as a necessary process for full intellectual and personal development [36], effective functioning in critical societies [37], and important aspects of effective job performance [38]. In a Harvard Business

Review article, "Hiring for Smarts," Menkes introduces critical thinking as the foundation of executive intelligence [39]. Critical thinking differentiates good leaders from great leaders [40].

A sound argument is based on critical thinking. An argument consists of two parts. One part gives a reason for accepting the other [26]. Reasoning occurs whenever the mind draws conclusions based on reasons. We reason when we argue [41]. The goal of an argument is to convince or persuade someone of the truth of the argument's conclusion [42,43].

### Rhetorical communication

Rhetoric is not primarily concerned with the goal but with how the speaker conveys this goal to ensure a high probability that the listener will share the position [13]. An effective aspect of leadership rhetoric must be expressed within its context [44]; then, it can have real effects on work arrangements such as how employees are managed [45], how organizations respond to stakeholder concerns [46], or how organizations can emphasize different aspects of their identity to help accomplish their strategic objectives and achieve competitive advantage [47]. Powerful rhetoric is closely related to charismatic leadership [48-54].

In summary, argumentation and rhetoric comprise the broad competency of persuasion. Study 1 investigates relationships among components of persuasion, and then Study 2 investigates the relationship between persuasion and managerial performance.

### Study 1. Relationships among Components of Persuasion

The ability to persuade others is a complex construct, including two components, each of which is complex. Part 1 of study 1 involved a qualitative analysis of components of both argumentation and rhetorical communication. The goal of the part was to identify several inclusive components but a relatively small number amenable to empirical research. Part 2 of study 1 involved quantitatively analyzing the relationships among argumentation and rhetorical communication components. This part aimed to understand how the components were statistically related in an organizational setting.

### Components of argumentation

We used several sources to identify components of argumentation. We referred to critical thinking tests as one source to infer components of the argumentative skill. In these tests, different cognitive dimensions are measured. For example, Watson and Glaser measured induction, deduction, assumption identification, and argument evaluation [17]. Ennis-Weir et al. measured characteristics such as seeing reasons and assumptions, getting the point, seeing other possibilities, and offering good reasons [18]. The California Critical Thinking Skills Test tests deduction, induction, analysis, inference, and evaluation [19]; the Halpern Assessment tests verbal reasoning, argument analysis, thinking as hypothesis testing, likelihood and uncertainty, and decision-making and problem-solving [20]; the Cornell Critical Thinking Test and sections on induction, credibility, prediction, experimental planning, fallacies (especially equivocation), deduction, definition, and assumption

identification. They need to have an opportunity to observe dialogue and interaction with an assessor [21].

Our analysis led to the definition of argumentation as interpretation, analysis, evaluation, inference, and self-regulation. It matches the list of critical thinking skills delineated by the APA Delphi Study [55]. We chose this list because a diverse group of experts developed it; it includes competencies mentioned frequently in the literature; the components are specified with behaviors; and the number of components, namely 5, is large enough to be inclusive but not so many as to be onerous in a measurement method.

- **Interpretation:** Comprehend and express the meaning or significance of various experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria.
- **Analysis:** Identify factual and inferential relationships among questions, concepts, statements, descriptions, or other forms of representation to express beliefs, experiences, information, reasons, judgments, or opinions.
- **Evaluation:** Assessing the validity of claims or other representations that describe a person's experience, situation, judgment, perception, opinion, or belief.
- **Inference:** Making guesses and hypotheses means considering the relevant information and the consequences of statements, data, evidence, principles, judgments, opinions, beliefs, concepts, descriptions, questions, or other forms. Identifying the elements needed to make a reasonable conclusion is also important.
- **Self-regulation:** It is a type of self-consciously cognitive activity, especially using skills in evaluation and analysis for inferential judgments to confirm, question, or correct conclusions and arguments.

**Components of rhetorical skills**

Scores of scholarly, academic, and popular books are available on rhetoric. The early rhetoricians found that their art incorporated skills in five different but related areas called canons. The term "canon" is taken from a Greek word called the kanon, a "straight rod" that masons and carpenters use as a rule or ruler. These skills are essential to delivering a persuasive speech in a court or political assembly. However, they must also speak or write effectively in other areas of life. The canon of rhetorical skills consisted of five skills necessary to deliver a persuasive speech: invention or discovery, finding what you need to say (Greek: heuresis, from which we get "heuristic"; Latin inventio); disposition or arrangement, organizing the discourse appropriately (Greek: taxis, from which we get "taxonomy," the classification of living things into genera and species, and "taxidermist," who arranges the skin of the animal to look real; Latin: dispositio); style, that is, using the best

vocabulary and syntax for the audience (Greek: lexis, from the word for speaking; Latin: elocutio); memorization, remembering what you want to say (Greek: mneme; Latin: memoria); and delivery, learning the voice modulation, clarity, and emphasis that distinguish the good speaker, as well as all the body language that is involved (Greek: hypokrisis; Latin: pronuntiatio).

The ancient rhetoricians distinguished these five skills because they believed that proficiency in one did not ensure proficiency in the other. However, proficiency in all five is required to be a great speaker [56]. Aristotle, for instance, defined rhetoric as the "ability to explore all available tools for persuasion" [25].

Although today the term "rhetoric" is often used in conjunction with words such as "empty" or "meaningless," the connotations surrounding the term were not always so negative [57]: they emphasize repetition as one of the main rhetorical techniques. Researchers define rhetoric as a skill. Rhetorical competence is interpreted as a meaningful unity of knowledge, abilities, and skills that helps to establish effective communication in interpersonal and professional fields [58].

Rhetorical devices have been reported in various studies. The devices described by Heritage and Greatbatch and Atkinson are contrast, list (especially three-part lists), and puzzle-solution/headline-punchline [59,60]. Position taking, pursuit, repetition, and alliteration [51]. Whittle et al. explain discourse devices, including frame transformation, position taking, script formulations, bracketing, reassuring, stake inoculation, hedging, disclaimer, justification, excusing, empathy, corroboration, and stake confession [61]. Gardner discusses effective presence and body language as rhetorical skills [62]. In his view, a key to a successful interaction in many other situations is full awareness of yourself and your body. Micro-expressions may be so small and quick that they are picked up subconsciously and not actively, like a grimace or a wide grin [62]. Cialdini discusses rhetoric more from the perspective of the text, and her emphasis is on mystery [63]. Nicotra introduces three categories: textual rhetoric, visual rhetoric, and multimodal rhetoric [64]. Moore and Parker divide rhetorical devices into four main categories: The first category includes good euphemisms and dysphemisms, weasellers, and downplayers. The second category consists of stereotypes, innuendos, and loaded questions. The third category includes ridicule, sarcasm, and hyperbole. The fourth category consists of rhetorical definitions, explanations, analogies, misleading comparisons, proof surrogates, and repetition [26].

Finally, we categorized all the above devices into 5 behavioral constructs, as shown in Table 1:

**Table 1.** Rhetorical devices.

Device	Rhetorical construct					Source*
	Directing	Escape route	Emotive Change	Analogy	Presence	
Frame transformation	*					[61]
List	*					[51]
Pursuit, repetition, alliteration	*					[51]
Repetition	*					[26]
Stereotypes	*					[26]

Innuendo	*	[26]
Loaded questions	*	[26]
Rhetorical definitions and rhetorical explanations	*	[26]
The Extreme rhetoric of demagoguery	*	[26]
Stake inoculation	*	[61]
Hedging	*	[61]
Disclaimer	*	[61]
Justification	*	[61]
Excusing	*	[61]
Proof surrogates	*	[26]
Position taking	*	[61]
Script formulations	*	[61]
Bracketing	*	[61]
Reassuring	*	[61]
Euphemisms and dysphemisms	*	[26]
Downplayers	*	[26]
Ridicule/Sarcasm	*	[26]
Hyperbole	*	[26]
Puzzle-solution	*	[51]
Contrast	*	[51]
Rhetorical analogies and misleading comparisons	*	[26]
Persuasion through visual imagery	*	[26]
Empathy	*	[61]
Corroboration	*	[61]
Stake confession	*	[61]

\* Source: [61]- Whittle et al.; [51]-Den Hartog and Verburg; [26]- Moore and Parker

These devices are mentioned in several sources, have similar features, can be defined with behavioral examples, and five is a manageable number of our research methods.

- **Rhetorical Directing:** Shifting attention cleverly using rhetorical devices such as stereotypes, innuendo, loaded questions, repetition, rhetorical definitions, rhetorical explanations, and irrelevant conclusions on purpose (purposeful), frame transformation, pursuit, repetition, and alliteration.
- **Escape route (Ambiguous expression):** The art of using insufficient evidence to support the claims and to keep the flexibility to change positions by using rhetorical devices such as weaseler, proof surrogates, stake inoculation, hedging, disclaimer, justification, excusing.
- **Emotive Change:** Evoking by changing the emotional load of words using rhetorical devices such as euphemisms and

dysphemisms, downplayers, hyperbole, position taking, script formulations, bracketing, and reassuring.

- **Rhetorical Analogy:** Comparing two things to influence attitudes by invoking images with emotional associations such as misleading comparisons, persuasion through visual imagery puzzle-solution, and contrast.
- **Impressive Presence:** Arousing emotions by showing attractive gestures, voice, eye contact, empathy, corroboration, and stake confession.

The result of the qualitative phase of the study 1 was a model of persuasion shown in Figure 1. Study 1 then investigated the related relationships among these components. Study 2 investigated the relationship between argumentation and rhetoric in managerial job performance.



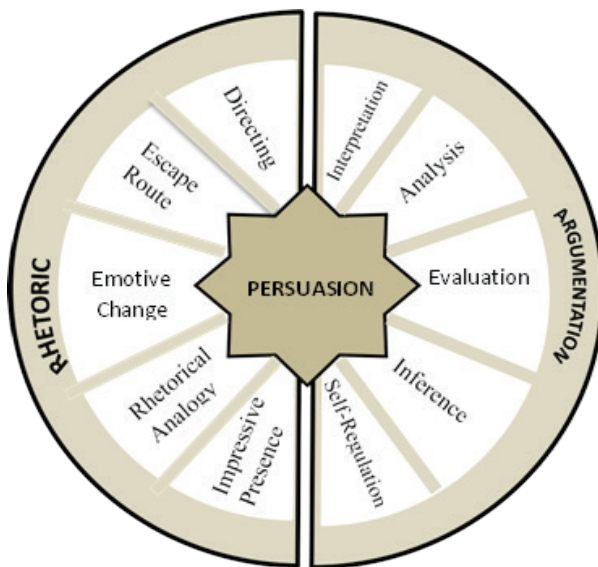


Figure 1. Competency-based persuasion model.

## Study 2. Relationships of Argumentation and Rhetoric

In this research phase, we sought to understand the statistical relationship between various components of argumentation and rhetoric. We specified both constructs more precisely and then gathered empirical data to examine the relationships.

### Hypotheses

H1: There are no gender differences in components of argumentation and rhetoric.

H2A: The components of argumentation are correlated and, when combined, yield a reliable measure of argumentation.

H2B: The components of rhetoric are correlated and, when combined, yield a reliable measure of rhetoric.

H3: The components of argumentation and rhetoric show convergent and discriminant validity.

### Methods

Study 2 involved two phases: qualitative and quantitative.

Table 2. Descriptive statistics.

	Frequency	Percentage (%)
Gender		
Male	167	78
Female	47	22
Age		
20-25	34	15.9
26-30	112	52.3
31-35	53	24.8
36 and above	15	7

### Measures

We used Analytical Writing and Discussion (AWD) to measure argumentative and rhetorical skills. It has two parts. Participants completed an analytical writing exercise in 30 minutes in the first part. It measured all argumentation skills. In the second part, the assessors asked questions and made

### Qualitative phase

In the qualitative phase, experts from different disciplines, assessors in human resource management, and behavioral scientists with master's or Ph.D. degrees in psychology or management were selected by purposeful sampling to conduct content analysis. In round 1, the experts examined many theoretical and research concepts from various sources about the broad construct of persuasion. Two dimensions were chosen: argumentation and rhetoric. Components of the argument were extracted from Cialdini, Facione, Gass and Seiter, Gardner, Moore and Parker, and Nicotra. In round 2, the experts were given the rhetorical skills to be placed in specific categories [26,55,57,62-64]. Then, they were asked to indicate how much they agreed with each component of argumentation and rhetoric.

### Quantitative phase

In the quantitative phase of Study 2, data were gathered from a sample of workers being screened for promotion. To describe the demographic characteristics of the participants, factor analysis and convergent and divergent validity were conducted. The sample consisted of 487 Mobarakeh Steel Company staff members in Isfahan, Iran. They were selected for staff positions in finance, human resources, sales and marketing, production, laboratories, etc. The main common requirement for these positions was a set of expert talent dimensions, including characteristics and abilities, analytical skills, and social and persuasive skills needed to advise managers.

They conducted a written test for each candidate. For example, mechanical engineers took a four-choice test, including operations research, inventory control, statistics, and planning. This yielded 214 people (167 men, 47 women; mean age of total=29.12, men=29.67, women=27.14) who completed an assessment process that included a quantitative test, an interview, and behavioral exercises (Table 2). The percentage of the sample who are women is relatively small but representative of this organization's applicant pool and workforce. Eighty-four candidates were selected to continue the final recruitment process. The final choice (yes or no) could have been used as a proxy measure but was not sufficiently independent of other data for the unique criterion.

challenges about the written responses. Both rhetorical and argumentation skills were assessed.

Appendices A and B include an example of the writing exercise and follow-up questions. The assessors observed the participants' behaviors relevant to argument and rhetorical

skills to persuade the assessors in this dialogue. Finally, the assessors rated the participant's behaviors on the ten components shown in Figure 1.

**Result**

The basic results are shown in Table 3. Seventy- eight percent of

the respondents were male, and 52% were in the age group 26-30. Subjects showed a wide age range and no significant difference between men and women in any component of argumentation and rhetoric (p>0.05). The means are in the mid-range on the 10-point scale, and the standard deviations are sizable (Std>1.0).

**Table 3.** Means, standard deviations, and gender comparisons in components of argumentation and rhetoric.

Items	Men, n=167		Women, n=47		t	p
	Mean	Std	Mean	Std		
Interpretation	46.88	13.66	44.68	12.13	1	0.31
Analysis	45.08	12.74	45.53	13.32	0.2	0.83
Evaluation	47.9	15.24	46.8	14.61	0.43	0.66
Inference	48.08	12.6	47.44	13.26	0.3	0.76
Self- regulation	46.28	11.64	49.14	13.8	1.42	0.15
Rhetorical directing	41.25	16.9	39.14	16.78	0.75	0.4
Escape route	40.65	16.32	37.87	15.87	1.04	0.3
Emotive change	33.59	14.89	35.74	15.84	0.86	0.38
Rhetorical analogy	36.88	17.93	39.78	17.38	0.98	0.32
Impressive presence	40.77	16.16	43.82	16.75	1.13	0.25

Evidence of convergent and discriminant validity is often provided by examination of the relative size of correlations among multiple methods measuring multiple variables. In this study, the methods are argumentation and rhetoric. The variables are the five components of argumentation and the five components of rhetoric. Discriminant validity is studied by examining correlations between two sets of measures of the same and different characteristics. In the current correlation matrix in Table 4, the average correlation among the argument components is 0.52, and the moderate correlation among the rhetoric components is 0.47, both larger than the correlations between other correlations of different measures of different components, 0.32.

Inspection of the correlations among the five components of argumentation shows relatively large relationships, suggesting that they are measuring much the same thing. The same pattern holds for rhetoric. The total scores' reliability (coefficient alpha) is 0.85 and 0.82.

A more precise statistical indication of discriminant validity is the ratio of heterotrait-monotrait correlations (HTMT) criterion proposed by Henseler et al. [65]. In the current sample, the correlations of different variables measured by various methods are relatively small (average=0.32). This criterion is met and supports discriminant validity.

**Table 4.** Means and standard deviations and correlations among components of argumentation and rhetoric.

	Mean	Std	Variable											
			1	2	3	4	5	6	7	8	9	10		
Interpretation	46.4	13.3	1											
Analysis	45.2	12.8	0.553**	1										
Inference	47.9	12.7	0.647**	0.660**	1									
Evaluation	47.7	15.1	0.537**	0.567**	0.582**	1								
Self- regulation	46.9	12.2	0.362**	0.409**	0.507**	0.480**	1							
Rhetorical directing	40.8	16.9	0.249**	0.341**	0.259**	0.148*	0.234**	1						
Emotive change	40.1	16.2	0.345**	0.370**	0.398**	0.332**	0.386**	0.581**	1					
Escape route	34.1	15.1	0.360**	0.317**	0.229**	0.287**	0.222**	0.393**	0.392**	1				
Rhetorical analogy	37.5	17.8	0.284**	0.321**	0.301**	0.347**	0.279**	0.397**	0.441**	0.397**	1			
Impressive presence	41.5	16.3	0.386**	0.439**	0.417**	0.394**	0.427**	0.528**	0.692**	0.374**	0.505**	1		

n =214 \*\* p< 0.01; p<0.05

To further study the structure of these variables, factor analysis of the correlations among the ten variables was conducted using the principal component extraction method [66]. Two main factors were extracted, accounting for 62% of the variance, exceeding the critical amount of 50% suggested by

Stevens, and demonstrating convergent validity at the factor level [66]. As shown in Table 5, all factor loadings are more than 0.6, exceeding the value of 0.45, and cross-loading items are less than 0.4, as Hatcher, and Tabachnick and Fidell recommended [67,68].

**Table 5.** Factor analysis.

	Factor loadings	
	1	2
Factor 1. Argumentation (5 items)		
Interpretation	0.761	0.398
Analysis	0.758	0.473
Inference	0.849	0.331
Evaluation	0.8	0.302
Self-Regulation	0.618	0.317
Factor 2. Rhetoric (5 items)		
Rhetorical Directing	0.312	0.809
Escape Route	0.358	0.79
Emotive Change	0.362	0.606
Rhetorical Analogy	0.387	0.661
Impressive Presence	0.32	0.754
extracted variance	62.764	58.019

This study introduced a competence-based persuasion model comprised of two constructs, argumentation, and rhetoric, each consisting of five dimensions to measure each construct. As proposed in Hypothesis 1, the results showed no significant difference between men and women in the dimensions of argumentation and rhetoric. Hypotheses 2 and 3 were supported with evidence from the construct validity analyses and the factor analysis, which showed two main factors. The total argumentation and rhetoric scores showed alpha coefficients of 0.85 and 0.82. In combination, the results support the construct validity of the competence-based persuasion model. They show that persuasion has two dimensions: argumentation and rhetoric. This point has yet to be studied in previous research studies, emphasizing only one of these dimensions. Study 1 supports the independence of these two dimensions of persuasion.

Study 1 contributes unique information to past studies. It uses a behavioral measure of persuasion (AWD) for the first time to measure components of argumentation and rhetoric more fully and separately. The respondents were working managers in a large organization motivated to perform well in an important screening process, unlike other studies of students in academic settings. Additional information is needed to examine its relevance to performance in organizations.

### Study 3: Relationship of Persuasion and Managerial Performance Ratings

Persuasion plays a crucial role in all organizational positions. It is believed to become “the new language of business leadership” [9]. Real and constructive persuasion is used by everyone at all levels of the workplace, but especially by executives, to motivate change and passion, not manipulation or deceit. Persuasion is also a business tactic reserved for salesmen and deal-clinching situations. Iliescu et al. examined the validity of a psychological test for measuring emotional intelligence [69]. One group of participants were salespeople rated by the direct supervisor

regarding persuasion ability as a subjective performance indicator. Results showed that the test has criterion validity for salespeople when work performance is the target criterion and when focusing on subjective evaluations of persuasion.

The purpose of Study 2 was to evaluate the relationship between managers’ argumentation and rhetoric skills and performance on the job. The measures of persuasion were obtained through the administration of an AWD exercise in an assessment center used to promote managers of the organization. The relationship between employees’ AWD scores and current performance on the job was examined to understand whether AWD might be a valid predictor of future performance.

### Hypotheses

Hypothesis 1: Rhetorical skills are related to managers’ effective job performance.

Hypothesis 2: Argumentation skills are related to a manager’s effective job performance.

### Sample

The sample included 54 participants who were candidates for promotion to senior management. They had previous work experience in this organization. They were required to complete the assessment center exercises described in Study 1 as part of the promotion process.

### Measures

The five components of both argumentation and rhetoric were the measures of persuasion. In addition, the average score of interpretation, analysis, evaluation, inference, explanation, and self-regulation components in AWD was named AWD-argumentation. The average scores of rhetorical directing, escape route, emotive change, rhetorical analogy, and impressive presence components in AWD were called AWD-rhetoric.

As criteria for the validation of persuasion, we used extant ratings of sample performance. These ratings are judgments of performance to convince colleagues to get things done. We chose these criteria because job performance is the most frequently cited outcome of persuasion. Thus, the ability to persuade is considered the dependent variable. Archival data were used because they had already been collected. The performance variables were rated on a 10-point scale of performance on the job by the participants' managers for the following:

- Effective relationships: building effective relationships with colleagues, customers, and suppliers

- Advising: giving colleagues effective advice about challenges or solving problems
- Convincing: convincing someone to do something or to resolve conflict.

**Result**

Table 6 shows correlations between the components of argumentation and rhetoric measured in AWD and the job performance indicators. There were no statistically significant correlations between the argumentation components and performance indicators. By contrast, among the elements of rhetoric, emotional change and impressive presence correlated with the three managerial performance indicators.

**Table 6.** Correlations of argumentation and rhetoric with job performance.

		Managerial Performance Indicators		
		Effective relationships	Advising	Convincing
Argumentation	Interpretation	0.07	0.1	0.18
	Analysis	0.11	0.19	0.13
	Inference	0.16	0.13	0.12
	Evaluation	0.18	0.23	0.17
	Self-Regulation	0.03	0.15	0.1
Rhetoric	Rhetorical Directing	0.06	0.27	0.22
	Emotive Change	0.37*	0.44*	0.44*
	Escape Route	0.31	0.31	0.29
	Rhetorical Analogy	0.16	0.25	0.31
	Impressive Presence	0.36*	0.34	0.38*

\*P < 0.01

Next, we performed linear regressions with three performance indicator scores (considered the dependent variables) regressed on the total AWD rhetoric and AWD argumentation scores (considered the predictors). Table 7 summarizes the regression models. The Rhetoric total, but not the Argumentation total, predicted managerial performance

measured in the three job performance measures: Convince (r=0.41), Effective Relationships (0.31), and Advising (0.40). Thus, as shown by R2, 9 to 16 percent of the variance in job performance scores' is explained by a linear combination of argumentation and rhetoric measured through the AWD exercise. Nevertheless, only the rhetoric predictor is statistically significant (p < 0.05).

**Table 7.** Regression of three performance ratings on argumentation and rhetoric.

		Dependent variables		
		Convince	Effective relationship	Advising
Regression model	R	0.41	0.31	0.4
	R square	0.16	0.09	0.16
	Adjusted R square	0.13	0.06	0.13
	Std error of estimate	1.16	1.41	1.4
	Constant	t=4.19 Sig=0.00	t=3.68 Sig=0.00	t=3.23 Sig=0.00
Standardized coefficients	Argumentation total	t=0.22 sig=0.82	t=0.21 sig=.83	t=0.49 sig=0.62
	Rhetoric total	Beta Std coeff t=2.90* Sig=0.005	Beta Std coeff t=2.11* Sig=0.03	Beta Std coeff t=2.73* Sig=0.00
		Beta Std coeff	0.39	0.3



### Study 3: Conclusions

The results show that the two components of persuasion, argumentation, and rhetoric, are assessed with sound reliability using the AWD Behavioral observation method. In addition, measures of rhetoric, but not argumentation, correlated with managerial performance evaluated by supervisory appraisal ratings at work. This suggests that the supervisors give more favorable ratings to managers under them who show greater skills in communication but not necessarily stronger logic. Moore and Parker point out that, whereas we use logic to demonstrate or support a claim, we use rhetoric to win someone to our point of view [26]. These are separate enterprises. Moore and Parker claim, "You can use logic to persuade people, but all too often they are persuaded by poor logic and unmoved by good logic (p. 133)" [26].

These findings are among the few studies that evaluate both the abilities of persuasion and managerial performance on the job. This is why education increasingly emphasizes critical thinking to help people improve their logic and to help them distinguish between proof and persuasion. So, the assessment of argumentation is a specialized matter. In this study, argument performance evaluated by the superior will be assessed differently from what the trained assessors of the assessment center have measured.

### Discussion

This research program contributes to understanding the complex competency of persuading others. It consolidated diverse persuasion perspectives into two core skills: argumentation and rhetoric. Both were defined clearly to include five components specified with overt behavioral examples. That level of detail enabled a reliable measure of argumentation and rhetoric using the behavior assessment method in two field studies. The criterion validity study showed that rhetorical skills, but not argumentation skills, were related to performance ratings.

In measuring persuasion, some researchers, such as Jena and Pradhan, focus on the agreement (getting to yes), needing more convincing [70]. Any deal fails to ensure the other's reasons convince the two sides. No agreement assures persuasion and no persuasion guarantees agreement. There are four states:

- Getting to yes but not being convinced
- Getting to yes while you are convinced
- Not getting to yes while you are convinced
- Not getting to yes and not being convinced

For example, suppose that two opponents agree on constructing a school building to provide free education for children from the poorest of low-income families with no access to safe, high-quality early childhood education. One thinks this investment suits his renown, and the other agrees to benevolent work. In this agreement, they both accept the claim that "this is the best investment for them," but their reasons differ. They collaborate and reach a consensus, but they don't accept each other's reasons. So, there is no persuasion based on argument or rhetoric. However, they have reached an agreement (getting to yes) based on their reason, which is different. Another example is an employee agreeing to run a program with his boss. At the same time, he needs to be more convinced by their reasons.

It may be surprising that argumentation skills are unrelated to managerial performance ratings. This does not mean logical reasoning is not essential in management; the reason for the lack of correlation may be only a statistical artifact. That is, there may not be a correlation because all the managers in the study were relatively strong in logic. Maybe they are all using the formal authority of their position to get things done. Rhetorical Behaviors on the job may vary, leading to a higher correlation with the assessed level of rhetoric.

Like any field study, these have limitations. The central limit is the lack of prior tools to measure argumentation and rhetoric. Most of the tools to measure argumentative skills have used questionnaires and have measured reasoning with multiple-choice responses. And there are also a few tools to measure the behaviors comprising rhetorical skills. More importantly, there has yet to be a single tool to measure argumentation and rhetoric. Thus, it has not been possible to compare the relative strength of these two complex competencies directly.

A limitation of Study 2 is the need for more objective measures of argumentation and rhetoric in on-the-job performance. Thus, Study 2 was an initial attempt to find evidence to support the importance of persuasion skills in managers.

Restrictions due to the coronaviruses prevented testing larger samples. A limitation of the AWD as an assessment tool has been the need for the participant and assessor to meet in person to administer the written and interview portions. During this study's pandemic of 2020 and 2021, a face-to-face assessment was complicated.

### Contributions

Despite these limitations, the research made several contributions. The articulation of two abilities brings together widely diverse points of view about the meaning of persuasion. Argumentation was determined to subsume five elements, including frequently mentioned aspects of sound reasoning. Rhetoric was decided to subsume five elements of frequently mentioned aspects of interpersonal communication. The ten skills were defined clearly and illustrated by overt behavior. This process, in turn, enabled the development of a reliable behavioral assessment method to assess both constructs. The method provides a practical human resource management tool for assessment and development.

Using the words argumentation and rhetoric to label these behavioral skills seek to restore the historical neutrality, and even positive connotation for processes that have recently been demonized in civil discourse. Argumentation means sound logic; rhetoric means clear interpersonal communication.

The method of behavioral assessment, AWD, involves written analysis and oral discussion about complex topics. Then, using standardized scoring guidelines, assessors can precisely assess the components of persuasion with reliability and validity. Whereas reasoning tests and personality questionnaires may provide easy ways to measure specific aspects of persuasion in one-way communication, they need insight into the rich Behavioral processes of logical discussion and dialogue.

## Future Research

The results and limitations of this study point the way toward further research in this area. First, there is a need for replication in more extensive and other samples in diverse organizations in other countries. The lack of predictability of the argumentation skill using AWD in the relatively small sample in Study 2 may be due to statistical errors in both the assessment tool and the method of measuring argumentation in job performance. It would be necessary to replicate these results using a larger, more diverse sample.

Second, the relations between persuasion and managerial effectiveness may depend on the industry being studied, cultural differences in leadership style from highly authoritarian to highly participative, management, and leadership level of the participants. The methods in these studies provide models for further research.

Better and more inclusive measures of on-the-job persuasive behavior is needed. In addition to ratings of subjects who are managers being studied by their supervisors, ratings by their subordinates and peers could be obtained. This is a common practice using multi-source feedback systems, often called 360-degree ratings. Furthermore, other subjects could include employees in staff positions who may need formal jobs in the hierarchy. Employees in such expert roles must use other means of persuasion instead of the formal authority accorded to managers.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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