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Dialogue types: A scale development study

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ABSTRACT: This paper presents the results of a quantitative study in which self-report scales were developed to measure four of the six dialogue types proposed by Walton (1998): persuasion, negotiation, information-seeking, and eristic dialogues. The paper details the research design, presents the measurement instruments developed, and describes the analyses conducted to assess the dimensionality and reliability of the proposed scales.

KEYWORDS: argumentation, dialogue, dialogue types, dialogue scales, Krabbe, Walton

1. THE DIALOGUE FRAMEWORK

The normative dialogue framework (Walton, 1998; Walton & Krabbe, 1995) outlines the argumentative possibilities people have while engaging in a conversation. Walton and Krabbe (1995) proposed six dialogue types that emerge as a combination of arguers' initial situation (i.e., a conflict of opinion, an open-problem, or lack of information) and the primary goal of the dialogue (i.e., to reach a stable agreement, to reach a practical settlement, or to reach a provisional agreement): persuasion, negotiation, eristic, deliberation, inquiry, and information-

seeking. Walton (1998) detailed each dialogue type and the applications of the normative dialogue framework to everyday argumentation.

Cionea (2011) argued that the dialogue framework is useful in understanding interpersonal communication and relational dialogues. In this paper, we develop this idea and present a set of instruments that can be used in empirical studies of dialogue. The context of our study is the case of relational transgressions in romantic relationships. Transgressions are violations of a partner's expectations or rules for appropriate behavior (Cupach & Metts, 1994), and such situations are likely to generate argumentative dialogues. Cionea (2013) found that people don't use two of the six dialogue types (inquiry and deliberation) when addressing a transgression. Therefore, this paper focuses on the remaining four dialogue types: persuasion, negotiation, information-seeking, and eristic.

2. METHOD

2.1 Participants

Participants in the study were 274 undergraduate students at a large South-Atlantic university. Participants ranged in age from 18 to 39 years old ($M = 20.17$, $SD = 1.99$). Two hundred and twelve participants were female and 62 were male. One hundred and seventy nine participants were White, 35 were Asian, 25 were Black or African-American, nine were Hispanic or Latino/Latina, one was American-Indian or Alaskan native, one was Native Hawaiian or other Pacific Islander, 17 were a combination of the other ethnicities listed, four indicated another ethnicity, and three participants did not answer this question. Ninety-five participants were seniors, 67 were juniors, 70 were sophomores, 39 were freshmen, and three participants reported some other class standing.

All participants indicated they were involved in a romantic relationship. The vast majority of these relationships were heterosexual ($n = 268$). Also, the vast majority of these relationships were dating relationships (54 casual dating, 62 exclusive dating, 67 committed to each other, and 83 seriously committed to each other), whereas the other relationships were engagements ($n = 2$), marriages ($n = 4$), and civil unions or partnerships ($n = 2$). These relationships ranged from five to 3,045 days (approximately eight years and four months), with a mean duration of 523 days (a little less than a year and a half), $SD = 528.07$ days.

2.2 Procedure

Participants were recruited from undergraduate Communication courses and received extra credit for their participation in the study. They completed a questionnaire online. After reading the initial page, which contained a consent form, participants provided demographic information about themselves, and they were assigned to one of the study's experimental conditions.

A preference for a particular dialogue type was termed a *dialogue orientation*. Eight experimental conditions were created in which the role to which participants were assigned was varied (victim of the transgression or person

committing the transgression), the type of transgression was varied (broken promise or lack of sensitivity), and the frequency of the transgressive behavior was varied (the behavior hadn't happened before or the behavior had happened several times before). Participants read a hypothetical scenario, which was a role-playing situation that depicted a relational transgression by including the manipulations described. They were asked to imagine they had a dialogue with their partner about the situation in the scenario and self-reported how much they would try to enact the behaviors described by each scale for the four dialogue orientations.

2.3 Scenarios

The eight scenarios used in the study are presented in what follows.

Scenario 1: Broken promise, victim, low frequency

Next weekend there is an important family event coming up. Your favorite cousin is celebrating her sweet sixteen and you and your partner have prepared a special surprise for her. The party has been on your calendar for a few months now, your partner has promised he/she would make sure he/she will be there, and you are looking forward to both of you going. At dinner tonight your partner said he won't be able to make it because he it would be better if he/she went to work that day. He/She really needs to catch up on all the work from the past several weeks when he/she has been simply too busy to finish all the paperwork. You've been thinking about this because you don't remember your partner cancelling on something that you and your partner were supposed to do together in the past.

Scenario 2: Broken promise, transgressor, low frequency

Next weekend there is a family event coming up that is important to your partner. His/Her favorite cousin is celebrating her sweet sixteen and you and your partner have prepared a special surprise for her. The party has been on your calendar for a few months now, you've promised your partner that you would be there, and you are looking forward to both of you going. At dinner tonight you told your partner that you won't be able to make it because it would be better if you went to work that day. You really need to catch up on all the work from the past several weeks when you have been simply too busy to finish all the paperwork. You've been thinking about this because you don't remember having to cancel on something that you and your partner were supposed to do together.

Scenario 3: Broken promise, victim, high frequency

Next weekend there is an important family event coming up. Your favorite cousin is celebrating her sweet sixteen and you and your partner have prepared a special surprise for her. The party has been on your calendar for a few months now, your partner has promised he/she would make sure he/she will be there, and you are looking forward to both of you going. At dinner tonight your partner said he won't be able to make it because he it would be better if he/she went to work that day. He/She really needs to catch up on all the work from the past several weeks when he/she has been simply too busy to finish all the paperwork. You've been thinking

about this because you remember your partner cancelling several times before in the past on something that you and your partner were supposed to do together.

Scenario 4: Broken promise, transgressor, high frequency

Next weekend there is a family event coming up that is important to your partner. His/Her favourite cousin is celebrating her sweet sixteen and you and your partner have prepared a special surprise for her. The party has been on your calendar for a few months now, you've promised your partner that you would be there, and you are looking forward to both of you going. At dinner tonight you told your partner that you won't be able to make it because it would be better if you went to work that day. You really need to catch up on all the work from the past several weeks when you have been simply too busy to finish all the paperwork. You've been thinking about this because you remember having to cancel several times before in the past on something that you and your partner were supposed to do together.

Scenario 5: Lack of sensitivity, victim, low frequency

Today has been just one of those days. You were late for work this morning and things just kept getting worse as the day progressed. You had a tough meeting with your boss and didn't accomplish nearly as much as you had planned. You've finally gotten home and all you want to do is have a quiet and relaxing evening. You start telling your partner about your day and he/she tells you after a while that you should just get over it and focus on getting ready as you are going out for dinner. You start thinking about this because you don't remember your partner being insensitive before in the past.

Scenario 6: Lack of sensitivity, transgressor, low frequency

Today has been just one of those days. You were late for work this morning and things just kept getting worse as the day progressed. You had a tough meeting with your boss and didn't accomplish nearly as much as you had planned. You've finally gotten home and you are in a rush to get ready for dinner. Your partner starts telling you about his/her day but after a while you tell him/her that he/she tells should just get over it and focus on getting ready to go out for dinner. You start thinking about this because you don't remember being insensitive to your partner before in the past.

Scenario 7: Lack of sensitivity, victim, high frequency

Today has been just one of those days. You were late for work this morning and things just kept getting worse as the day progressed. You had a tough meeting with your boss and didn't accomplish nearly as much as you had planned. You've finally gotten home and all you want to do is have a quiet and relaxing evening. You start telling your partner about your day and he/she tells you after a while that you should just get over it and focus on getting ready as you are going out for dinner. You start thinking about this because you remember your partner being insensitive several times before in the past.

Scenario 8: Lack of sensitivity, transgressor, high frequency

Today has been just one of those days. You were late for work this morning and things just kept getting worse as the day progressed. You had a tough meeting with your boss and didn't accomplish nearly as much as you had planned. You've finally gotten home and you are in a rush to get ready for dinner. Your partner starts telling you about his/her day but after a while you tell him/her that he/she tells should just get over it and focus on getting ready to go out for dinner. You start thinking about this because you remember being insensitive to your partner several times before in the past.

2.3 Scales

Dialogue orientations were measured with magnitude scales. These scales permit participants to use any positive number from zero to infinity (where zero means the absence of the attribute being measured). The scales have a reference point (i.e., 100 is a moderate amount) for participants to compare their response to (Fink, 2009). For example, one may indicate that one likes chocolate a moderate amount (i.e., 100) but that one likes ice-cream three times as much as chocolate (i.e., 300). Participants were trained to use these scales. They read a few examples and they answered three test questions to assess whether they knew how to use the scales or not. Only results from participants who successfully completed the training were retained for analyses.

The persuasive dialogue orientation and the negotiation dialogue orientation were measured with six items, the information-seeking dialogue orientation was measured with four items, phrased according to one's role in the scenario, and the eristic dialogue orientation was measured with seven items. Table 1, below, contains the items used for each dialogue orientation.

Persuasive dialogue orientation (PDO)

PDO1: How much would you try to explain your position to your partner?

PDO2: How much would you try to give reasons for your position?

PDO3: How much would you try to make a case for your position about this matter?

PDO4: How much would you try to convince your partner to see things your way?

PDO5: How much would you try to talk your partner into thinking about this matter the way you do?

PDO6: How much would you try to make sure you and your partner are on the same page about this matter?

Negotiation dialogue orientation (NDO)

NDO1: How much would you try to reach a compromise with your partner?

NDO2: How much would you try to make a deal with your partner?

NDO3: How much would you try to come up with an agreement that both of you could live with?

NDO4: How much would you try to make concessions hoping your partner would make some concessions too?

NDO5: How much would you try to make sure what both of you wanted was accomplished?

NDO6: How much would you try to settle this matter?

Information-seeking dialogue orientation (victims) (ISDO)

ISDO1: How much would you try to find out more information about this matter from your partner?

ISDO2: How much would you try to get all the details of this matter?

ISDO3: How much would you try to ask your partner for the whole story on this matter?

ISDO4: How much would you try to make sure you know everything about this matter?

Information-seeking dialogue orientation (transgressors) (ISDO)

ISDO1: How much would you try to let your partner know more about this matter?

ISDO2: How much would you try to give your partner all the details of this matter?

ISDO3: How much would you try to offer your partner the whole story on this matter?

ISDO4: How much would you try to make sure your partner knew everything about this matter?

Eristic dialogue orientation (EDO)

EDO1: How much would you try to just get this matter over with for now?

EDO2: How much would you try to use words to attack your partner?

EDO3: How much would you try to vent about this situation?

EDO4: How much would you try to take the opposite position from your partner?

EDO5: How much would you try to let all your feelings out?

EDO6: How much would you try to blame your partner?

EDO7: How much would you try to quarrel with your partner?

Table 1: *Dialogue Orientations Items*

3. RESULTS

3.1 Data preparation

First, the distribution of the data was analyzed. All variables were positively skewed and had several outlier values, which is expected when using magnitude scales. Outliers, however, affect parameter estimates and inflate error rates (Osborne & Overbay, 2004), so it is important to reduce skewness and kurtosis to avoid biasing results as much as possible.

To address this problem all variables were winsorized to the 95th percentile (see Tukey, 1962, for a discussion of winsorization), and then transformed following the transformation equation for the single-bend family of transformations: “ $Y^* = (Y + k)^{\lambda}$ ”, such that if $\lambda = 0$, $Y^* = \ln(Y + k)$, and if $\lambda \neq 0$, $Y^* = (Y + k)^{\lambda}$ where Y is the initial variable, Y^* is the transformed variable, \ln is the natural logarithm, and k is a constant” (Fink, 2009, p. 382). Table 2, below, presents the pre-transformation skewness and kurtosis values for all indicators, the values for k and λ , and the post-transformation skewness and kurtosis values for all indicators.

Variable	Pre-Transformation				k	λ	Post-Transformation			
	Skewness		Kurtosis				Skewness		Kurtosis	
	Statistic	<i>SE</i>	Statistic	<i>SE</i>			Statistic	<i>SE</i>	Statistic	<i>SE</i>
PDO1	16.46	0.15	271.00	0.29	0	0.30	0.02	0.15	0.34	0.30
PDO2	16.46	0.15	270.95	0.29	0	0.30	-0.02	0.15	0.57	0.30
PDO3	15.18	0.15	240.65	0.29	0	0.40	0.23	0.15	0.31	0.30
PDO4	16.46	0.15	271.00	0.29	0	0.40	0.17	0.15	0.16	0.30
PDO5	16.17	0.15	264.27	0.29	0	0.40	0.12	0.15	0.52	0.30
PDO6	16.46	0.15	271.00	0.29	0	0.40	0.35	0.15	-0.01	0.30
NDO1	11.58	0.15	132.96	0.29	0	0.40	0.02	0.15	0.08	0.30
NDO2	16.46	0.15	271.00	0.29	0	0.40	-0.02	0.15	-0.08	0.30
NDO3	11.58	0.15	132.97	0.29	0	0.40	0.10	0.15	-0.16	0.30
NDO4	16.46	0.15	271.00	0.29	0	0.40	0.14	0.15	0.34	0.30
NDO5	11.58	0.15	132.97	0.29	0	0.40	0.30	0.15	-0.08	0.30
NDO6	11.57	0.15	132.96	0.29	0	0.20	0.75	0.15	3.43	0.30
ISDO1	16.46	0.15	271.00	0.29	0	0.40	0.19	0.15	0.34	0.30
ISDO2	16.46	0.15	271.00	0.29	0	0.40	0.17	0.15	0.09	0.30
ISDO3	16.46	0.15	271.00	0.29	0	0.40	0.18	0.15	-0.05	0.30
ISDO4	16.46	0.15	271.00	0.29	0	0.40	0.27	0.15	-0.01	0.30
EDO1	15.90	0.15	257.89	0.29	0	0.40	0.13	0.15	0.07	0.30
EDO2	16.46	0.15	271.00	0.29	0	0.45	0.57	0.15	-0.82	0.30
EDO3	16.46	0.15	271.00	0.29	0	0.40	-0.08	0.15	-0.05	0.30
EDO4	16.22	0.15	265.45	0.29	0	0.60	0.46	0.15	-0.64	0.30
EDO5	16.46	0.15	271.00	0.29	0	0.40	0.38	0.15	0.09	0.30
EDO6	12.77	0.15	178.48	0.29	0	0.50	0.64	0.15	-0.74	0.30
EDO7	16.46	0.15	271.00	0.29	0	0.50	0.57	0.15	-0.91	0.30

Table 2: *Skewness and Kurtosis Values Pre- and Post-Transformation, and Values of k and λ*

3.2 Scale analyses

The reliability of the scales was assessed in several ways. First, Cronbach’s alpha, which examines the internal consistency of a scale, was calculated. According to Nunnaly (1978), acceptable alpha values are between .70 and .80, good values are

between .80 and .90, and excellent values are between .90 and 1.00.

Second, a principal components analysis was conducted to examine the dimensionality of each scale and to calculate a second form of reliability, principal components reliability. It was expected that the scales would be unidimensional (i.e., all items within a scale were expected to load on a single component). Principal component reliability was also calculated (see Serlin & Kaiser, 1976, and Hampson, Goldberg, & John, 1987). The formula used was $\alpha = [N/(N-1)] \times [(E-1)/E]$, where N is the number of items and E is the eigenvalue of the first principal component extracted while conducting a principal components analysis in SPSS.

Finally, a confirmatory factor analysis was conducted. The overall model fit for each scale was assessed and the percentage of variance the latent factor explained in each item of a scale was examined. Model fit was assessed based on Hu and Bentler's (1999) three fit criteria: the comparative fit index (CFI), whose value should be greater than or equal to .95; the root mean square error of approximation (RMSEA), whose value should be less than or equal to .06; and the standardized root mean square residual (SRMR), whose value should be less than or equal to .08. It was expected that the model for each scale would satisfy these three fit criteria.

Cronbach's alpha indicated that the persuasive dialogue orientation, the negotiation dialogue orientation, and the information-seeking dialogue orientation scales had excellent reliabilities (see Table 3, below). The principal components analysis revealed these three scales were all unidimensional (items within each scale loaded on one component only). The eristic dialogue orientation had a lower reliability which would increase if the first item in the scale ("How much would you try to just get this matter over with for now?") were deleted. In the principal components analysis this item loaded separately from the other six on a second component, suggesting the scale was not unidimensional. Together, these results indicated item one of the eristic dialogue orientation scale was problematic.

Variable	Initial Scales			Revised Scales		
	No. of items	Cronbach ^a	PC ^b	No. of items	Cronbach ^c	PC ^d
PDO	6	.91	.94	6	N/A	
NDO	6	.89	.91	6	N/A	
ISDO	4	.96	.96	4	N/A	
EDO	7	.78	.83	6	.80	.84

Table 3: *Reliability for Initial and Revised Dialogue Orientation Scales*

Note. All reliabilities were calculated using the transformed indicators. $N = 271$.

^{a,c} Cronbach's alpha.

^{b,d} PC reliability calculated based on the eigenvalue of the first principal component.

Next, the scales' factor structures were assessed. The confirmatory factor analyses were conducted using LISREL 8.80 (Jöreskog & Sörbom, 2007), which is sensitive to missing data. Three respondents' missing answers for dialogue orientations were replaced with the series means of those variables (Norušis, 2010).

The maximum likelihood estimation method was used. Modification indices were implemented when such changes were reasonable and theoretically appropriate (e.g., the errors of two items with similar wording were permitted to covary given that such a covariance may indicate an underlying common measurement factor).

The items in the *persuasive dialogue orientation* scale performed well. Initial model fit was not good, $\chi^2(9, N = 274) = 225.29$ ($p < .01$), RMSEA = .31, CFI = .90, and SRMR = .06. Two covariances were added: between the errors of the first and second items, and between the errors of the fourth and fifth items because these items were worded similarly. The revised model fit improved, $\chi^2(7, N = 274) = 55.24$ ($p > .05$), RMSEA = .16, CFI = .98, and SRMR = .03. The chi-square difference between the initial model and the revised model was significant ($p < .01$), and two of the three fit indices were within acceptable values.

All six items measuring the *negotiation dialogue orientation* were retained. The initial model fit was relatively acceptable, $\chi^2(9, N = 274) = 73.67$ ($p < .01$), RMSEA = .16, CFI = .96, and SRMR = .04. The fit improved after two covariances were added: between the errors of the first and sixth items, and between the errors of the second and fourth items, $\chi^2(7, N = 274) = 23.22$ ($p > .05$), RMSEA = .09, CFI = .99, and SRMR = .02.

The model for the *information-seeking dialogue orientation* scale fit acceptably, $\chi^2(2, N = 274) = 31.68$ ($p < .01$), RMSEA = .24, CFI = .98, and SRMR = .02. A covariance was added between the errors of the first and second items, which improved model fit to $\chi^2(1, N = 274) = 0.01$ ($p > .05$), RMSEA = .00, CFI = 1.00, and SRMR = .00.

Finally, the *eristic dialogue orientation* model did not fit well, $\chi^2(14, N = 274) = 96.92$ ($p < .01$), RMSEA = .15, CFI = .92, and SRMR = .08. The percentage of variance explained by the latent factor in the first item was only 3.5. These results were corroborated with the results of the Cronbach's alpha analysis and the principal components analysis. It was decided that this item should be dropped from the scale. The revised eristic dialogue orientation scale, with six items, was subjected to a new confirmatory factor analysis. The data fit the model better, $\chi^2(9, N = 274) = 74.72$ ($p < .01$), RMSEA = .16, CFI = .93, and SRMR = .08, and a covariance between the errors of the third and fifth items was added. This modification improved model fit to $\chi^2(7, N = 274) = 8.33$ ($p > .05$), RMSEA = .03, CFI = 1.00, and SRMR = .03.

A model with all four dialogue orientations (i.e., four factors allowed to covary) was tested to assess potential overlap between the four dialogue types. The initial model fit was not good, $\chi^2(203, N = 274) = 1,018.99$ ($p < .01$), RMSEA = .13, CFI = .94, and SRMR = .13. The error covariances permitted for each individual scale were added. In addition, one more error covariance between the first and third items in the negotiation dialogue orientation scale was added. Model fit improved to $\chi^2(196, N = 274) = 692.96$ ($p < .01$), RMSEA = .09, CFI = .97, and SRMR = .13. Although neither the RMSEA nor the SRMR value was within acceptable values, the chi-square difference between the revised model and the initial model was significant, $p < .01$, suggesting the data fit the revised model better than it fit the initial model.

Table 4, below, presents zero-order correlations among the latent factors (corrected for attenuation due to measurement error). Given some of the high correlations, multicollinearity between the four dialogue orientations was examined. According to Green (1976), if the determinant of the correlation matrix of variable vectors is nonzero, the column vectors of the matrix are linearly independent. So, the determinant of the correlation matrix of the first principal component for each of the four dialogue orientations was calculated. Its value was .17, which meant multicollinearity should not be of concern.

Table 4
Latent Dialogue Orientations Zero-Order Correlations

	PDO	NDO	ISDO	EDO
PDO	1.00			
NDO	.79**	1.00		
ISDO	.65**	.80**	1.00	
EDO	.25**	.01	.06	1.00

** $p < .01$.

4. CONCLUSION

This paper presented a study in which measurements for four of the six dialogue types proposed by Walton and Krabbe (1995) and Walton (1998) were created and tested in the context of romantic relationship dialogues. With the exception of one item in the eristic dialogue orientation scale, which was dropped, all the scales performed well, and we believe them to be reliable in assessing people's tendency towards a particular dialogue type. Future studies should examine whether the scales proposed perform similarly well in other dialogue situations and with populations other than undergraduate students.

The two dialogue types that did not appear in the context of relational transgressions deserve further investigation. People didn't use inquiry and deliberation to address transgressions. One possibility is that the context of relational transgressions is not suitable for the use of these two types of dialogue, so future studies should examine whether inquiry and deliberation are used in other situations, such as decision-making. Another possibility is that, although the six dialogue types are clearly delineated in the normative dialogue structure, naïve actors are unable to make these distinctions in everyday arguments. The theorized distinctions between dialogue types do not emerge as different orientations for arguers in practice.

The high correlations among the latent variables in this study also question naïve actors' ability to differentiate between the theorized dialogue types. Persuasion, negotiation, and information-seeking correlate highly, forming a cluster of somewhat positive dialogue types that naïve actors distinguish from the eristic dialogue. But within this cluster, it is yet unclear whether people are able to differentiate between persuading someone and negotiating with someone. Walton (1998) and Walton and Krabbe (1995) acknowledged that in everyday

argumentation people mix the dialogue types. It may be that people rely on argumentation moves from the six dialogue types without necessarily being able to report their doing so. So, although the theoretical distinction proposed by argumentation scholars may be useful, naïve actors may not consciously report at any given moment on the specific dialogue type they rely on during an argument. This matter should be investigated in further detail.

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