Friend or Foe: Effects of Perceived Structural Polarization in Agreeing or Disagreeing Dyads

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Abstract

The current research investigates the relationships between perceived structural polarization, avoidance, relational threat, open-mindedness, and extremity when talking to someone who agrees with you versus someone who disagrees. We expected the perception of structural polarization to decrease open-mindedness, and for it to increase avoidance when talking to someone who disagrees with you. Additionally, we expected structural polarization to increase relational threat and extremity when talking to someone who agrees with you. We manipulated structural polarization through a text which showed a selected topic as either high or low in structural polarization. We then directed participants to an online chat with one other participant who either shared their opinion on the selected topic or disagreed with them. We found no significant results to indicate that structural polarization leads to avoidance when talking to someone who disagrees with you or to extremity when talking to someone who agrees with you. However, the predicted relationship between structural polarization and open-mindedness was found, indicating that structural polarization is associated with lower open-mindedness. In additional analyses, we found that when talking to someone who agrees with you, avoidance leads to higher relational threat, while it leads to lower relational threat when talking to someone who disagrees with you. This novel finding indicates that engaging with a polarized topic when talking to someone who agrees with you can be seen as a way to strengthen or maintain your current relationship, while discussing it with someone who disagrees with you could potentially harm the relationship.

Keywords: Polarization, avoidance, open-mindedness, relational threat, extremity, ingroup-outgroup, group dynamics, online communication

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In the current polarized opinion climate, it seems one has to have an opinion on everything and that this opinion is often in line with one of two parties. More often than not, sharing your opinion seems to put you on one side of the argument, which might create a divide between you and peers with different views. For example, opinions on the new anti-abortion law changes in the United States seem to be tied to the liberals and conservatives who have wildly different views. Topics like this, on which two groups are in opposition, are known as polarized topics. Everyday conversation about important but polarized topics, which is central to democracy, may therefore be hindered.

These polarized issues are related to many psychological effects such as increasing group bias and hostility towards the outgroup (Shuman et al., 2017). This seems especially true for the online environment, as social media often present you with information that is in line with your view, which leads you to mostly communicate with people that agree with you (Yuan et al., 2019). This often causes your views to become more extreme, as you are only presented with arguments in favor of your opinion. Additionally, you come to have stereotyped opinions about those who do not share your views (Sunstein, 1999).

Since these polarized topics are becoming more and more prevalent, the question becomes how people can talk about these topics in a civil manner. To answer this question however, we must understand how people tackle these polarized topics in the first place. For instance, do people want to talk about polarized topics, or would they rather avoid it in conversation? Are there different ways that polarization can be perceived? In short; what is the impact of perceiving polarization of a topic on how one talks about it? The current research aims to investigate this question.

Koudenburg and Kashima (2021) suggest that polarization on a topic can be perceived as non-structurally polarized, meaning there are different opinions in the population, versus structurally polarized, meaning the opinions on the topic create (or are attributed to) groups, to the

point where the two sides of the argument are entrenched in groups. When issues are perceived as structurally polarized, people are less willing to talk about these issues (Koudenburg and Kashima, 2021). The perception of structural polarization would lead to avoidance of the issue when there is a possibility to discuss it. Thus, the willingness to talk about a divisive issue would be less when an issue is structurally polarized. Koudenburg and Kashima found this is partly due to the relationship of structural polarization with incrementality, or the belief others can change their opinion.

One key aspect missing in the Koudenburg and Kashima study is the impact of talking to those who share your opinion versus those who disagree with you. Inherent in polarization is the idea of an opposing opinion, and one could imagine that people talk differently to those they agree with and those of the opposition. One way these different groups can have an effect on your communication is through incrementality. This has been shown to lessen the perceived threat of outgroups (Simão & Brauer, 2015) and increase the willingness to come to a peaceful understanding on an issue (Shuman et al., 2017). Perceived structural polarization would decrease incrementality beliefs, as opinions are grounded in groups within society, and therefore not easily changed (Janis, 1973; Jones, 1973). Thus, when people perceive those with different opinions as belonging to an outgroup (as is the case when they see structural polarization), they are less likely to believe that these opinions can change (low incrementality beliefs), and therefore become less open to discussing the issue with them. Therefore, we expect that perceiving structural polarization will lead to higher avoidance when talking to someone who disagrees with you.

H1: Structural polarization leads to higher avoidance when talking to someone who disagrees with you, but not w*hen talking to someone who agrees with you.*

Another aspect of communication surrounding opinions that has not yet been investigated is the openness to arguments from opposing sides. This open-mindedness is imperative in finding a compromise. When one is not open to arguments from the other side, a civil discussion and thus a compromise are unlikely. One way open-mindedness could be related to structural polarization is

the fact that opinions of the outgroup on structurally polarized topics are often seen as the extreme opposite. Research by Gibson and Bingham (1983) shows that people are often intolerant of extreme political opinions, and this intolerance is an important factor which inhibits open-mindedness. This indicates that openness to opinions of someone from a group with a different opinion on a structurally polarized topic could be low, as the divide between your opinion-group and that of the opposition are seen as the two extremes. Further evidence for this idea comes from Taber and Lodge (2006), who show that people are close-minded when presented with information that is in contradiction with their beliefs, while they accept information in line with their views easily. When surrounded by those who agree with you, you will collect information and strengthen your views, and when confronted with the opposite opinion camp one will defend their point and not accept the opposite arguments. Additionally, incrementality seems closely linked to open-mindedness, as both relate to people changing their opinions. Therefore, we expect perceiving polarization as structural, which includes the perception of groups and low incrementality beliefs, will lead to a decrease in ones' open-mindedness

H2: Structural polarization leads to lower open-mindedness.

Another factor that is influenced by structural polarization is the threat one experiences to the relationship when talking about a structurally polarized topic (Koudenburg & Kashima, 2021). When issues are seen as structurally polarized, one would be more aware of the dangers of discussing that issue with others as it could harm the relationship. In the case of new relationships, perceiving structural polarization would make you less likely to want to become friends with the person you are talking to. Bringing up a polarized topic might put each person on a different side of the social divide. However, as Koudenburg and Kashima (2021) did not investigate the effects of talking to someone who agrees versus disagrees with you, it could be possible that this relational threat is less relevant when talking to someone you know you agree with. If you know you agree with them, there should be less threat as you know for sure that they are not part of the opposition,

as well as a better chance to become friends as you already have something in common. This would mean that discussing the polarized topic is no longer a threat to your relationship, and thus you can discuss this topic without worrying about your relationship.

Furthermore, research on group polarization (Sunstein 1999; Myers & Lamm, 1976) has shown that when talking to those who agree with you about the topic you agree on often leads to more extreme opinions. As you comply with the majority, and accept the information given that is in line with your opinion (Taber & Lodge, 2006), your own opinions could become more extreme and thus your utterances would follow. Therefore, we expect structural polarization and thus relational threat to have different effects when talking to someone who agrees with you and when talking to someone who disagrees with you. When talking to someone who agrees with you, we expect that when someone perceives the issue to be structurally polarized, they will expect that there are less varied opinions within their ingroup and feel little to no relational threat. They will openly share their reactions and opinions, and in doing this extremize their own opinions and those of others. When talking to someone who disagrees with you, we do not expect this effect to be present, as one experiences relational threat and is confronted with counterarguments instead of similar opinions.

H3.1: Structural polarization leads to lower relational threat when talking to someone who agrees with you, but not when talking to someone who disagrees with you.

H3.2:. Structural polarization leads to higher extremity when talking to someone who agrees with you, but not when talking to someone who disagrees with you.

H3.3: Structural polarization leads to higher extremity when talking to someone who agrees with you, and this relationship is mediated by relational threat.

The Current Research

The current experimental research will examine how the differences in the perception of polarization and who you are talking to impact conversation about important topics. Importantly, we

take an approach that has not been used in structural polarization research, namely to have participants take part in actual online interaction instead of imagined conversation. As much of the discourse on polarized topics is conducted online, we expect this approach will give a good insight into the workings of structural polarization perception in the current climate. The research will investigate avoidance of the topic, and relational threat in relation to polarization. Additionally, we will examine the relationships between polarization and novel concepts in this area such as open-mindedness and extremity. Finally, the impact of talking to someone who agrees with you versus talking to someone who disagrees with you will be investigated, which is currently a gap in the polarization research.

Method

Participants and Design

A sample of students (N = 90, 73.5% female) was recruited from all students at the University of Groningen through SONA, a system in which first year psychology students take part in research for scholarly credits, and through word of mouth. 94.1% came from the department of Psychology and were compensated in bachelor credits. The other 5.9% were entered in a raffle to win a speaker for compensation. A priori power analysis was conducted to determine a sample size that would result in a power of .80 to detect a small to medium main and interaction effect. With partial η^2 = 0.05, df = 1, α = .05, number of groups = 4 we calculated that a sample size of 152 participants would result in a test with a power of .80. However, this sample size was not reached due to time constraints and technical difficulties in recruiting for initial trials.

20 participants were excluded before the experiment started as they did not get paired up with another participant in the chatroom. This was partly due to the design of study, as an uneven number of participants would mean no dyad could be formed for the last participant in that trial. Furthermore, waiting for the second participant in the online environment led to some attrition. Out of the remaining 70 participants, two did not complete the post-chat survey and their survey

responses and chat coding were excluded. This resulted in 68 participants for whom the data could be analyzed. Using sensitivity analysis, we found that we can still detect an effect size (η^2) of .44 for main and interaction effects with 80% power, meaning that these relatively large effects can still be interpreted reliably.

The study had a 2x2 between-subjects design. We manipulated structural polarization (high vs. low) and whether participants were in a dyad with someone of a similar versus opposing opinion (agreement vs. disagreement). Participants were first introduced to the manipulation, consisting of a text on secret student parties in Groningen held during the COVID-19 lockdowns. We chose this topic as it was timely, personally relevant to our participant pool, and we expected the two sides of the argument to be fairly equally distributed among the population of students. One text (Appendix A) described the topic as structurally polarized, by representing the different opinions of students on the parties as being one of two extreme opinion camps: those thinking the parties are a necessity in the pandemic versus those thinking the parties are too dangerous to take place due to the virus spreading. Furthermore, the different sides of the argument are named as 'pro-partying' and 'the opposing group of students' in this text, showing that students are divided between the two opinion camps. Finally, this text described conversations between people with opposing opinions as ineffective in changing the others' opinion. This indicator of low incrementality should strengthen the perception of structural polarization. The other text (Appendix B) described the topic as low in structural polarization, showing opinions as differing but placed along a spectrum, with students having a range of more or less nuanced opinions. Instead of opinions being split along group lines, they are presented as the opinions of individuals. Participants who read this text are part of the low-polarization condition. We ran two sessions each test day, one for each condition.

After the manipulation of structural polarization, participants were presented with the statement "secret student parties do more harm than good" and a six-point scale (1-3 were coded 'disagree', 4-6 were coded 'agree'). Based on their answer, participants were directed to a chatroom

for the agreement manipulation. For this, participants were randomly put in a chatroom with one other participant who either agreed or disagreed with them on the student parties. To create the dyads with similar vs. opposing opinions, participants were randomly sent to a chatroom with one other participant who either agreed or disagreed with them on the topic. They were informed about the other participant's opinion, and told they could chat about anything, and were given three examples of what to talk about: secret student parties, job experiences, and eating less meat. Participants were encouraged not to reveal any identifying information as to protect the anonymity.

Scales and conversation coding

The full scale can be found in Appendix C.

Avoidance. To assess avoidance, we used a four-item scale (α = .540) adapted from Koudenburg and Kashima (2021). It included two general avoidance items: "I wanted to talk about the secret student parties" (reverse-coded) and "I wanted to avoid talking about the secret student parties". It also included two items regarding reactions to the topic coming up in the conversation: "I (would have) changed the topic when secret student parties came up in the conversation" and "I (would have) felt uncomfortable when secret student parties came up in the conversation". All items were answered on a scale of one (strongly disagree) to seven (strongly agree).

Open-mindedness. A self-rating of open-mindedness was filled in by participants after the chatroom in the form of the General Open-Minded Cognition scale (OMC-G) (Price et al., 2015). Although this scale was intended to measure open-mindedness, testing by Crawford and Brandt (2018) shows the scale mostly measures self-perceived open-mindedness. However, they also found that the scale still predicts the willingness to consider alternative viewpoints, an important part of the current research. Therefore, we expect that the OMC-G will result in usable data regarding open-mindedness. Participants answered five items (α = .719) on a seven-point scale (1 = strongly disagree, 7 = strongly agree). Half of the items are reversely coded to avoid acquiescence.

Relational threat. We used a measure adapted from Koudenburg and Kashima (2021) to assess experienced relational threat. The items were adapted from hypothetical statements, i.e. "It is difficult to make friends with someone who has a different view on this issue", to statements related to the person met in the chatroom: "It is difficult to become friends with this person". The measure consisted of three items (α = .637) answered on a five-point scale (1 = strongly disagree, 5 = strongly agree.

Structural polarization check. To check whether the text manipulation was successful, a five-item measure (α = .742) for perceived polarization was used. The measure was adapted from Koudenburg and Kashima (2021) to only include items on structural differentiation, as these were made to measure the perception of how opinions were entrenched in different groups in society. These items were altered to relate to the topic of secret student parties, resulting in items like "Students in the Netherlands are divided on secret student parties". The items were answered on a five-point scale (1 = strongly disagree, 5 = strongly agree).

Incrementality beliefs. A three-item scale (α = .675) on incrementality was used as an additional manipulation check. The scale was adapted from Koudenburg and Kashima (2021) and made to fit the relevant topic of secret student parties. The three items measured incrementality beliefs with items like "The opinions students have on secret student parties can't be changed" answered on a five-point scale (1 = strongly disagree, 5 = strongly agree). On all items and the scale, a high score indicates low incrementality.

Coding

Participant chats were coded by one researcher. First, we developed a coding scheme based on the hypotheses. After coding 10 conversations we added a few codes that related to the described processes, but were not a priori formulated. Due to the nature of the data and the single researcher it was impossible to code blind to the agreement condition. The researcher was blind to whether the participant was in the high or low structural polarization condition.

In coding, the rater assessed the general impressions of one full five-minute conversation per participant regarding avoidance (1 = approaching the topic, 5 = avoiding the topic) and extremity (1 = nuanced, 5 = extreme). Furthermore, the rater assessed the extent to which participants tried to create common ground during the conversation (-2 = focus on differences, 0 = disinterest, 2 = focus on similarities), as an indication to bridge the gaps between groups.[1]

Results

Preliminary analyses

All variables were checked for normality within the agreement vs. disagreement manipulation. Non-normal variables for analysis (avoidance (survey), open-mindedness, relational threat, avoidance (code), extremity, and common ground search) were logarithmically transformed to normalize the data. Even though the data is interdependent due to the use of interparticipant contact, we used unilevel analyses as the data is analyzed in the context of a master's thesis and thus is limited in scope.

While our hypotheses were based on differences between agreeing dyads and disagreeing dyads, it would be theoretically possible that there were differences within the agreement condition, as this condition included both dyads of which both members are in favor of student parties and dyads in which both members are against student parties. We found no significant differences on any of the variables between those in favor of and those against the parties (see table 1), and therefore conducted all analysis by treating the agreement condition as one group.

[1] Additional variables were coded which were not used in the current study. For general impressions, clarity of expressed opinions was also coded. Furthermore, the rater coded whether the participant talked about student parties, the first mention of the topic, whether the participant introduced the topic and how often the participant tried to change the topic as indications of avoidance. These were not used as they did not vary much, and did not include anything that was not measured by the avoidance questionnaire and general impression of avoidance coding. As indications of trying to reach common ground, the rater assessed the number of questions asked on the topic, as well as the responsiveness after an expressed opinion. These were not included in analysis as they lay far from our hypotheses.

The polarization manipulation was found to be unsuccessful, as there was no difference in perceived structural polarization between the no structural polarization (*M* = 2.65, *SD* = 0.78) and the high structural polarization condition (*M* = 2.55, SD = 0.53, *t*(67) = -0.53, *p* = .579). Therefore, we used the perceived structural polarization check scale instead of the condition to test the hypotheses. This is a suitable substitute, as perceived structural polarization can be measured through a self-report scale. However, as the scale is continuous rather than categorical, this means we were unable to run causal analyses for Hypothesis 2. To solve this, we used correlational analyses instead.

Table 1. Descriptive Statistics for Different Conditions

Log Transformed Variable	Agreement	Disagreement	T-test result	Agreement		T-test result
				For-for	Against-against	
	M (*SD*)	*M* (*SD*)	*p*	*M* (*SD*)	*M* (*SD*)	*p*
Avoidance	0.256 (0.152)	0.273 (0.182)	.694	0.241 (0.165)	0.271 (0.142)	.526
Open-mindedness	0.650 (0.048)	0.632 (0.059)	.207	0.647 (0.055)	0.652 (0.041)	.680
Relational threat	0.190 (0.162)	0.201 (0.190)	.818	0.202 (0.179)	0.177 (0.147)	.624
Perceived structural polarization	0.402 (0.132)	0.394 (0.133)	.817	0.432 (0.105)	0.371 (0.152)	.138
Reverse-coded Incrementality	0.526 (0.110)	0.559 (0.057)	.165	0.539 (0.101)	0.512 (0.119)	.430
Coded variables						
Avoidance	0.336 (0.265)	0.411 (0.278)	.322	0.361 (0.254)	0.310 (0.280)	.080
Extremity	0.429 (0.182)	0.493 (0.135	.214	0.412 (0.174)	0.450 (0.195)	.988
Common Ground	0.096 (0.143)	0.169 (0.154)	.139	0.129 (0.155)	0.055(0.122)	.807

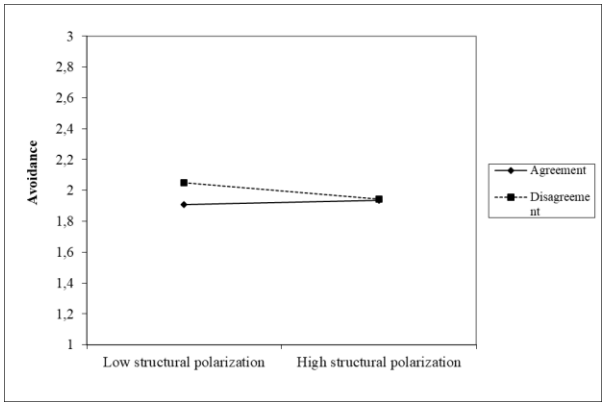
Hypotheses

To test Hypothesis 1, we used a hierarchical regression in SPSS with predictor variables agreement (0 = agreement, 1 = disagreement) and perceived structural polarization (standardized) and the agreement by structural polarization interaction to predict self-reported avoidance (see Table 2, Figure 1). We included this because we expected structural polarization to only have an effect on avoidance and relational threat in the disagreement condition. No significant regression model was found for avoidance ($F(3,64) = 0.33$, $p = .805$), with no significant main or interaction effects. Therefore, our hypothesis that structural polarization leads to avoidance when talking to someone who agrees with you was not supported.

To investigate Hypothesis 2, which stated structural polarization would lead to lower open-mindedness scores, we employed correlational analysis and found a marginally significant correlation between open-mindedness and structural polarization ($r(66) = -.21$, $p = .087$). Given our sample size, this indicates that there may be a relationship between open-mindedness and structural polarization in the hypothesized direction.

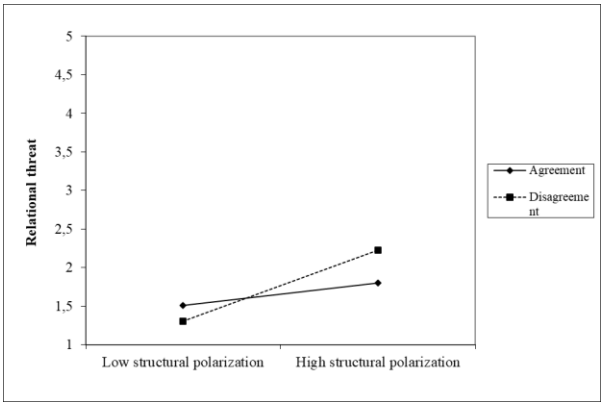
To investigate whether structural polarization is associated with lowered relational threat when talking to someone who agrees with you, we employed a hierarchical regression with predictor variables agreement (0 = agreement, 1 = disagreement) and perceived structural polarization (standardized), as well as their interaction effect. A significant regression model (Table 2, Figure 2) was found to predict relational threat ($F(3,64) = 4.98$, $p = .004$). Main effects of agreement and polarization did not significantly predict relational threat. Importantly, in line with Hypothesis 3.1, the interaction effect did marginally predict relational threat. The model shows that structural polarization is associated with significantly more relational threat in the disagreement condition than in the agreement condition. Importantly, the model also suggests that structural polarization might not be related to relational threat in the agreement condition (Figure 2).

Figure 2. Avoidance Predicted by Polarization, Agreement and Interaction



Note. Simple slope for agreement = 0.03 (p = 0.865), simple slope for disagreement = -.11 (p = .720)

Figure 1. Relational Threat Predicted by Polarization, Agreement and Interaction



Note. Simple slope for agreement = 0.15 (p = .149), simple slope for disagreement = 0.46 (p = .001)

Content Analyses. Due to technical difficulties, the coding of the disagreement condition could not be connected to the participants' questionnaire scores. Therefore, coding and survey responses for the disagreement condition had to be analyzed separately. This is mainly a problem for the hypotheses relating to extremity, as this variable was only measured in coding. Because we cannot connect these scores to the perceived structural polarization check, it is impossible to check the effect of the disagreement condition on extremity.

Importantly, we will be able to test whether structural polarization is associated with extremity in the agreement condition, which is in line with our original Hypothesis 3.2, but we cannot exclude the second part of this hypothesis; that structural polarization is not related to extremity in the disagreement condition. To test this hypothesis, we used correlational analysis between structural polarization scores and coded extremity scores in the agreement condition. We found no significant correlation (r(68) = .11, p = .530), indicating no relationship between extremity and structural polarization when talking to someone who agrees with you.

Table 2. Parameter Estimates, Standard Deviation and R^2 of Hierarchical Regressions

Dependent variable	Predictor	*B*	*SE*	Cumulative R^2
Avoidance	Intercept	1.912	0.116	
	Agreement	0.124	0.191	.007
	Perceived polarization	0.027	0.118	.008
	Interaction	-0.133	0.192	.015
Relational Threat	Intercept	1.656	.099	
	Agreement	0.109	0.164	.004
	Perceived polarization	0.146	0.101	.143
	Interaction	0.312 †	0.164	.189
Open-mindedness	Intercept	4.491	0.075	
	Agreement	-0.174	0.124	.027
	Perceived polarization	-0.125	0.076	.073
	Interaction	0.047	0.124	.075

Note. For Agreement, 0 = Agreement while 1 = Disagreement;

Additional analyses

We explored the data by calculating correlations within conditions between all variables (see Table 3). To further explore the correlations between relational threat and avoidance, we performed additional regression analyses that were not related to our a priori hypotheses. As the correlation between relational threat and avoidance is positive in the agreement condition, but negative in the disagreement condition, we used regression analysis to see whether relational threat, agreement or their interaction could predict avoidance scores. A significant regression model was found ($F(3,64) = 3.08$, $p = 0.033$ $R^2 = .13$) with the main effect of relational threat and the interaction effect significant at the $p < .05$ level (Figure 4). This model indicates that when talking to people you agree with, higher relational threat is associated with higher avoidance. In contrast, when you are talking to someone you disagree with, the more relational threat you experience, the more you engage with the topic you disagree on.

However, as we do not know the direction of this relationship, it could also be that agreement and avoidance predict the amount of relational threat experienced in a conversation. Here we also found a significant regression model ($F(3,64) = 3,01$, $p = 0.037$, $R^2 = .12$) with the main effect of avoidance and the interaction effect significant at the $p < .05$ level (Figure 5). This model

indicates that when talking to someone you agree with, avoidance of the topic is related to more experienced relational threat. When talking to someone you disagree with, avoiding the topic is related to lower experienced relational threat.

Additionally, relational threat is negatively correlated with open-mindedness in the agreement condition ($r(43) = -.535$ $p < .001$). This could indicate a relationship between the two and thus connect open-mindedness closer to polarization.

Table 3. Descriptive Statistics and Correlations for the Agreement and Disagreement Conditions

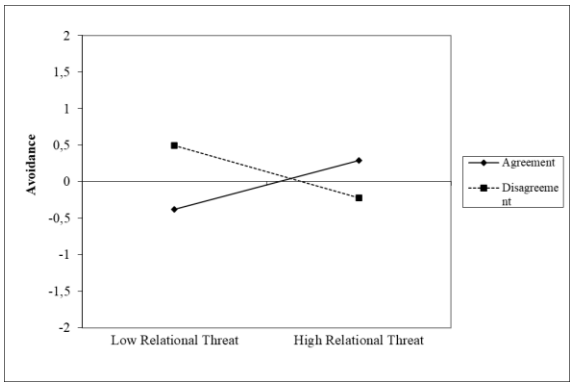
Agreement condition			Log-transformed Pearson's *r*						
Variable	*M* (*SD*)	Log-transformed *M* (*SD*)	2	3	4	5	6	7	8
1. Perceived structural polarization	2.61 (0.70)		.005	.099	-.257	.187	-.228	.097	-.093
2. Avoidance	1.96 (0.75)	0.256 (0.153)		.464**	-.265	.328*	.277	-.095	-.012
3. Avoidance (code)	2.58 (1.50)	0.336 (0.265)			-.095	.105	.239	-.339	-.163
4. Open-mindedness	4.43 (0.50)	0.650 (0.048)				-.535**	-.116	-.112	.048
5. Relational threat	1.69 (0.71)						.076	.201	.130
6. Incrementality	3.53 (0.69)	0.526 (0.110)						-.082	-.066
7. Extremity (code)	2.91 (1.13)	0.429 (0.182)							.130
8. Common ground search (code)	0.72 (0.83)	0.096 (0.143)							

Disagreement condition			Log transformed Pearson's *r*			
Variable	*M* (*SD*)	Log-transformed *M* (*SD*)	2	3	4	5

1. Perceived Structural polarization	2.58 (0,72)		-.180	-.163	.563**	.053
2. Avoidance	2.04 (0.88)	0.273 (0.182)		-.132	-.407*	-.140
3. Open-mindedness	4.32 (0.56)	0.632 (0.059)			-.272	.078
4. Relational threat	1.75 (0.83)					.109
5. Incrementality	3.65 (0.46)	0.559 (0.057)				

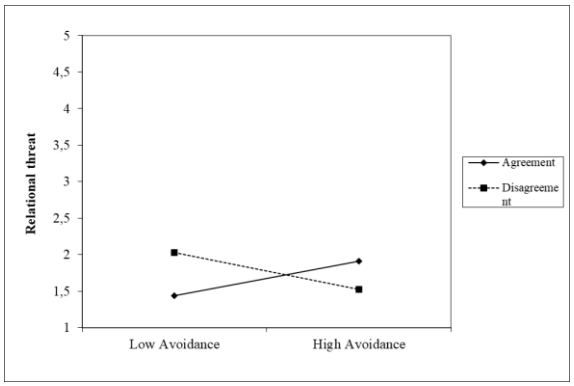
Note. **correlation is significant at the 0,01 level; *correlation is significant at the 0.05 level.

Figure 4. Avoidance Predicted by Relational Threat, Agreement and Interaction



Note. Simple slope for agreement = 0.48 (p =.047); simple slope for disagreement = -0.22 (p = .230)

Figure 5. Relational Threat Predicted by Avoidance, Agreement and Interaction



Note. Simple slope for agreement = 0.24 (p =.050); simple slope for disagreement = -0.25 (p = .030)

Discussion

Findings

The current research seeks to explain the different effects of low versus high structural polarization, as well as differences in communication when talking to someone who agrees versus someone who disagrees with you in an online setting. Specifically, we were interested in the effects of structural polarization on avoidance of the polarized topic, open-mindedness, relational threat, and extremity. Additionally, we were interested in the effects of talking to someone who agrees with

you versus someone who disagrees with you on avoidance, relational threat and extremity. With this, we hope to bring a valuable addition to this new line of research. Where previous research has mostly focused on imagined conversation (Koudenburg & Kashima, 2021), this study expands the research to actual, online communication in the form of anonymized, two-person chatrooms.

First, we expected that perceived structural polarization would be associated with higher avoidance when talking to someone who disagrees with you. However, we found no significant correlation to suggest this is the case. One reason this may be is because there is also avoidance present when you are sure you agree with someone on the topic, and thus the topic is avoided in any conversation. However, as we have not found a significant main effect for structural polarization on avoidance, this seems unlikely. A second reason could be that there is very little avoidance present in both the agreement and disagreement conditions, as the avoidance-scale means both conditions were about two on a seven-point scale. This means the results found in the study by Koudenburg and Kashima (2021) are possibly not generalizable to online chats. It is possible that due to the anonymized and online setting, participants were less inclined to avoid the topic as they imagined little consequences related to engaging with the topic. However, the finding that structural polarization is associated with relational threat in the disagreement condition seems to indicate that participants did actually feel there would be consequences in this conversation, as they did experience relational threat in the online chatroom. This relational threat would only be relevant if participants were worried about the relationship with the conversation partner during and after the chatroom. Furthermore, it is likely the size of our sample made it hard for an effect to be found. A more expansive study would be able to draw stronger conclusions.

Second, we expected that higher structural polarization would lead to lower self-reported open-mindedness. We found a marginally significant correlation between open-mindedness and structural polarization. The relationship was in the hypothesized direction, such that the perception of a topic as structurally polarized is associated with lower open-mindedness. This relationship could

show that the opinion camps perceived when a topic is structurally polarized could indeed be associated with a lack of openness when presented with the opposite opinion, such as suggested by Taber and Lodge (2006). Importantly, as the correlation is only marginally significant, this conclusion is not confirmed, and further research is necessary to confirm the relationship between open-mindedness and perceived structural polarization.

The finding that open-mindedness is correlated with relational threat when talking to someone you agree with could support the relationship between perceived structural polarization and open-mindedness as well. This result might indicate that those who are more closed-minded experience more relational threat when talking to someone you agree with, even though you know they agree with you and thus should already have a basis for a relationship around the structurally polarized topic. It could be that those who are more closed-minded see the variation in opinions within their opinion camp as more varied and more separate from their own opinions, and therefore still perceive the opinion of their conversation partner as a reason for relational threat. However, in line with this explanation one would expect a similar if not stronger relationship when talking to someone who disagrees with them. As we did not find a relationship of the sort in the disagreement condition, the results seem to discredit this explanation.

Alternatively, it could be possible that increased relational threat in the agreement condition could lead to higher closed-mindedness, which could explain the relationship between perceived structural polarization and open-mindedness. Possibly, when experiencing relational threat, you start closing yourself off to arguments of the conversational partner, as you start feeling they are not someone you would like to be friends with. This would then especially be the case in the agreement condition, where one would initially expect a good relationship and arguments that are in line with their own opinion, and thus is very open to those arguments. It is possible then that when relational threat is experienced, the arguments the conversational partner makes are considered more critically, and thus the person becomes less open-minded. This would also explain the fact that we

found no correlation between relational threat and open-mindedness in the disagreement condition, as there one would be closed-minded from the start, and thus any experienced relational threat would not influence this closed-mindedness any more. These findings offer an interesting avenue of research on the relationships between perceived structural polarization, relational threat and open-mindedness.

In line with Koudenburg and Kashima (2021), we expected structural polarization to predict experienced relational threat. However, we also expected this relationship to only be present in the disagreement condition, as talking to someone you agree with would put little stress on the relationship whether opinions are divided along a spectrum or among opinion camps. We found a marginally significant interaction effect of structural polarization by agreement on relational threat, which indicates that when talking to someone you agree with, relational threat does not increase to the extent that you perceive the topic to be structurally polarized. However, this relational threat becomes higher if this person is seen as coming from a different opinion camp. This would confirm our idea that relational threat is experienced as higher when opinions are divided into camps, but only when talking to someone of a different opinion camp. As the differentiating factor was whether the conversation partner agreed or disagreed with you, this indicates that in online conversation, people are less likely to feel that they can't become friends with those who do not share their opinion, if they also feel opinions are entrenched in divided groups. This effect is still present after the conversation too, which could also be due to the effects found relating perceived structural polarization, relational threat and open-mindedness to each other.

When taking all these findings together, a bigger picture becomes clear. The results indicate that when one perceives a topic as structurally polarized, and is talking to someone of the opposite camp, they are less open to arguments and feel they cannot become friends with this person. This indicates major implications for conversations about these polarized topics. One could conclude that therefore, even if we talk about the topic, it is unlikely this will bring us towards a solution, as we see

the other person as someone that does not fit with us, and we do not listen to their arguments rationally. Therefore, presenting any topic as structurally polarized could be associated with less functional dialogue about this topic, even if we discuss it. Furthermore, as many of these structurally polarized topics have important, society-wide implications, the possibility of non-functional discourse surrounding these topics is worrisome.

Additionally, we expected the extremity of utterances to increase when polarization is perceived as structural, but only when talking to someone who agrees with you. However, we found no significant results indicating this is the case. This could mean that the extremity of utterances was not present in the agreement condition. However, the average extremity score for the agreement condition was 2.9 on a five-point coding scale, showing that the extremity of participants' statements was not particularly low. Additionally, the mean score on extremity was around 2.4 for the disagreement condition, indicating only a slight difference between both groups. It could also be that the length of the chat was so short that participants were only just finding out if the conversation partner actually did share their opinion. Furthermore, the dyads might not have been big enough for group polarization to take place. As research on group polarization suggests, it takes some time for a group to become more extreme in their utterances, and this effect is more present in a bigger group (Sunstein, 1999; Janis, 1973). As the chat was conducted in a dyad, this extremity might not manifest as quickly, if at all. It is possible that the relationship will be present in a bigger group, but for one-on-one conversations structural polarization does not seem to have an effect on extremity when talking to someone you agree with. The fact that statements in both groups seemed to be of average extremity might indicate that there was indeed no time or not enough participants in the current design for group polarization to take place. Future research could investigate the relationship between perceived structural polarization and extremity in bigger conversational groups and over a longer conversation. We decided on the five-minute timeframe for the chat because we did not want the participants to reach an awkward stage in the conversation, but this might be less of a problem when more people take part in one conversation. Therefore, if one wants to increase

length of the conversation in future research, they could also increase the size of the group to avoid the awkward stage of the conversation.

In exploring the data and conducting additional analyses, we found a significant difference in correlations between avoidance and relational threat in the agreement and disagreement conditions. In further analysis, we found that when talking to someone who agrees with you, experienced relational threat would lead to avoidance of the topic, while when talking to someone who disagrees, experienced relational threat is associated with engagement with the topic. This line of thought makes sense when the conversations are imagined, such as in Koudenburg and Kashima (2021), as thinking about a conversation will probably lead one to first consider potential experiences in the conversation, such as relational threat, and then conclude on how to resolve this threat, such as through avoiding the topic.

However, this explanation is harder to apply to real conversations. If this were the case, it could mean that experiencing any form of relational threat while talking to someone who agrees with you would make you feel more distant from this person, and thus afraid to bring up a divisive issue. However, that does not change the fact that participants in the agreement condition knew they were conversing with someone who shared their opinions, which should decrease any expected relational threat that comes along with discussing the topic. Additionally, when talking to someone who disagrees, experienced relational threat would lead to engagement with the topic. This finding could be interpreted in two ways. Engaging when relational threat is high could be seen as an expression of opposition, showing how different you are and therefore negating the discomfort of the loss of the relationship, as you two were not compatible. On the other hand, it could also be seen as a way to get the differences out of the way by discussing both of your opinions.

Because we were not entirely convinced by this explanation, and the variables were correlational, we also modeled the reverse pathway: whether avoidance and agreement significantly predict relational threat. We found that when talking to someone who agrees with you, avoidance of

the topic leads to more experienced relational threat. This result could indicate that engagement with the topic is a way to strengthen or maintain your relationship. By discussing something you agree on, you have a pleasant experience, your relationship grows and you are ensured the other person is someone you agree with on an important polarized topic. You get the security of knowing you are on the same side of the population-wide divide. Furthermore, the model indicates that when talking to a someone who disagrees with you, avoidance of the topic would be associated with a decrease in relational threat. This seems logical, as engaging with the topic would be expected to lead to arguments or even fights, and thus is a danger to the relationship. Therefore, it seems more rational to conclude that avoidance of the topic during conversation predicts experienced relational threat, in such a way that avoidance increases relational threat when talking to someone who agrees with you, and decreases relational threat when talking to someone who disagrees with you. To confirm this line of thought, future research could investigate this relationship between relational threat and avoidance in online conversations with a design that can indicate which is the causal variable.

Limitations

In the current research we used a text which would indicate high or low structural polarization among students on the topic of student parties. However, this manipulation text turned out to be ineffective. Though we included statements that indicated low incrementality alongside statements indicating a divide in two opinion camps in the structural polarization condition, the total manipulation was not strong enough. Interestingly, Koudenburg and Kashima (2021) also had a failed polarization manipulation, which could indicate that structural polarization is very hard to manipulate. Future research should utilize very strong manipulations, which could be tested beforehand to investigate their strength, or include topics that are already known to be structurally polarized.

Furthermore, the topic of secret student parties in Groningen was a new and changing issue in the time the experiment was held. As regulations were changing in the time the different trials were held, the arguments supporting different opinions changed during the course of the experiment. For instance, a recurring argument against the parties was that the parties were held with a lot of people in an enclosed space, which could lead to a multitude of infections, which could then be passed on to others outside the parties. However, in later trials the government of the Netherlands had already mentioned that clubs would be opening again. This opened the door for the counterargument that a lot of people in an enclosed space at home is possibly better than a similar situation in the club, as you would at least be sure of who were at your house party. These changing circumstances around corona-related topics are in contrast to those of other, more stable topics. Due to this, there might have been some fluctuations in the differences between the agreement and disagreement conditions, as the different conditions might have felt like they had 'the upper hand' in the argument at different trials, and thus been more likely to engage with the topic in the disagreement condition. However, as there were no major differences found between the pro and against groups, it is safe to assume any fluctuations of the sort were minimal.

The current research used anonymous online chats to simulate conversations. This is a limitation in scope rather than a limitation in execution for the current study, as conversations, especially around polarizing topics, are often conducted online nowadays. Future research could expand the current design into the realm of real-life conversations, making the results generalizable on a bigger scale.

Lastly, the current research suffered under a lack of participants. Due to the nature of the topic, it was not possible to keep the study going for more participants, and therefore the results are more exploratory than definitive. That said, the results found are large effects, and can be interesting avenues of further research.

Conclusion

This research aimed to add to the existing research on the effects of structural polarization, mainly by investigating the role of groups on known variables and by introducing novel connections between structural polarization, open-mindedness and extremity. With this we hoped to fill certain gaps in the structural polarization research, as well as broaden our knowledge about the impact of perceiving opinions to be entrenched in groups on conversation. Most importantly, our results indicate that meaningful conversations about certain topics with someone who disagrees with you are inhibited by perceiving structural polarization surrounding that topic. We found that perceiving structural polarization is associated with the feeling that one cannot be friends with the person they are talking to, if that person disagrees with them on that topic. Moreover, we found that closed-mindedness is also associated with structural polarization, possibly indicating that perceiving structural polarization could make you unwilling to consider other viewpoints. Finally, we found that when talking to someone you disagree with, avoiding the structurally polarized topic makes one more likely to feel like they can become friends with their conversation partner, indicating that the structurally polarized topic is a barrier to connecting those of different opinions.

Taking this all together, it paints a picture of how perceiving a topic as structurally polarized impacts conversation. Our research indicates that perceiving structural polarization could make you less open to arguments from the opposite camp and less likely to want to connect with those of the other camp. Though you might feel more like becoming friends with someone of the opposite opinion when the topic is not brought up, an eventual conversation about the polarized topic might be a test if not a danger to your relationship. A speculative but logical conclusion would be that due to perceiving structural polarization, your friends would all share in your opinion while the people you don’t consider viable for friendship share an opposite opinion. In this way, perceiving structural polarization might create or strengthen a divide already present, possibly resulting in seeing the situation as more polarized over time. Bear in mind, these results are found in conversation

surrounding student parties during the pandemic, a topic might not be seen as the most pressing concern of this time. One can imagine that more impactful and possibly more structurally polarized topics such as abortion could see even stronger effects, though this is only speculation. These findings indicate that we should be careful to present important topics as structurally polarized, such as often done in media. Furthermore, we should be aware of possible bias that we might have gained through perceiving a topic as structurally polarized, otherwise we might see a friend as foe.

References

Crawford, J., & Brandt, M. (2018). Testing the predictive validity of the open-minded cognition scale. *J*. Published. https://doi.org/10.31234/osf.io/v8um2

GIBSON, J. L., & BINGHAM, R. D. (1983). ELITE TOLERANCE OF NAZI RIGHTS. *American Politics Quarterly*, *11*(4), 403–428. https://doi.org/10.1177/004478083011004002

Janis, I. L. (1973). GROUPTHINK AND GROUP DYNAMICS: A SOCIAL PSYCHOLOGICAL ANALYSIS OF DEFECTIVE POLICY DECISIONS*. *Policy Studies Journal*, *2*(1), 19–25. https://doi.org/10.1111/j.1541-0072.1973.tb00117.x

Jones, A. M. (1973). IRVING L. JANIS. Victims of Groupthink: A Psychological Study of Foreign Policy Decisions and Fiascoes. Pp. iii, 276. Boston, Mass.: Houghton Mifflin, 1972. $4.50. *The ANNALS of the American Academy of Political and Social Science*, *407*(1), 179–180. https://doi.org/10.1177/000271627340700115

Koudenburg, N., & Kashima, Y. (2021). A Polarized Discourse: Effects of Opinion Differentiation and Structural Differentiation on Communication. *Personality and Social Psychology Bulletin*, 014616722110308. https://doi.org/10.1177/01461672211030816

Myers, D. G., & Lamm, H. (1976). The group polarization phenomenon. *Psychological Bulletin*, *83*(4), 602–627. https://doi.org/10.1037/0033-2909.83.4.602

Price, E., Ottati, V., Wilson, C., & Kim, S. (2015). Open-Minded Cognition. *Personality and Social Psychology Bulletin*, *41*(11), 1488–1504. https://doi.org/10.1177/0146167215600528

Qualtrics (March 2022). (2005). [Surveying software]. Qualtrics. https://www.qualtrics.com/

Shuman, E., Halperin, E., & Reifen Tagar, M. (2017). Anger as a catalyst for change? Incremental beliefs and anger's constructive effects in conflict. *Group Processes & Intergroup Relations*, *21*(7), 1092–1106. https://doi.org/10.1177/1368430217695442

Simão, C., & Brauer, M. (2015). Beliefs about group malleability and out-group attitudes: The mediating role of perceived threat in interactions with out-group members. *European Journal of Social Psychology*, *45*(1), 10–15. https://doi.org/10.1002/ejsp.2085

Sunstein, C. R. (1999). The Law of Group Polarization. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.199668

Taber, C. S., & Lodge, M. (2006). Motivated Skepticism in the Evaluation of Political Beliefs. *American Journal of Political Science*, *50*(3), 755–769. https://doi.org/10.1111/j.1540-5907.2006.00214.x

Yuan, X., Schuchard, R. J., & Crooks, A. T. (2019). Examining Emergent Communities and Social Bots Within the Polarized Online Vaccination Debate in Twitter. *Social Media + Society*, *5*(3), 205630511986546. https://doi.org/10.1177/2056305119865465

Appendix A: Structurally Polarized Manipulation

Private student parties cause a division between students who are for and against.

Due to the corona regulations, students cannot enter clubs and bars to let loose. Students are divided on whether to take up other social activities such as meeting in small groups at home, taking up a sport or hobby with friends or to keep on partying. In Groningen, students who want to party have found a way to party through the lockdown by organizing big private parties or raves illegally. These secret student parties are held through the night and have caused a divide in opinions among students in Groningen. Talking about these secret student parties often becomes a heated affair. The group of students that is pro-partying thinks the parties are especially important in this time.

David (22) argues that "students deserve to let loose, to meet people or recharge from studying. The current rules have forced us to party in this way." Other pro-partying students also enjoy the freedom of these parties compared to clubbing, being able to drink a bit more than usual and maybe even enjoy some illicit drugs to liven up the party, and, Maya adds, “It's only young people who go to these parties, so the risk of them getting infected is actually very low."

The opposing group of students argues that these parties do more harm than good. For instance, Vera (21), one of the opponents, talks about the problems caused by these parties: “You wake up at 3 am because some drunk guy is screaming at his friends to wait for him before falling off his bike. Not to mention all the bottles and cigarettes they leave on the street.” For Leander, who agrees with Vera, limiting his contacts to one person a day is preferable. He also feels conversation with the partygoers is meaningless: “I feel like they just don't care about the infection rates. They just party because they feel like it, and don't worry about how it affects others who are more vulnerable.” Arguments between students of different opinions about the parties often end in frustration without any minds changed. The divide between the pro-partying and anti-partying group only seems to increase.

Appendix B: Low Structural Polarization Manipulation

Students have different considerations for whether or not to attend secret student parties.

Due to the corona regulations, students cannot enter clubs and bars to let loose. Students have found different ways to see each-other such as meeting in small groups at home, taking up a sport or hobby with friends or to keep on partying. In Groningen, students who want to party have found a way to party through the lockdown by organizing big private parties or raves illegally. These secret student parties are held through the night and there are many opinions among students in Groningen.

David (22) feels the parties are important in this time: "Students deserve to let loose, to meet people or recharge from studying. The current rules have forced us to party in this way." However, he also expresses some worries: “I don’t know if these parties should be this relaxed. I mean, I’ve seen people knock themselves out with all the things they’re taking. Maybe these parties should be a bit more regulated.”

Vera (21) believes that these parties do more harm than good. She talks about the problems caused by these parties: “You wake up at 3 am because some drunk guy is screaming at his friends to wait for him before falling off his bike. Not to mention all the bottles and cigarettes they leave on the street.” But Vera also expresses the need to see her friends from time to time: "We come together, just the six of us. It's always the same group so we feel that that is save enough."

For Leander (19), this already feels like a step too far. He prefers to limit his contacts to just one person a day. "I feel online contact is enough mostly, I don't really need the real-life contact. I'd love to go to one of those parties but it's too dangerous for me at the moment."

It appears as if students weigh their individual considerations as to what is acceptable for them during the pandemic.

Appendix C: Item Asking for Opinion on the Topic

How much do you agree or disagree with the following statement:
The secret student parties do more harm than good.

- ○ Fully disagree
- ○ Disagree
- ○ Slightly disagree
- ○ Slightly agree
- ○ Agree
- ○ Fully agree

Appendix C: Avoidance Scale

The following statements are about the chat that you just had.
How much do you agree or disagree with the following statements?

	1: strongly disagree	2	3	4	5	6	7: strongly agree
I wanted to talk about the secret student parties	○	○	○	○	○	○	○
I wanted to avoid talking about the secret student parties	○	○	○	○	○	○	○
I (would have) changed the topic when secret student parties came up in the conversation	○	○	○	○	○	○	○
I (would have) felt uncomfortable when secret student parties came up in the conversation	○	○	○	○	○	○	○

Appendix C: Open-Mindedness Scale

How much do you agree or disagree with the following statements?

	1: Strongly disagree	2	3		5: Strongly agree
In the chatroom, I had no patience for arguments I disagreed with	○	○	○	○	○
In the chatroom, I ignored or "tuned out" messages I disagreed with	○	○	○	○	○
In the chatroom, I found it a waste of time to pay attention to certain ideas	○	○	○	○	○
I try to reserve judgement until I had a chance to hear arguments of the other person	○	○	○	○	○
I am open to considering the viewpoints of the person	○	○	○	○	○

Appendix C: Relational Threat Scale

Please rate the following statements regarding the person you talked to in the chatroom.

	1: strongly disagree	2	3	4	5: strongly agree
It is difficult to become friends with this person	○	○	○	○	○
This person can never be my friend	○	○	○	○	○
I felt distant when I found out how this person viewed secret student parties	○	○	○	○	○

Appendix C: Scale for the Structural Polarization Manipulation Check

How much do you agree or disagree with the following statements?

	1: Strongly disagree	2		4	5: Strongly agree
Students in the Netherlands are divided on secret student parties.	○	○	○	○	○
There are subgroups forming among students that are either for or against secret student parties	○	○	○	○	○
Groups of students are in direct opposition of each other regarding secret student parties	○	○	○	○	○
Exchanges between students with different opinions on secret student parties are getting heated	○	○	○	○	○
Students are getting fired up about their own views on secret student parties	○	○	○	○	○

Appendix C: Incrementality Scale

How much do you agree or disagree with the following statements?

	1: strongly disagree	2	3	4	5: strongly agree
The opinions students have on secret student parties can't be changed	○	○	○	○	○
Students can do or say things differently, but the important parts of what they believe secret student parties can't really be changed	○	○	○	○	○
Each student thinks in a certain way about secret student parties, and there is not much that one can do about that	○	○	○	○	○

Appendix D: Coding Handbook

1. General impressions:
    a. Avoidance
        i. 1 (approach/engagement with topic)
        ii. 5 (avoidance)
    b. Extremity: when the topic is brought up, how intense are the utterances?
        i. 1 (very nuanced)
        ii. 5 (extreme)
        iii. expressed opinions related to student parties
            1. ambiguity
            2. clarity
    c. Trying to create common ground
        i. -2 (focus on differences)
        ii. 0 (disinterest)
        iii. 2 (high common ground search)
2. Quantitative
    a. Avoidance
        i. Does he/she talk about student parties (y/n)
        ii. When do they start topic (which numbered line)
            1. Number per participant
        iii. Does this participant introduce the topic (y/n)
        iv. How often does this participant try to change the topic?
            1. If it is an argument, don't count (0)
            2. If in doubt, .5
    b. Trying to reach common ground
        i. Number of questions related to student parties
        ii. Responsiveness
            1. # of statements on topic from first statement of opinion, max 5
                a. Percentage agreeable
                b. Percentage neutral
                c. Percentage disagreeable