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ABSTRACT

A study tested the prediction that men's and women's relative responses to the Argumentativeness Scale will change if the items are worded consistently so as to make more or less salient the content and process dimensions of arguing. Respondents, 564 students enrolled in basic public speaking courses at Ball State University, were each provided with a demographic survey, the verbal aggressiveness scale, one of five differently worded versions of the Argumentativeness Scale, and four three-item semantic differential items. Results indicated that rewording the items produced significantly different scores. Results regarding sex differences were also consistent with the recurring problem of different definitions of "argument" and with the predictions of the study. Findings confirmed the prediction that debaters' and nondebaters' scores would not be significantly different on forms that mention issues but that they would differ on forms that did not mention issues. Findings suggest that the Argumentativeness Scale may need to be modified in order to make it a valid operationalization of the argumentativeness construct conceived by Dominic Infante and Andrew Rancer. Evidence was provided that Form Four may measure trait argumentativeness much better than the current scale. Future research will attempt to confirm this tentative conclusion. (Five tables of data are included and 21 references are attached.) (MG)

The Relational and Content Dimensions of Argumentativeness: An Analysis of Some Persistent Questions

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The Relational and Content Dimensions of Argumentativeness:

An Analysis of Some Persistent Questions

Few concepts and measures have received as much attention in speech journals in recent years as Infante and Rancer's argumentativeness and its measure, the Argumentativeness Scale. The argumentativeness concept seems popular because it has been found to correlate with a number of other variables and because it is said to predict at least one very important set of behaviors. These behaviors are communication behaviors and are purported to be modifiable by training in communication skills.

THE ARGUMENTATIVENESS CONCEPT

Infante and Rancer first described the argumentativeness concept in 1982. Argumentativeness is said to be a "generally stable trait which predisposes the individual in communication situations to advocate positions on controversial issues and to attack verbally the positions which other people take on these issues" (Infante and Rancer 72). Argumentativeness, then, is an identifiable personality trait which should be high in individuals who argue frequently, and low in persons who argue infrequently.

In defining the concept of argumentativeness, Infante, Rancer, and their colleagues have taken pains to distinguish argumentativeness from the related but theoretically independent concept of "verbal aggressiveness" (Infante and Rancer; Infante and Wigley). As Infante and Rancer put it:

> Argumentativeness should be distinguished from verbal aggressiveness. Argumentativeness involves the tendency to advocate and refute positions on

> controversial issues. However, verbal aggressiveness may be viewed as the tendency to attack verbally people who are disdained, to provoke another to defend himself or herself, to humiliate the other, to damage the other's self-image. The person high in verbal aggressiveness is motivated to demonstrate personal superiority forcefully, to establish dominance in interpersonal relationships, to release aggressive tensions. We assume argumentativeness and verbal aggressiveness are independent. (74)

Thus, argumentative and aggressive communication behaviors may appear very similar to the casual observer. However, the intent/motivation as well as the function of the communicator's behaviors will determine whether the behavior is aggressive or argumentative. Infante and Rancer wrote:

> In examining argumentative behavior a meaningful distinction can be made which is based on the ad hominum fallacy, i.e., argument which attacks a person instead of an issue. The issue versus person as the object of argument suggests not only two different types of argument, but also two different motivations of communicators, a primary desire to discuss a controversial issue or a primary desire to derrogate [sic] another person. (72)

Individuals' argumentativeness is measured by the Argumentativeness Scale (Infante and Rancer). Persons high in argumentativeness perceive arguing "as an exciting intellectual challenge, a competitive situation which entails defending a position and 'winning points.'" As a result, for this individual, "feelings of excitement and anticipation precede an argument. Following an argument the individual feels invigorated, satisified, and experiences a sense of accomplishment" (Infante and Rancer 72).

The low argumentative "tries to keep arguments from happening, [and] feels relieved when arguments are avoided. When induced to argue, the low argumentative has unpleasant feelings before, during, and after the argument." And, "while the highly argumentative individual has a good deal of confidence in his or her ability to argue, the low argumentative has very little such confidence" (Infante and Rancer 72).

The general trait to be argumentative, ARG_{gt}, "is seen as an interaction of the tendency to approach arguments, ARG_{ap}, and the tendency to avoid arguments, ARG_{av}. The tendency to avoid arguments is seen as a debilitating factor, weakening the tendency to approach arguments by the anxiety associated with arguing" (Infante and Rancer 73). Hence, $ARG_{gt} = ARG_{ap} - ARG_{av}$. Ten of the twenty items on the Argumentativeness Scale measure ARG_{ap} and ten measure ARG_{av}. The overall score on the scale is, as the equation indicates, the difference between the former and the latter. The argumentativeness concept, then, is consistent with an approach-avoidance model of motivation.

RESEARCH ON ARGUMENTATIVENESS

RELIABILITY AND VALIDITY

A great deal of research has been done utilizing the concept and measure of argumentativeness, and only selected portions of it will be reviewed here. Initially, Infante and Rancer introduced the Argumentativeness Scale with extensive studies of its reliability and validity. Test-retest reliability was tested and produced correlations of .87 for ARG_{ap}, .86 for ARG_{av}, and .91 for ARG_{gt} (Infante and Rancer 76).

Infante and Rancer also reported evidence of construct, concurrent, and convergent/discriminant validity. As evidence of construct validity, *S*'s friends were asked

to respond to reworded versions of the scale items as reports of *S*'s actual communication behavior. The *r*'s between the friends' perceptions and *S*'s ARG_{ap} and ARG_{av} scores were .54 ($p<.001$) and .42 ($p<.02$) respectively (77).

Concurrent validity was measured by correlating scores on the Argumentativeness Scale with scores on the McCroskey (1970) Personal Report of Communication Apprehension (PRCA); the Mortensen, Arnston, and Lusting (1977) Predisposition Toward Verbal Behavior Scale (PVB); and the Burgoon (1976) Unwillingness to Communicate, Approach-Avoidance (UN, A-V), Unwillingness to Communicate, Reward (UN, REW). "With the exception of the correlations with UN, REW, all correlations were significant, in the slight to moderate range, and in the direction predicted" (Infante and Rancer 77).

Evidence of convergent/discriminant validity was presented as Infante and Rancer requested *S*'s to rate their willingness to participate in communication studies, one of which involved argument. ARG_{ap} and ARG_{av} scores correlated significantly with desire to approach and to avoid the argumentative situation, but did not correlate significantly with the desire to approach or avoid any of the other three studies described (77-78).

Relationships to Other Variables

Argumentativeness has been shown to correlate with a number of other variables. Infante found that high argumentatives reported higher grade point averages, preferred smaller classes, chose professions requiring more communication, had more high school training in argumentation, and were earlier in birth order that low argumentatives. Infante also found that more males than females were high argumentatives. Based on a median split, 58% of males and 41% of females were high argumentatives.

Rancer, Baukus and Infante tested beliefs about argument and found that high argumentatives have prevalently positive beliefs about arguing, while low argumentatives have prevalently negative beliefs about arguing. This, too, is conceptually consistent with the argumentativeness construct. Further, Rancer, Baukus and Infante contend, this finding suggests the importance of argumentativeness to the speech communication discipline. If instructors can change students' beliefs about arguing, they can change their predispositions toward arguing, hence strengthening and encouraging argumentativeness in students, thereby enhancing students' argumentative and rhetorical skills.

From the perspective of speech communication pedagogy, the argumentativeness construct offers a real opportunity for changing the behavior of students. This, along with the finding of Infante, Trebing, Shepherd and Seeds that high argumentatives are less verbally aggressive than low argumentatives, suggests speech pedagogy offers a real opportunity to reduce destructive conflict in interpersonal relations.

Argumentativeness, then, has been shown to correlate with a number of important variables. Many of these variables suggest that improving argumentativeness is a worthy goal of speech communication teachers (higher GPA, lower verbal aggressiveness), while others suggest that such improvements are possible (more high school training in argumentation, more positive beliefs about argument). Hence, we should not be surprised that the construct and measure appear frequently in our journals and at our conventions.

QUESTIONS ABOUT ARGUMENTATIVENESS

As Jones has noted, although argumentativeness research "is an exemplar of systematic empirical research which has important normative and pedagogical implications for several areas of theory construction," important questions remain

unanswered. First, there is "an underlying flaw in the theoretical basis for drawing the distinction between argumentativeness and verbal aggression as Infante and Rancer do" (Jones 3). According to Jones, "the dichotomous categorization that they offer is based on a very traditional and questionable view of argumentation as essentially logical, excluding relational/emotional considerations" (3). Jones has elaborated on this concern:

> Infante and Rancer note that the subjective understanding and assessment of success in an argument may include not only the notion of winning an argument, but it can also mean "persuading others, enhancing one's credibility, etc." The idea that the purpose of an argument can be to enhance one's credibility is very true, but it also reveals difficulties in Infante and Rancer's clear distinction between the content oriented concept of argumentativeness and the relationally oriented concept of verbal aggressiveness. Clearly one can use arguments to show one's superiority to another, and whether they are intended as such they may have that effect. When the researchers assume that "argumentativeness is not more than slightly related to personality variables" such as dominance-submission, that seems like a dubious assumption. . . . The assumption that argumentativeness is independent of verbal aggressiveness and dominance-submission appears to be dubious--content and relational aspects of communication, in formal as well as informal argumentation situations, appear to be highly interrelated. (5)

We share Jones' concern that the concept of argumentativeness has been constructed with little concern for the apparently inextricable interrelationship between the relational and content dimensions of argument--and indeed of all communication. This concern is compounded by the Argumentativeness Scale, which appears to have its own

difficulties regarding the separability or inseparability of these two dimensions.

Scores on the Argumentativeness Scale theoretically identify overall willingness to argue. Ten items on the scale measure motivation to approach arguments and the other ten measure motivation to avoid arguments. The wording of these items, however, seems to bias such measurement in a peculiar way. As Jones has noted, "On almost all of the items that score for a tendency to approach argumentative situations the item involves the idea of having *an* argument that involves issues. For example, item #9 is 'I enjoy a good argument over a controversial issue'" (6). Thus, "the 'approach' items seem to test for willingness to engage in argument as a form of communication that involves conflict over issues" (Jones 6). None of the ten items purported to measure ARG_{av} mentions the word "issues." Nor do any of them use the product term "argument" (O'Keefe; Wenzel), instead all ten use the process oriented term "arguing." According to Jones, "this allows subjects to interpret many of the avoidance items as being about the process of arguing, which may be interpreted as being relational as well as content oriented" (6-7).

The difficulty is that the construct of argumentativeness does not suggest that motivation to approach argument is purely linked to the content dimensions, nor that motivation to avoid is linked purely to the relational dimensions. But, the wording of the items biases the responses in such a way that those who are highly motivated to argue because of the content aspects will score more highly than those equally highly motivated to argue because of the relational dominance it provides them (Brockriede; Dowling). This raises a question about the assumed independence of argumentativeness and aggressiveness. Further, those motivated to avoid arguments because of perceived inability to argue the issues well will score lower on avoidance than someone equally

motivated to avoid arguments because of the negative effects arguments are perceived as having on relationships.

The scale, then, is not consistent with a clear conceptualization of which factors motivate approach and avoidance--content, relational, or both. As constructed, primarily content-related motivations to approach and primarily relationally-oriented motivations to avoid are measured. The definition of the argumentativeness construct does not suggest that the approach and avoid motivations are linked separately to the content and relational dimensions, respectively, of argumentative communication. This is related to the theoretically questionable attempt to dichotomize the relational and content dimensions of argument. Jones expressed the quandary this way:

> By the way they construct their scale Infante and Rancer are thus confounding the ability/willingness to engage in the construction of issue-oriented arguments with the ability/willingness to have an argument of any kind. Although it is dubious whether there can be a clear distinction between content and relational aspects of argument along the lines Infante and Rancer attempt to theoretically make, any chance for such a distinction is subverted by the manner in which they have constructed the items on their scale. (7)

In a recent study, Nicotera also has questioned the effects of the wording of items on the Argumentativeness Scale. Her argument is based on the notion that responses to the scale items might be more a reflection of respondents' perceptions of the social desirability of the items than of their own behavior. That is, to the extent that respondents are sensitive to the social desirability of the items, they will be motivated to answer accordingly whether or not their own behavior is consistent with the responses.

Nicotera found that women and those late in birth order, who found the items on the Argumentativeness Scale to be less socially desirable than men and those early in birth order, also scored lower in argumentativeness. Women and late birth order respondents, then, can be expected to score lower on the Argumentativeness Scale than men and those early in birth order regardless of their actual behavior. Perhaps of greater significance is the finding of Feezel, Gorden and Infante that the term "argument" has more negative connotations than other communication terms such as "conversation." Nicotera and Smilowitz report several respondents' negative reactions to the term "argument." Social desirability effects suggest that respondents would underreport their argumentative behaviors, and that those more vulnerable to social desirability would do so more than those less vulnerable to the effect.

Nicotera cites Edwards as evidence that social desirability judgments by respondents may affect their endorsement of a trait in themselves on a personality scale. Furnham suggests that differential susceptibility of respondents to social desirability effects poses a real threat to the validity of an instrument. By Furnham's reasoning, a scale with high face validity such as the Argumentativeness Scale may be especially susceptible to the social desirability effect because respondents can easily determine what is being measured and thus can readily make social desirability judgments (Nicotera).

Nicotera's findings, then, are that sex and birth order vary with the social desirability of the items on the Argumentativeness Scale in the same way that sex and birth order vary with scores on the Argumentativeness Scale. This is strong evidence for her thesis that social desirability effects are confounding scores on the Argumentativeness Scale. Her prescription for improving the situation is this: "The first step in revising the

scale should be a replacement of the terms "argue" and "argument" in the scale items. These words should be replaced with more neutral terminology, with words that are not so different in the perceptions of males and females" (Nicotera 23).

Given the problems already identified by Jones, however, this solution seems a bit simplistic. That is, removing the term "argument" from the scale may not resolve the confusion over the relational and content dimensions of argumentative communication. The present study, then, is an attempt to clarify the issues raised by Jones and Nicotera and to find ways to improve the Argumentativeness Scale and concept.

UNANSWERED QUESTIONS

The foregoing analysis suggests that a number of questions remain to be answered concerning the validity of the argumentativeness construct and its operational measure. This section clarifies the research questions for this study and their origins.

First, as Nicotera has pointed out, lower argumentativeness scores for females (Infante) may result from sex differences in perceiving the social desirability of arguments and arguing. Gender differences in perception of arguments are mirrored in gender differences in behavior in argumentative communication. Hample and Dallinger, for example, have found that men and women use different criteria for rejecting potential arguments for use in persuading others. Females were less likely to reject arguments on the grounds of ineffectiveness and more likely to reject arguments as violating personal principles and for fear of the harm they would do to their relationships (134-36).

Together, these studies suggest that men and women behave differently in argumentative encounters and differ in their perceptions of the encounters--particularly of the relative importance of the content and relational dimensions of arguments. Since

men and women also respond differently when asked to rate the social desirability of the items on the Argumentativeness Scale, we have reason to suspect that a real need exists to make sure that men and women are thinking of approximately the same concrete referent when they complete the Argumentativeness Scale. This need is made more acute by the documented higher argumentativeness scores of males (Infante).

While social desirability effects may explain some of the sex differences in argumentativeness (Nicotera), we argue that the differences may be produced by the previously discussed sex differences in perceptions of and attitudes toward arguments and arguing. These differences are exacerbated by the ambiguous and inconsistent wording of the items on the Argumentativeness Scale. The scale items mix the use of the object and process forms of "argue," and "issues" or content are mentioned in only a third of the items--all approach items.

Our prediction, then, is that men's and women's relative responses to the Argumentativeness Scale will change if the items are worded consistently so as to make more or less salient the content and process dimensions of arguing. First, we predict that men's and women's scores will significantly differ if they are asked to respond regarding their feelings about "arguing" or "argument" or if they are asked to complete the existing Argumentativeness scale. Though not valid as a hypothesis, we believe that no such difference will exist between men's and women's scores when they are asked to respond with their attitudes toward "arguing over controversial issues" or "argument over controversial issues." Second, we would expect men's and women's score to show significant differences if the items on the scale are reworded to mention "arguing" or "argument," but to omit any reference to issues.

We also predict that subjects' responses to the Argumentativeness Scale will be changed by rewording the items consistently. Our third prediction, then, is that if all items on the scale mention only "arguing" or "argument," responses to the scale will significantly differ. We offer no directionality in this prediction. Our fourth prediction is that we will get significantly different ARG_{ap}, ARG_{av}, and ARG_{gt} scores on Argumentativeness Scales reworded to mention "controversial issues" throughout. We would expect such wordings to alter the salience of the content dimensions which figure heavily in ARG_{ap} scores, and the salience of the relational dimensions which figure heavily in ARG_{av} scores. Our fifth prediction is that if the scale items are reworded to omit all mention of issues, ARG_{ap} ARG_{av}, and ARG_{gt} scores will significantly change.

Since knowledge of and beliefs about argument have been shown to correlate with ARG_{gt}, educational experiences which teach students about argument's content dimension should be positively correlated with ARG_{gt} scores, but this difference should be mitigated by scale modifications that tend to equalize the knowledge difference. We would predict, then, that number of years of higher education should correlate positively with ARG_{ap}, ARG_{gt} and attitudes toward argument, and negatively with ARG_{av}. And, those with debate experience will score differently than their counterparts on versions of the scale which do not mention issues and on the original scale. Again, though not appropriate for a hypothesis, as a corollary we would anticipate that these differences would not be present on versions of the scale mentioning "issues."

METHOD

Procedure

Respondents were each provided with a demographic survey (sex, year in school, birth order, number of siblings, and debate experience), the verbal aggressiveness scale (Infante and Wigley), one of five differently worded versions of the Argumentativeness Scale, and four three-item semantic differential items ("arguing," "argument," "arguing over issues," and "argument over issues"; positive-negative, unattractive-attractive, acceptable-unacceptable). Respondents took 10-20 minutes to respond.

Subjects

Respondents were 564 students enrolled in basic public speaking courses at Ball State University, including 49% first-year students, 20% sophomores, 16% juniors, 13% seniors, and 2% other. Females were 56% of respondents. Participation was voluntary and anonymous, and a few students chose not to respond. Argumentativeness Scale Forms 1-5 were given randomly to 113, 113, 116, 113, and 112 subjects respectively.

Argumentativeness Scales

Form 1 of the Argumentativeness Scale was Infante and Rancer's original scale, with its mixed use of "argue/arguing" and "argument" and its occasional references to content/issues (always in approach items). Form 2 consistently used "arguing over controversial issues" in all items, Form 3 consistently used "argument" while omitting any reference to issues, Form 4 consistently used "argument over controversial issues," and Form 5 consistently used "arguing" and omitted any reference to issues. The introductory instructions to each form were similarly reworded.

RESULTS

As predicted, the differently worded forms of the scale produced different scores for ARG_{ap} ($F=2.7226$, $p=.0288$), ARG_{av}, ($F=12.7775$, $p<.001$), and ARG_{gt} ($F=8.3063$, $p<.001$). ARG_{ap} scores ranged from a low of 30.50 on Form 3 to a high of 33.39 on Form 4. ARG_{av} scores ranged from a high of 29.45 on Form 3 to a low of 24.18 on Form 4. Accordingly, Form 4 produced the highest ARG_{gt} score of 9.42, while Form 3 produced the lowest ARG_{gt} score of 1.05 (see table 1).

Forms 2 and 4, which mentioned "controversial issues" produced the two highest ARG_{ap} scores, the two lowest ARG_{av} scores, and the two highest ARG_{gt} scores. Form 5 produced the median score on all three measures. Form 3 produced the lowest ARG_{ap} and ARG_{gt} scores and the highest ARG_{av} score. Form 1 produced the second lowest

Approach, Avoid, and Trait Scores
and Analysis of Variance Results

APPROACH			AVOID			TRAIT		
Mean	SD	Form#	Mean	SD	Form#	Mean	SD	Form#
33.39	7.74	4	24.18	7.30	4	9.42	13.12	4
32.97	6.73	2	24.45	6.23	2	8.51	11.58	2
32.05	7.83	5	27.77	6.91	5	4.27	13.75	5
31.71	7.42	1	28.20	6.69	1	3.51	12.85	1
30.50	6.98	3	29.45	7.67	3	1.05	13.53	3
$F=2.7226$, $p=.0288$			$F=12.7775$, $p<.01$			$F=8.3063$, $p<.01$		

Table 1

ARG_{ap} and ARG_{gt} scores, and the second highest ARG_{av} scores. This is all consistent with the prediction that consistent mention of "issues" increases ARG_{ap} and ARG_{gt} while reducing ARG_{av}. Consistent omission of "issues" has no consistent effect on ARG_{ap}, ARG_{gt}, or ARG_{av}.

Reliability was quite high for approach and avoid items on all five versions of the Argumentativeness Scale. Cronbach alpha scores for the ARG_{ap} items on Forms 1-5 were .87, .86, .84, .88, and .87 respectively. For the ARG_{av} items on Forms 1-5 the alpha scores were .83, .79, .86, .87, and .80 respectively. Item 14 was found to reduce the reliability coefficient on all five versions of the Argumentativeness Scale. Significantly, item 14 also failed to load with any other scale items in a factor analysis. In fact, item 14 loaded by itself as a factor on four of the five forms. This suggests that item 14 does not contribute to the reliability of the Argumentativeness Scale in any of its forms.

Significant differences across the five forms were found for 15 of the 20 items on the Argumentativeness Scale, including 7 approach and 8 avoid items. Of the 7 approach items producing significant differences across forms, Forms 4 and 2 produced 11 of the 14 highest mean scores, while Forms 1 and 3 produced 9 of the 14 lowest mean scores. Similarly, on the 8 avoid items, Forms 1 and 3 accounted for 14 of the 16 highest mean scores while Forms 2 and 4 accounted for the 16 lowest mean scores. These results indicate the consistency of the differences produced by the wording changes.

Despite the theoretical assumption that verbal aggressiveness (AGG) and ARG_{gt} are independent, some evidence of a relationship was found here. On Form 1, the original scale, 9 of the 20 items were correlated with AGG. On Forms , 3, 4, and 5, AGG was correlated with 6, 7, 3, and 1 of the items, respectively. On none of the forms, however, did AGG correlate with ARG_{gt}. On Form 3 there was a positive correlation between AGG and ARG_{ap} ($r = .1596$, $p = .046$). Form 4 produced the lowest correlation between AGG and ARG_{gt} ($r = -.0100$, $p = .459$).

As a validity check, responses on the four semantic differential items were correlated with ARG_{ap}, ARG_{av}, ARG_{gt}, and AGG. Separate correlations were calculated for each form. Regardless of the argumentativeness form used, ARG_{ap}, ARG_{av}, and ARG_{gt} were significantly correlated in the predicted direction with all four semantic differential items ($.27 < r\text{'s} < .66$). AGG correlated in the predicted direction with at least 3 of the 4 semantic differential items regardless of the form completed, with one exception. For subjects completing Form 4, AGG was not correlated with any of the four semantic differential items. Hence, positive attitudes toward arguments and arguing appear to be correlated with verbal aggressiveness for subjects not completing Form 4.

SUMMARY OF SCORES, MALES/FEMALES

FORM 1	MALES	FEMALES	*t*	*p*
ARG_{ap}	34.2400	30.6613	3.40	.001*
ARG_{av}	25.6200	30.2742	-3.73	.000*
ARG_{gt}	8.6200	-.6129	4.03	.000*
FORM 2				
ARG_{ap}	33.7818	32.2069	3.40	.215
ARG_{av}	23.5185	25.3103	-1.53	.129
ARG_{gt}	10.2407	6.8966	1.54	.128
FORM 3				
ARG_{ap}	33.7045	28.5417	4.13	.000*
ARG_{av}	26.3182	31.3611	-3.61	.000*
ARG_{gt}	7.3864	-2.8194	4.22	.000*
FORM 4				
ARG_{ap}	34.0000	32.9697	0.69	.491
ARG_{av}	23.2826	24.8030	-1.08	.280
ARG_{gt}	11.2667	8.1667	1.22	.223
FORM 5				
ARG_{ap}	32.0000	32.0893	0.06	.952
ARG_{av}	26.8182	28.7143	-1.45	.149
ARG_{gt}	5.1818	3.3750	0.69	.491

Table 2

Some interesting results were found with regard to sex. Significant sex differences were found on the original scale, with men scoring significantly higher on ARG_{ap} and ARG_{gt}, and lower on ARG_{av}. The same results were found for Form 3, but no significant sex differences appeared on any of the other three versions of the scale (see Table 2). Males outscored females on ARG_{gt} by as much as 10.2 points (Form 3) and by as little as 1.8 points (Form 5). Forms 3 and 5 produced the two highest ARG_{av} scores and the two lowest ARG_{ap} and ARG_{gt} scores for men. Forms 1 and 3 served this same role for women. For women, Forms 4, 2, and 5 (in that order) produced the highest ARG_{ap} and ARG_{gt} scores and the lowest ARG_{av} scores. This indicates that the scores of men and women did converge when "issues" were mentioned and diverged when such mention was omitted. The results also show that both men and women's scores changed significantly when the items were reworded (see table 3).

There were few significant relationships between debate experience and the dependent measures. Debaters scored significantly higher on ARG_{ap} on Form 2. On Form

COMBINED RANK ORDERING BY FORMS

APPROACH		AVOID		TRAIT	
Men	Women	Men	Women	Men	Women
1	5	4	4	4	4
4	4	2	2	2	2
2	2	1	5	1	5
3	1	3	1	3	1
5	3	5	3	5	3
(High to Low)		(Low to High)		(High to Low)	

Table 3

3 they scored higher on ARG_{ap} and ARG_{gt}. The only other relationship approaching significance was that between debate experience and ARG_{ap} as measured on Form 5 ($t=1.96, p=.053$). Debaters and nondebaters seemed differentially affected by the different forms of the Argumentativeness Scale, as is apparent from an examination of the rank ordering of their mean responses to the forms (see table 4).

Respondents' year in school produced some interesting correlations. Year in school was correlated negatively with verbal aggressiveness ($r=-.1770, p<.001, n=548$). And, attitudes toward "argument" and "argument over controversial issues" as measured by the semantic differential items improved with increases in years of education ($r=.1376$, $p=.001, n=540$; $r=.0736, p=.043; n=542$). ARG_{av} as measured by Form 2 decreased as education increased ($r=-.1767, p=.031, n=113$). Years in school positively correlated with ARG_{ap} ($r=.1976, p=.019, n=110$) and ARG_{gt} ($r=.1994, p=.018, n=110$), and negatively correlated with ARG_{av} ($p=-.1724, p=.036, n=110$) as measured by Form 5.

DISCUSSION

The above findings suggest that the Argumentativeness Scale may need to be modified in order to make it a valid operationalization of the argumentativeness construct conceived by Infante and Rancer. Argumentativeness has been conceived as being the individual's motivation to engage in advocacy and refutation of *positions on controversial issues* and as being independent of verbal aggressiveness. Both of these attributes make the results of this study a threat to the validity of the Argumentativeness Scale.

Having conceptualized argumentativeness as motivation to engage in issue-oriented controversy, Infante and Rancer are required to use a scale that taps into respondents' feelings about such phenomena. However, the sporadic use of "issues" in

COMBINED RANK ORDERING BY FORMS

APPROACH		AVOID		TRAIT	
Debate	No Debate	Debate	No Debate	Debate	No Debate
2	4	2	4	2	4
5	2	4	2	3	2
3	5	3	5	4	5
1	1	5	1	5	1
4	3	1	3	1	3
(High to Low)		(Low to High)		(High to Low)	

Table 4

the Argumentativeness Scale makes it likely that those with relational orientations (females), those with less education, and those without debate training will respond to the current measure as if it were asking at least in part about hostile communication encounters characterized more by their negative relational dimensions than by their content. Such persons will respond with their attitudes and feelings toward a quarrel, fight, or bicker rather than the issue-based controversy Infante and Rancer's concept is based upon. We can leave aside for the moment Jones' doubts about the wisdom of separating the relational and content dimensions in favor of the more immediate question of whether the Argumentativeness Scale can measure the concept as defined.

First, the results of our study have shown that rewording the items on the Argumentativeness Scale produces significantly different scores. That is, consistent wording of the items to refer either to "arguing over controversial issues" or "argument over controversial issues" produces significantly different scores for ARG_{gt}, ARG_{ap}, and ARG_{av} than those obtained on the original scale. The analysis of variance (see table 1) indicates that differences were produced, but does not indicate which forms of the scale were responsible for the significant differences.

Post-hoc analyses using Tukey's *t* revealed the exact nature of the differences. For

ARG_{ap} scores, the only significant difference ($p<.05$) between forms was that Form 4 ("argument over controversial issues") produced significantly higher ARG_{ap} scores than Form 3 ("argument"). This was not predicted, but is not inconsistent with the theoretical notions that gave rise to our predictions.

The post-hoc analysis revealed six significant t's ($p<.05$) for ARG_{av} scores. Forms 2 and 4 (which both mention "issues") produced significantly lower ARG_{av} scores than the other three forms, with their omission or inconsistent mention of "issues." This, of course, is consistent with our suggestion that the omission of any mention of issues from the original scale invites respondents to respond to the avoid items as if they referred to quarrels or fights without a substantive topic. The two "issues" versions remedy this difficulty and invite respondents to think of the same kind of argument Infante and Rancer envisioned in their conceptualization.

For ARG_{gt} scores, Tukey's procedure revealed significantly higher ARG_{gt} scores ($p<.05$) for Forms 2 and 4 (the "issues" versions) than for Forms 1 and 3 (which did not mention issues). It also revealed a significant difference between Form 4 and Form 5 (which did not mention issues). The foregoing supports our prediction that rewording the items on the Argumentativeness Scale produces significantly different scores and that the use of "issues" will increase ARG_{ap} and ARG_{gt}, and decrease ARG_{av} The limited support for an increase in ARG_{ap} coming from the mention of issues is not distressing since the majority of the approach items on the original scale mentioned issues or content. Hence, the finding is not surprising.

Our belief is that the slightly (non-significantly) higher ARG_{ap}, significantly higher ARG_{gt}, and significantly lower ARG_{av} scores produced by the forms mentioning issues are

a truer measure of argumentativeness as conceived than the original scale is. The original scale invites respondents to think of the idiomatic use of "argument" as a quarrel or fight and thus greatly increases ARG_{av} and slightly (because many approach items mention issues) decreases ARG_{ap}. Rancer, Baukus and Infante found that low argumentatives, those high in avoidance, had negative beliefs about arguments which they categorized as Hostility, Control/Dominance, and Conflict/Dissonance (42). As described by Rancer, Baukus and Infante, these beliefs all relate much more to the relational than to the content dimensions of argument. Hence, scales which systematically reduce the salience of these perceptions/definitions of argument by mentioning issues/content should reduce avoidance, just as we found.

Our results regarding gender differences also are consistent with the recurring problem of different definitions of "argument" and with our predictions. Since women seem more inclined to define and think of arguments along a relational dimension, the ambiguous wording of the original scale invites them to score higher on ARG_{av} and lower on both ARG_{ap} and ARG_{gt}. Infante found this sex difference, and so did we in analyzing the scores from the original scale. The same significant sex difference found on Form 1 also appeared on Form 3 (which omitted issues), but there were no significant sex differences on any scores from Forms 2 and 4--which mention issues. Hence, our predictions about sex differences were confirmed.

We may conclude that there is some support for our notion that females score lower on ARG_{gt} and ARG_{ap} and higher on ARG_{av} on Forms 1 and 3 because the ambiguity of these forms increases the chance that those high in relational orientation (females) interpret the items to refer to a negative form of relational communication while those high

in content orientation (males) interpret the items as referring to issue-based controversies. Hence, male and female respondents are not reporting true differences in attitudes toward the same phenomenon, but attitudes toward different phenomena. The consistent mention of issues raises female ARG_{gt} and ARG_{ap} and lowers female ARG_{av} by changing the phenomenon they are reacting to in completing the scale. Simultaneously, male ARG_{ap} responses are virtually unchanged, ARG_{av} scores only slightly reduced, and ARG_{rjt} scores only minutely increased.

We must be cautious in drawing these conclusions, however. For female respondents, Tukey's *t* revealed that the only significant differences in ARG_{ap} responses between forms were between Forms 2 and 4--the issues versions--and Form 3, which referred to argument but not to issues. Neither Form 2 nor 4 produced significantly different scores than the original scale. For ARG_{av} and ARG_{gt}, however, women's scores were significantly different on both issues forms than on the original form as well as lower than Form 3. Tukey's procedure revealed no significant differences between male ARG_{ap} and ARG_{gt} scores on any of the forms. For ARG_{av}, male scores differed only between Forms 4 and 5.

Curiously, the gender difference also disappeared on Form 5, which did not mention issues. This violates our prediction that the greater ambiguity of Forms 1, 3, and 5 would produce sex differences absent on the forms clearly mentioning issues. However, we believe there is a logical explanation for the lack of a sex difference on Form 5, which did not mention issues. First, recall that the overall differences between Form 1 and Form 5 were not significant at the .05 level for ARG_{ap}, ARG_{av} or ARG_{gt}. In addition, Tukey's procedure revealed no singificant differences in scores on Forms 1 and 5 for either male

or female subjects. Hence, the failure to find a sex difference on Form 5 may be a fluke. The pattern of differences between Form 1 and Form 5 also is interesting. For males, ARG_{gt} decreased because ARG_{ap} decreased and ARG_{av} increased. We might speculate that the process term "arguing," in the absence of any mention of issues caused males t react to the more ambiguous "arguing" in the same way that females react to the original scale. That is, in the absence of "issues," males interpret "arguing" to refer to quarreling and fighting. Clearly this hypothesis requires testing, particularly in light of the absence of any significant differences in scores on these forms for males, females, and the total sample.

Male and female scores remained significantly different and even grew further apart on ARG_{ap}, ARG_{av}, and ARG_{gt} on Form 3, which omitted "issues" from all items. This confirmed our prediction. But, female and male scores on Form 5--which also omitted issues--actually grew closer together. Again, the pattern of responses and the lack of any significant differences between female, male, and overall scores on Forms 1 and 5 indicate that this latter finding is not very troublesome.

Our predictions about the relationship between years of education and argumentativeness were not confirmed on Forms 1, 3 or 4. On Form 2, year in school correlated negatively with ARG_{av} (r=-.1767, p=.031). On Form 5 it correlated positively with ARG_{ap} (r=.1976, p=.019) and ARG_{gt} (r=.1994, p=.018), and negatively correlated with ARG_{av} (r=-.1724, p=.036). If knowledge of the content-oriented definition of argument is responsible for higher aggressiveness scores--as we believe--then this knowledge as obtained through more years in college only comes into play when the process term arguing is used without reference to issues.

Our prediction that debaters' and nondebaters' scores would not be significantly different on forms that mention issues, but that they would differ on forms that did not mention issues was partly confirmed. Debaters were not significantly different from nondebaters on Forms 1, 4 or 5. On Form 2--which mentioned issues--debaters were higher on ARG_{ap}, but not different on ARG_{av} or ARG_{gt}. On Form 3--which omitted issues--debaters were significantly higher on ARG_{ap} and ARG_{gt}, and significantly lower on ARG_{av}. The smallest and statistically least significant differences between debaters and nondebaters were found on Form 4, which mentioned issues (see table 5). The knowledge hypothesis explains the differences on Form 3, but the results on the other forms do not conform to our predictions. We are tempted to attribute this to the rather small sample of debaters obtained (54 out of 564, or 9.6%; that is, only 11 per form).

CONCLUSIONS

We believe we have offered sufficient evidence that the Argumentativeness Scale is flawed and does not validly measure the concept of argumentativeness. We believe the wording of the items on the scale causes many respondents to respond with their attitudes toward phenomena other than the substantive discussion of issues envisioned in the concept. Further, we believe identifiable subgroups of the population are differentially prone to respond in predictably different ways because of their different pre-existing orientations and the ambiguity of the scale items. Subjects high in relational orientation (females) and those less familiar with academic meanings of "argument" (nondebaters and those with less education) can be expected to score significantly differently than their counterparts even if their communication behaviors are the same.

SUMMARY OF SCORES, DEBATERS/NONDEBATERS

FORM 1	DEBATERS	NONDEBATERS	*t*	*p*
ARG_{ap}	35.5556	31.3689	1.64	.105
ARG_{av}	29.4444	28.0874	0.56	.576
ARG_{gt}	6.1111	3.2816	0.63	.529
FORM 2				
ARG_{ap}	37.4444	32.5865	2.11	.037*
ARG_{av}	22.7500	24.5769	-0.80	.426
ARG_{gt}	15.0000	8.0096	1.66	.100
FORM 3				
ARG_{ap}	35.6667	29.9038	2.79	.006*
ARG_{av}	24.8333	29.9808	-2.24	.027*
ARG_{gt}	10.8333	-0.0769	2.72	.008*
FORM 4				
ARG_{ap}	32.9091	33.4500	-0.22	.828
ARG_{av}	23.0000	24.2626	-0.56	.575
ARG_{gt}	10.6364	9.3535	0.31	.761
FORM 5				
ARG_{ap}	36.1667	31.5455	1.96	.053
ARG_{av}	26.6667	27.9091	-0.59	.559
ARG_{gt}	9.5000	3.6364	1.40	.164

Table 5

This means that the Argumentativeness Scale measures more than motivation to engage in the kinds of argument defined by Infante and Rancer. At the very least, it also measures the consistency of persons' definitions of the terms "argument" and "arguing" with those of Infante and Rancer.

We do not believe the Argumentativeness Scale cannot be fixed. In fact, our next research project will be an attempt to confirm our tentative conclusion that Form 4 measures trait argumentativeness much better than the current scale. While this study does not by any means prove this conclusion, it does provide some tantalizing evidence, and we would like to share some of it here.

First, we believe a measure of willingness to argue over issues has greater face

validity if it mentions both arguing and issues, as Form 4 does. We have already explained why this is important for the general population as well as for identifiable subgroups of the population. The results of this research confirm that rewording the scale usually affects the population as a whole and the subgroups as predicted by our explanation of the weaknesses in the original scale. Form 4 produced no sex differences in argumentativeness, and actually produced the least significant relationship between sex and argumentativeness of any of the forms. Since the argumentativeness concept does not predict nor explain a sex difference, this is a positive finding.

Second, in a factor analysis we conducted, Form 4 produced stronger factors with more items than the original scale or any of the other forms. This suggests that people respond more consistently to the more consistently and clearly worded Form 4.

Third, Form 4 showed more independence from verbal aggressiveness than Form 1. Since independence from AGG is assumed in the construct, a valid measure of argumentativeness should be maximally independent from AGG. For the original scale, 9 items were significantly correlated with AGG scores, including 5 approach and 4 avoid items. On Form 4, only 3 items correlated significantly with AGG. In addition, Form 4 produced lower correlations between AGG and ARG_{ap}, ARG_{av}, and ARG_{at} than did Form 1. Hence, Form 4 appears to be more consistent with the concept than the original scale.

Fourth, Form 4 produced higher reliability coefficients than the original scale. Cronbach's alpha for ARG_{ap} and ARG_{av} on Form 1 were .87 and .83, while for Form 4 they were .88 and .87. While this difference is not large, it does assure us that Form 4 is at least as internally consistent as the original scale.

Fifth, the curious lack of correlations between any of the semantic differential items and AGG for respondents completing Form 4 is interesting. AGG correlated positively with attitudes toward argument, arguing, argument over issues and arguing over issues as measured by all four semantic differential items for respondents completing Form 1 ($.16 < r\text{'s} < .27$; $p < .05$). But, for those responding to Form 4, AGG was not significantly correlated with any of these items ($.01 < r\text{'s} < .16$; $p \geq .050$). The consistent use of the term "issues" may have conditioned respondents to internalize the content-relational dichotomy so strongly that their responses to the semantic differential items which followed were affected accordingly.

We believe there is merit in the Argumentativeness Scale. And we believe its promise is limited by the weaknesses in its wording. These weaknesses may explain why so little variance in perceived behavior (29% for ARG_{ap} and 18% for ARG_{av}) is accounted for by argumentativeness scores. As Nicotera has noted, only "scant evidence" has been "offered that the scale items actually predict behavioral tendencies" (7). Nicotera has done a lengthy and persuasive critique of this weakness in the Argumentativeness Scale, and we will not repeat it here. Our concern is with the hope that a more valid scale might produce more reliable predictions of behavior. But that hope, too, is a question for future research (e.g., Flint and Dowling).

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