AVOIDANCE OF DIVISIVE TOPICS

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ABSTRACT

JOSEPH J. P. SIMONS: Avoidance of Divisive Topics
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Existing research has shown that anticipating discussing socially divisive topics is associated with feeling threatened, both in terms of self reported emotion and automatic reactions (the dissensus effect). The current research aims to test two further hypotheses about this effect. First, given the proposed causal mechanism (that divisive topics are socially challenging, and hence discussing them conflicts with social goals), the effect should be stronger for participants who are more motivated to have positive interactions. Second, given that threat is an avoidant response, it is predicted that dissensus will lead people to think less about the topic in question when social considerations are salient. These hypotheses were tested across two studies. Both manipulated participants' social goals (manipulated using subliminal priming in Study 1, and by a scrambled sentence task in Study 2) and then asked them to imagine discussing consensual or divisive topics (manipulated within-subjects using actual issues in Study 1, and between-subjects using fictional polling data in Study 2). Study 1 measured participants' affective responses to discussing the issues, whereas Study 2 measured the amount of thought about the issue. Both studies also measured participants' attachment styles (or internal working model of relationships). The first hypothesis received mixed support; across both studies, participants with more insecure attachment styles showed a stronger dissensus effect, but activating social goals did not have a comparable effect. The second hypothesis received very little support; while Study 2 found evidence that thinking about discussing a divisive (as opposed to consensual) issue leads participants to adopt less extreme attitudes and feel more ambivalence, there was no evidence for an effect on the amount of thought (or bias in this thought).

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CHAPTER I

INTRODUCTION

This dissertation examines the impact of divided social opinion. As a social species living in a media rich society, it is hard to escape a constant stream of controversies, debates and disagreements. Opposing viewpoints are often only a channel change or mouse click away. Indeed, for many social issues, perhaps the most salient fact is that there is no social consensus – an individual may simply know that people disagree, without any real knowledge of what the considerations on each side are. Journalistic norms of fairness only exacerbate this phenomenon, as giving equal time to each side can create a false sense of equivalence between the sides and so make an issue appear more divided than it is.

The current research attempts to elucidate some of the effects of this breakdown in consensus. Drawing from both the attitude and social motivation literature, I suggest that discussing divisive topics should be experienced as threatening, as these topics are disruptive to harmonious interpersonal relationships. Specifically, social division makes it harder to anticipate other people's views, more difficult to tune messages to a specific audience, and increases the possibility of negative social outcomes. My previous research has demonstrated this effect in terms of self-reported threat and misperception of faces as threatening (Simons & Green, in preparation). In the current research, I aim to extend these findings by testing the causal mechanism and the effects of threat on attitudinal outcomes.

There are three parts to this introductory chapter. First, I will undertake a brief review of existing findings on the importance of consensus. Second, I will outline my relational approach to

understanding divided social opinion. Finally, I will describe research testing this model, including initial research in this line as well as the two studies which make up this dissertation.

Prior literature: The importance of consensus

Social psychology has made it clear that a united social group can wield massive power over the individual. Possibly the most famous example is Asch's line-judgment studies, in which participants were substantially more likely to give the wrong answer to an easy task when a number of confederates gave the wrong answer first (e.g., Asch, 1955). Notably, this effect was much reduced when at least one confederate broke the group consensus (even if they gave a different incorrect answer; Asch, 1955).

More recent research paradigms have continued to attest to the impact of consensus. The literature on attitudes and behavior has consistently demonstrated that so-called descriptive norms (perceptions of how widespread a behavior is) are a strong influence on whether people engage in that behavior themselves (Manning, 2009). Within the attitude literature, it has been shown that being within an attitudinally heterogenous group weakens opinions on social issues (e.g., Visser & Mirabile, 2004; Levitan & Visser, 2009). Within work on social influence, it has been shown that knowing one's position is not shared by the majority of society leads to slower expression of attitudes (Bassili, 2003) and less positive affect (Lücken & Simon, 2005). Furthermore, people see such minority opinions as riskier than majority opinion (see Erb & Bohner, 2011, for a review). All these findings attest to the strong impact that consensual groups can have.

It has been suggested that consensus is so compelling because it acts on two fundamental human motives (Deutsch & Gerard, 1955; Echterhoff, Higgins & Levine, 2009). On the one hand, people are motivated to create a stable and reliable understanding of the world (the epistemic motive). Consensual opinions can provide this stable understanding, especially for topics on which we are personally unsure. On the other hand, people also want to be accepted by and socially connected with those around them (the relational motive). Being in agreement with others can help people form and

maintain social bonds with others. Thus, following consensual opinions can help people be both accurate and accepted.

The current research extends the previous literature by addressing the question of how people function when consensus has broken down. The research reviewed above shows that consensus has a strong influence on people, but assumes that there is a clear consensual / majority opinion in society. This is not the case for many pressing social issues. For topics such as legalized abortion, affirmative action, and drug legalization, it is hard to identify one side as being dominant. Rather, society seems more equally split, with each side having similar levels of support. In this regard, the opposite of a consensual topic is not a minority opinion, but rather an issue where there is an equal split of opinion. It is these divisive topics which are the focus of the current research.

My fundamental contention is that issues which divide social opinion are disruptive to interpersonal interactions. That is to say, topics which are characterized by divided social opinion (divisive issues) present a challenge to smooth social interaction. For this reason, when social considerations are salient, people will try to avoid these topics. This avoidance will be reflected in their emotions and thought about the topic. These processes will be described in the following section.

The dissensus effect: Divided opinions, social relationships and intellectual avoidance

Divisive issues are socially disruptive for a number of interrelated reasons. First, they introduce interpersonal uncertainty into interactions. In daily life, it is safe for people to assume their interaction partners are against high unemployment, slavery, and nepotism, and conversely are in favor of equality, human rights and clean drinking water. However, in the absence of explicit information, it is hard for people to know where their interaction partners stand on divisive issues such as drug legalization, the Iraq war, or positive discrimination / affirmative action. Uncertainty reduction theory postulates that people are motivated to reduce such interpersonal certainty (Berger, 1986), and it has been shown that uncertainty about a partner can lead to reduced performance on individual and co-operative tasks (Everly, Shih & Ho, 2012)

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Second, social division makes it harder to tune messages to the audience. People adjust their utterances to be more conducive to the viewpoints of interaction partners (e.g., Echterhoff, Higgins, & Groll, 2005; Higgins, 1992; Higgins & Rholes, 1978). For topics where there is a clear majority opinion, this is a straightforward process; it is conversationally safe to construct messages which are implicitly anti-prejudice and pro-freedom, but harder to know what to say on topics such as legalized abortion or affirmative action.

Finally, when talking about these issues, there is a greater risk of negative social outcomes. Misjudging one's audience and saying the wrong thing is likely to lead to social shunning, which is a highly aversive state. A large body of literature attests to the fact that people do not want to interact with those who disagree with them. On the dyadic level, work on the attitude-similarity effect attests to the fact that individuals do not want to associate with those who hold opposed attitudes (e.g., Byrne, 1961; Byrne, Griffitt, Hudgins & Reeves, 1969; Condon & Crano, 1988; Montoya & Horton, 2004; Singh, Yeo, Lin & Tan, 2007; Singh & Simons, 2010). On the group level, the stakes are even higher; if a person breaks the local group consensus, they are likely to find themselves excluded from the group (e.g., Schachter, 1951). Furthermore, it has been well established that being excluded leads to deeply felt negativity (see Williams & Nida 2011, for a review), and these effects hold even in highly artificial circumstances (e.g., being shunned by a computer; Zadro, Williams & Richardson, 2004). Indeed, it has been proposed that belongingness is a basic human need (Baumeister & Leary, 1995).

To summarize, divisive issues place us in the middle of a social minefield. It is hard to know where is safe to step, and any mis-step could have severely unpleasant consequences. In the terms of Smith and Lazarus's appraisal approach to emotions (e.g., Smith and Lazarus, 1993), the core relational theme is one of threat and danger. This may constitute an obstacle to the successful resolution to of these difficult issues; divisive topics are unlikely to be discussed in a calm and balanced fashion if the very topic is making people feel threatened.

The central hypothesis of the current research is that the demands of discussing divisive topics lead to an avoidant intellectual style (the dissensus effect). When anticipating talking about divisive topics, people should show a defensive and threatened mindset. As shown in Fig 1.1, this would manifest as a quadratic association between social opinion (or percentage of society in favor of a topic) and avoidant responding. Topics which are at the extreme high or low end of the social opinion scale (those which are widely agreed to be good or bad respectively) should be comparatively unthreatening and associated with low levels of avoidance. Those in the middle of the scale (i.e., those which show more division in social opinion) should be more threatening and be associated with higher levels of avoidance. This effect should manifest both in terms of affect and cognition.

Affective consequences. The avoidant intellectual style should be manifest in a number of emotional reactions. Fundamentally, people should show emotions consistent with danger and a desire to remove oneself from the situation. Most centrally, we predict that the challenges posed by divided social opinion mean divisive topics will give rise to feelings of threat and anxiety (Smith & Lazarus, 1993). Furthermore, people should show less interest towards these topics, as interest is associated with an approach reaction (Silvia, 2008).

Cognitive consequences. One aspect of the avoidance response is that, when social considerations are salient, people will show less thought about the topic. If a topic has unpleasant associations, it seems reasonable to assume people will not want to spend as much time and effort thinking about it (assuming that discussions about it are avoidable; Green, Visser & Tetlock, 2000). In the terms of the elaboration-likelihood model, their motivation to think about the topic is low. This avoidance tendency is important for a wide variety of phenomena, as the amount of thought people invest in a topic is a determinant of how strongly they hold opinions on that topic (attitude strength; e.g., Barden & Petty, 2008). Hence, it is to be expected that people will think less about topics which divide social opinion, and so will show less developed and weaker viewpoints on these topics.

However, a second aspect of the avoidance response is that people's thought may also be biased. One way to avoid thinking about a divisive topic is to try to come to an answer quickly, so

that no further thought is required. This desire to reach any firm answer is referred to as the need for closure, and has been linked to a confirmatory cognitive style (choosing an answer and then processing information to support that answer; Kruglanski & Webster, 1996). Put simply, in the rush to get to an answer, people will simply choose a side and then generate reasons to believe this side is correct rather than weighing up evidence in a balanced fashion. This process has been termed "seizing and freezing" (Kruglanski & Webster, 1996). On this basis, it is to be expected that people will generate more one-sided thoughts and show more univalent beliefs about a topic if they believe it to be divisive.

For the sake of clarity, it is important to distinguish the current topic of investigation from a number of closely related ideas. Divisive issues raise a number of important research questions, and link to a variety of existing literatures. The current research highlights one strand of this tapestry. This focus is not meant to deny the importance of related topics, but rather to provide a tractable research domain. In particular, it is important to highlight that the current research is focused on the individual level of analysis, emphasizes divided opinions rather than divided information, and is concerned with the impact of disagreement between others rather than disagreement between the self and others.

Individual focus. First, and perhaps most fundamentally, the current research takes the individual (as opposed to dyads or small groups) as the unit of analysis. Given the emphasis on relational factors, it is important to keep sight of this point. Analyses which take dyads or small groups as the unit of analysis can also offer important insights. This value can be seen, for example, in the literature on deep diversity in work teams (e.g., Mohammed & Angell, 2004). However, the current work focuses on the individual, as it seems a greater understanding of individual responses will help elucidate the specific psychological challenges that opinion diversity poses, which in turn will inform our understanding of how such diversity impacts dyads and groups.

Opinion inconsistency. Second, the current research examines the effects of divided opinions rather than divided information. The focus is on knowing that society is split, rather than knowing arguments on each side of a topic. These two things may sometimes go together, but are not perfectly

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associated. For example, an individual may know historical arguments for slavery, and so would have divided information on a very consensual topic. Similarly, complex political or scientific issues are often presented as highly divided, leaving most people in the situation of knowing that there is social division without really having knowledge of either side of the topic.

A corollary of this point is that there are also other aspects of controversy beyond simple divided opinion which will not be investigated here. For example, controversial topics often involve attitudes which are strong, emotionally based, and linked to moral convictions. Again, the current analysis is not meant to deny the importance of these factors, but rather to highlight the significance of divided opinion in isolation. Further research can build on this foundation to look at the difference between moral and practical controversies, for example.

Other-other inconsistency. Finally, the current work looks at the impact of knowing that others do not agree with one another, not learning that others disagree with you personally. This distinction can be summarized as the difference between other-other inconsistency and self-other inconsistency. In cases where people have already-formed attitudes, then both factors may be relevant; in learning about how much others agree with one another, we are also learning about how much they agree with us. However, in situations where the opinions of others are very salient but we have no well-formed opinion ourselves, other-other inconsistency is going to be the only important factor. That is to say, we will be very aware of how much other people agree with one another, but the question of how much they agree with us is not relevant.

Arguably, this combination of highly salient social dissensus without a strong personal attitude characterizes much of people's lives; social networks, including media outlets and the internet, mean that people become aware of controversies far faster than they can come to a personal opinion on them. Furthermore, some attitude theories suggest that many of our attitudes may actually be temporary constructions rather than stored representations (e.g., Schwartz, 2007). This line of thought would suggest that we are constantly constructing our personal opinions, and as such, self-other inconsistency may not be as chronically relevant as may otherwise be thought.

Existing studies and the current research

Initial data has proved supportive of the model outlined above. I have conducted two studies that provide validation for the idea that divisive topics induce a threat response (Simons & Green, in preparation). The first used a self-report methodology, the second an implicit measure.

In the self-report study, participants rated 60 social issues on their personal attitude (i.e., whether they were in favor of it) and perceived social approval (i.e., the % of society they thought were in favor of it), and then indicated how much discussing each one would make them feel threatened, anxious, interested and relaxed. In line with predictions, there was a quadratic dissensus effect in threat and anxiety, such that topics in the middle of the spectrum (i.e., those which divide social opinion) showed higher levels of these emotions. This dissensus effect remained significant when controlling for individual attitude position and extremity, suggesting the effect is driven by social opinion rather than correlated differences in attitudes. Thus, even though people tend to be closer to neutral on divisive issues, this confound is not sufficient to explain the effect of social division.

The second study used a misattribution procedure to test how the divisiveness of issues affected perceptions of others. Participants were rapidly presented with social issues as primes, followed by emotionally neutral faces. Their task was to classify the faces as either threatening or non-threatening. The issues were taken from the previous study and chosen on the basis of the social approval ratings. They were grouped in three categories: widely popular (those with the highest social approval ratings), widely unpopular (those with the lowest social approval ratings), and divisive (those in the middle of the approval spectrum). Again, both a linear and quadratic trend were found, such that less popular topics were generally associated with more attribution of threat, but divisive topics were higher than would be predicted from this linear trend alone.

Furthermore, participants also completed control trials, whereby they classified the faces as pleasant or unpleasant. The effects on attributions of threat remained significant controlling for the effects of attributions on unpleasantness, ruling out an explanation in terms of general negative

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facilitation. That is to say, the effect of social division on threat responding cannot be reduced to a general effect on any negative response. Thus, the threat response can be detected using more automatic measures, can affect people's perceptions of others, and cannot be explained as a broad facilitation of any negatively-valenced response.

These existing studies provide good evidence for the affective component of the dissensus effect. Across two very different outcome measures, there is evidence that divisive topics are associated with greater feelings of threat and anxiety than more consensual topics.

However, these findings leave open two major questions, which are the focus of the current research. First, are the effects found really driven by the proposed social factors (i.e., concern about ostracism) as opposed to alternative mechanisms (e.g., the difficulty of making sense of conflicting viewpoints)? Second, does social division have the predicted effects on cognition? These questions are examined across two studies, and the effects to be tested are shown graphically in Figure 1.2.

The first study examines whether the increased threat response toward divisive topics is the result of social concerns. The study is based around the reasoning that if these are socially-motivated effects, they should be stronger when participants have active goals to affiliate with others. Affiliation goals are manipulated using an established subliminal priming procedure (Lakin & Chartrand, 2003), both prior to and during the experimental task. Under the guise of a reaction-time task, participants are exposed to either social or neutral words. These words are presented sufficiently quickly that participants are not consciously able to read them. Participants then rate how much discussing the various social issues would make them feel. It is predicted that the divisive topics will be associated with a greater level of anxiety, and that this effect will be stronger when participants have had their social goals activated in the priming task.

The second study tests both the effects outlined above; does social division lead to more cognitive avoidance, and is this effect facilitated by activating social goals? Goal activation is manipulated using a scrambled sentence task (Cook & Bird, 2011). Participants are then briefed that they will be generating arguments on the topic of direct-to-consumer drug advertisements (i.e.,

whether drug companies should be allowed to advertise directly to the public). After an initial attitude measure, they are given some information about considerations on each side of the topic and told what proportion of society is in favor of the advertisements (the consensus manipulation: either 20%, 50% or 80%). They then list up to ten arguments which people on either side of the topic could use in a discussion, and complete both a final attitude scale and a number of measures of attitude strength. If our model is correct, participants in the divided opinion condition should show less thought about the issue. This will manifest itself as generation of fewer arguments, especially on the counter-attitudinal side. Again, these effects should be stronger when the priming procedure is used to make social goals more salient.

In both studies, participants also complete a measure of adult attachment, or internal working model of relationships (the Relationship Questionnaire; Griffin & Barthomolew, 1994). Specifically, participants rate how well four relationship prototypes match the way they tend to relate to others (e.g., *I am comfortable without close relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me*). These four ratings are then transformed into scores on two dimensions: the self-model, or how worthy of affection the person views themselves as being; and the other-model, or how available and responsive they see others as being. The attachment measure provides an alternate way of operationalizing social motivation; just as participants who have their social goals activated will be more motivated to have positive interactions, so will participants who are dispositionally insecure in their relationships with others. As such, participants who show a more insecure attachment style should also show a stronger dissensus effect. Thus, this measure was included as a complement to the goal priming procedure.

Summary

The current research examines a relational model of responses to divided social opinion. On the basis that diverse opinions are disruptive to interpersonal relationships, it is proposed that divisive topics induce an avoidant mindset, characterized by emotions such as anxiety and cognitive effects such as reduced thought. Initial data has provided support for the idea that divisive topics are

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associated with a threat response. The current research aims to show that this effect is exacerbated by active social goals and has important cognitive consequences.

CHAPTER II

Study 1: Social goals and affective responses

Aims

The main goal of this study was to establish moderation of the dissensus effect by social motivation. The proposed causal mechanism for the dissensus effect is that divisive topics are interpersonally disruptive, and hence discussing these topics conflicts with the motivation to have positive interactions. If this mechanism is correct, the effect should be stronger for those who are more motivated to have positive interactions. This hypothesis was tested in two ways; directly manipulating goals (using a subliminal priming procedure) and measuring attachment style (on the reasoning that those with less secure attachment will be more motivated to have a positive interaction).

Method

Participants

Participants were 144 undergraduates (103 female, 41 males; M age = 18.6, SD = 1.13), who received partial course credit.

Procedure

The study followed a 2 (goal prime: social vs. neutral) x 3 (social opinion: unpopular vs. divisive vs. popular) design, with repeated measures on the final factor. Participants completed an initial subliminal priming task, and then rated 30 social issues in terms of how *anxious*, *interested*, and *good* they would feel while discussing them. To reinforce the priming manipulation, the primes from the initial task were subliminally re-presented between items. Participants then completed a

manipulation check, gave their attitudes on the issues, and filled out a number of personality and demographic questionnaires.

Materials

Goal priming task. This subliminal priming task was based on Lakin & Chartrand (2003). The task was presented as a test of visual acuity and response speed. Participants were instructed to fixate on a point in the center of the screen, and indicate whether they saw a flash of light on the left or right hand of the screen. A prime word was then rapidly presented in one of the corners of the screen for 60msec, then replaced by a visual mask for a further 60msec. Participants completed a total of 80 trials. In the social goal priming condition, the prime words used were *affiliate*, *friend*, *partner*, and *together.* In the neutral condition, they were *neutral* and *background.* The visual mask *XQFBZRMQWGBX* was used in both conditions. Each prime word was presented an equal number of times in each corner (i.e., five times in the social-goal condition, ten times in the neutral condition), and the order of trials was randomized for each participant. To maintain the appearance of a reaction time task, a random interval of 1-3 seconds was inserted between trials.

Issue stimuli. A set of 30 issues were used (10 unpopular, 10 divisive and 10 popular), derived from the previous studies. Of the 60 issues used in the self-report study described in the introduction, 30 were selected on the basis of perceived social opinion ratings. Specifically, the popular issues were those with social opinion rating closest to 100% (e.g., *human rights*, *free speech*), the divisive ones were those with social opinion ratings closest to the median (e.g., *affirmative action*, *legalizing marijuana*), and the unpopular were those with the lowest social approval ratings (*air pollution*, *racial prejudice*). The full set of stimuli is given in Table 2.1, and is the same set used in the facial misattribution study described in the introduction.

Isssue rating task. Participants completed three blocks of ratings. In each block, they were presented with the 30 social issues, one at a time and in a random order. Participants indicated their affective response to discussing each issue using a 4-point scale running from *very relaxed* to *very anxious* (threat ratings; block A), *very interested* to *very indifferent* (interest ratings; block B), and

very good to *very bad* (negativity ratings; block C). The order of blocks was counterbalanced across participants. The anxiety and interest ratings provided the main DVs, and the negativity ratings provided a valenced control. There was no response deadline, but each issue was displayed for a maximum of 1 sec. Participants responded using the *q*, *w*, *o* and *p* keys (with the positive anchors on the left). Each block consisted of twelve practice ratings, followed by 30 experimental ratings. To encourage participants to focus on the issues, the rating scale was only presented on the first 6 practice trials of each block. In order to reinforce the goal priming manipulation, the prime words from the initial task were re-presented between trials. Specifically, the prime words were presented in the centre of the screen for 20msec, and replaced by the visual mask for 20msec.[1]

Manipulation check. To test the efficacy of the social goal manipulation, participants rated how much they felt *happy*, *joyful*, *social* and *outgoing.* These were rated on 7-point scales, anchored with *not at all* and *very much so.* The final two give a measure of social goal activation, whereas the first two provide a valence-matched control.

Attitude position. Participants indicated their attitude on each issue using five-point scales (*very much against*, *somewhat against*, *neutral*, *somewhat in favor*, *very much in favor).*

Personality measure and demographics. Participants completed a measure of attachment style, the Relationship Questionnaire (Griffin & Barthomolew, 1994).[2] Participants also completed a number of demographic measures, including free-response items assessing awareness of the primes.

Results

Analytic strategy

The analysis addressed three key hypotheses. First, there should be a dissensus effect on threat (i.e., divisive topics should be more threatening than consensual ones), and this effect should be stronger when social goals are active (i.e., when social goals are primed, or for people who are insecurely attached). Second, there should be a reverse dissensus effect on interest (i.e., divisive topics should be less interesting than consensual ones). Third, the effects of social opinion should not

be explicable in terms of individual attitudes or general negativity. As such, the effects should remain controlling for attitudes or general negative feelings when discussing the topics.

In the current study, social opinion was manipulated within-subjects (meaning that each participant rated popular, divisive, and unpopular issues). As such, each participant's residuals may not be independent. Furthermore, as priming and the attachment style variables vary at the participant level, the hypotheses above imply interactions across levels; a within-subject effect being moderated by between-subject variables. Both of these issues were addressed by analyzing the data using a multilevel model, which explicitly models within-subjects effects and hence can accommodate both non-independent data points and cross-level interactions.

More specifically, for each of the issue ratings (*anxiety* and *interest*), a series of three models was fitted. Model 1 simply examined the effects of social opinion and attitude position (without any reference to social goals). Model 2 examined the additional effects of priming condition and its interactions with social opinion and attitude position. Finally, Model 3 included the two dimensions of attachment style (but not priming condition) and their interactions with social opinion and attitude position. Hence, Model 1 examined the basic effects, whereas Models 2 and 3 examined for moderation by social goals (operationalized in two separate ways).[3]

Three separate versions of each of these models were run to examine the effects of controlling for alternate explanations. Version A simply contained the effects of social opinion (and interactions with the social motivation moderators). Version B added the effects of individual attitudes (plus interactions with social motivation moderators). Finally, Version C added the general negativity ratings as a control. Interactions between social opinion and attitudinal variables were deliberately not included in the model, due to the high level of collinearity between these variables.

Random effects were allowed on all the within-subjects effects. Allowing correlations on the random effects led to convergence issues, and so they were forced to be orthogonal. Reduced information maximum likelihood estimation was used as an estimation method.

Data coding

   Social opinion. Codes were assigned to the unpopular / divisive / popular issues in order to capture the linear popularity effect (i.e., whether a greater the level of social support for an issue was associated with more anxiety and/or interest; codes -1, 0, 1) and quadratic dissensus effect (i.e., whether social division was associated with more anxiety and/or interest; codes -1, 2, -1). These variables were then entered as predictors in the subsequent models. Note that these are coded such that a positive popularity effect reflects higher levels of the outcome for popular issues, and a positive dissensus effect indicates higher levels of the outcome for divisive issues.

   Attitudes. Attitude scores were centred on the mid-point of the scale (such that they ranged from -2 to 2, with a 0 representing neutrality). This variable was included as a score of attitude position. The scores were also squared to give a quadratic term, which in turn was multiplied by -1 (to score it in the same direction as the social opinion effects). This quadratic term was used as a measure of attitude extremity. The decision to use a quadratic term (rather than distance from the midpoint) is so that the extremity variable would be an appropriate control for the dissensus effect in social opinion (which is also a quadratic effect). Note that a positive attitude position effect represents an increased level of the outcome for issues which the participant is more in favor of, whereas a positive extremity effect represents a higher level of the outcome for neutral attitudes. As such, the attitude extremity variable would perhaps be more accurately named "attitude neutrality", but this term would prove confusing in use.

Manipulation check: Did the prime lead to greater self-reported sociality?

   The two items assessing self-reported social feelings were highly correlated ($r = .86$, $p < .001$), and hence were averaged to form a measure of sociality. Similarly, the two items assessing positive affect were highly correlated ($r = .75$, $p < .001$), and were averaged to form a measure of positivity. The two resulting scores were highly correlated ($r = .62$, $p < .001$). Participants reported a higher level of sociality in the neutral-prime control condition ($M = 4.51$) than in the social-prime condition ($M = 4.26$). A linear regression revealed this effect to be non-significant, $B = -0.25$, $p = .24$,

and it remained non-significant controlling for self-reported positivity, $B = -0.24$, $p = .15$. The prime also did not affect ratings of positivity, either examined alone, $B = -0.01$, p = .96, or controlling for sociality, $B = 0.15$, $p = .39$. As such, there was no evidence that the social goal prime increased self-reported sociality or positivity. In fact, for sociality, the means were in the opposite direction, although this difference was non-significant.

Anxiety effects: Did social division increase anxiety?

Analysis was conducted on data from 143 participants (one participant failed to complete the anxiety rating task). The results are given in Table 2.1, and plotted in Figure 2.1. As can be seen, there was a robust dissensus effect, which remained even controlling for attitude extremity and general negativity. This main effect was significant for eight of the nine analyses, and marginally significant in the remaining one (Model 2, Version A). Consistent with predictions, there was also a significant cross-level interaction between dissensus and the self-model of attachment, such that participants with an insecure attachment style showed a stronger threat response to the divisive topics. There was no moderating effect of the priming manipulation on the dissensus effect.

There is also a question as to whether the more complex models (i.e. Model 2 and 3) have any greater explanatory power than the simpler Model 1. It is notable that, regardless of which controls are in the model, adding either set of social motivation variables does not lead to a decrease in the residual variance and actually increases the AIC and BIC (suggesting worse fit given the degrees of freedom). These results suggest that adding the social motivation predictors may be making the analysis more complex without adding to its explanatory ability. To test this possibility, version C of all three models was re-run using full information maximum likelihood estimation (FIML; allowing comparison of models with different fixed effects). Likelihood ratio tests were then used to compare the fit of Model 1C with both Model 2C and 3C. These tests revealed that the prime-as-moderator model was not significantly better than the no-moderator model, $\chi^2(5) = 3.32$, $p = .50$. However, the attachment-moderator model was significantly better than the no-moderator model,

$\chi^2(10) = 27.16$, $p = .002$. Hence, adding the attachment predictors seems to add to the fit of the model, but adding the prime did not.

Interest effects: Did social division suppress interest?

Analysis was conducted on data from 141 participants (the others failed to complete the interest rating task). The results are given in Table 2.2. As can be seen, the dissensus effect fluctuated depending on which controls were in the model. In all three models, there was the predicted negative dissensus effect (i.e., divisive topics were less interesting to discuss) when there were no controls in the analysis. When the attitudinal variables were entered into this analysis, this effect became non-significant (suggesting that it is in fact attitude extremity, rather than social consensus, which was driving the initial effect). Finally, when general negativity was also entered, there was a marginally significant positive consensus effect. This suggests a suppressor effect; social division renders topics more interesting to talk about, but also increases general negativity about discussing the topic which reduces interest. This effect is, however, only marginal and did not emerge when prime condition was included in the analysis (i.e., in Model 2).

There was no evidence for moderation of the dissensus effect by social motivation, regardless of whether this was operationalized as attachment style or through the goal manipulation. None of the relevant fixed effects were significant. Furthermore, as with the analysis of anxiety, adding the social motivation predictors did not reduce the residual variance and actually increased the AIC and BIC. Repeating the model-testing procedure from the first analysis (i.e., re-running version C of each model using FIML estimation and conducting likelihood ratio tests) revealed that neither the prime-moderator not the attachment-moderator models were a significantly better fit than Model 1, $\chi^2\text{s}(5, 10) = 3.86$, 12.84, $p\text{s} = .57$, .23 respectively.

Discussion

This study provided a replication and extension of the previous self-report findings on the dissensus effect. First, it replicated the basic effect (that divisive topics were more threatening than consensual ones), and the finding that this effect could not be explained through correlated

differences in attitudes. Second, it demonstrated that, as with the facial misattribution study, the dissensus effect was not simply general negative facilitation; the effect emerged even controlling for other negative responses. Third, consistent with the proposed causal mechanism, the dissensus effect was stronger for people with insecure attachment styles. Specifically, people who showed insecurity on the self-model dimension showed greater anxiety at the thought of discussing divisive topics.

The findings on interest were somewhat more complex than predicted. There was a notable reversed dissensus effect (such that divisive topics were less interesting, as predicted). However, unlike the effects in anxiety, controlling for attitudes eliminated this effect. This finding is more consistent with the real causal factor being attitude extremity; people are most interested in discussing topics on which they have extreme views. Furthermore, controlling for general negativity gave some hint of a suppressor effect; social division actually promotes interest, but also a general sense of negativity (which reduces interest). This finding is consistent with work on the appraisal pattern of interest, which highlights that complexity is a key precursor of interest (e.g., Silvia, 2008). However, this effect was only marginal in the current study, and hence should not be over-interpreted.

Perhaps the most notable feature of this study was the failure of the social goal manipulation to intensify the dissensus effect. This is surprising, given that the adult attachment measure showed the predicted pattern of moderation. There are at least two different explanations for this. On the one hand, this could be a genuine null effect, and social goal activation does not have the predicted effect. On the other hand, it could simply be that, within the context of this study, the priming task was not sufficiently strong to activate participants' goals. Consistent with this latter explanation, the manipulation did not have widespread effects on the outcomes, and for neither DV was the prime-moderated model a better fit than the non-moderated model.

Furthermore, the prime did not affect self-reported sociality, although this null effect could simply be due to implicit goal manipulations effects bypassing conscious intentions (e.g., Aarts, Gollwitzer & Hassin, 2004; Bargh, Gollwitzer, Lee-Chai, Barndollar & Trötschel, 2001; Eitam, Hassin & Schul, 2008). That is to say, even if the prime was effective, it may not affect participants'

conscious motivations and hence may not be susceptible to self report. In an attempt to resolve this

issue, a different goal activation task was used in the second study.

[1]Due to unforeseen technical issues, the presentation of these stimuli actually occurred for a range of timings (from 7 to 42 msec, with values in the mid-30s being most common). This variability in presentation times raises concerns about whether some participants were able to read the prime words. It should be noted that the procedure had been tested by the experimenter before being run on participants without raising concerns about legibility, and hence the primes were not clearly supraliminal. However, as an additional precaution, the analyses were repeated without the six participants who successfully named one of the primes in a final open-ended response (asking them to name any words they had been able to read). Specifically, the most complex version of each model (Version C) and the test of the manipulation check were re-run on this reduced dataset. Removing these participants did not alter the findings substantially. The only noteworthy change was that the main effect of dissensus on interest moved from marginal significance to non-significance in Models 1 & 3. Thus, when controlling for general negativity, there was no evidence for dissensus promoting interest. This change is most likely due to a general reduction in power, rather than the effect being driven by awareness of the primes; the effect was marginal in the full dataset, the change occurred in the versions of the model which did not include priming condition as a predictor, and there is not a plausible causal pathway from awareness of the prime to the effect.

[2]Due to an oversight, the initial forced-choice item was omitted from this scale. A number of other potentially relevant constructs were also measured; a novel eight-item measure of self-reported sensitivity to controversy (given in Table 2.4), an 18-item scale assessing the tendency to appraise difficulties as challenges vs. threats (the Cognitive Appraisal Scale, CAS; Skinner & Brewer, 2002), and a scale of dispositional loneliness (the SELSA-S; DiTommaso, Brannen & Best, 2004). In terms of anxiety outcomes, these either failed to moderate the dissensus effect (controversy sensitivity and the SELSA-S) or followed the same patters as attachment (CAS; threat appraisals intensified the dissensus effect). In terms of interest, using any as a moderator replicated the marginally significant dissensus effect when controlling for both attitudes and general negativity. In general, these scales did not moderate the dissensus effect in interest; the only evidence was a marginally significant tendency for the Family subscale of the SELSA-S to decrease the effect. As these measures did not have particularly noteworthy effects, they will not be discussed in more detail.

[3]This analysis did not test for interaction effects between the priming manipulation and the attachment style variables. Such effects would not bear strongly on our conclusions, and would add substantially to the complexity of the models to be fitted.

CHAPTER III

Study 2: Social goals and cognitive responses

Aims

The previous study replicated the dissensus effect and found the predicted moderation by attachment style. However, so far there has been no evidence for the predicted moderation by social goal activation or effects on attitude strength outcomes. The current study provided a further test of these two hypotheses. First, an alternate goal activation procedure was used (a scrambled sentence task). Second, a test of effects of social division on private thinking was constructed, which assessed participants' cognitive response while keeping social interactions salient in their mind.

Method

Participants

A total of 147 participants were recruited through two routes. The main body were undergraduates, recruited through the participant pool (n = 136; male = 79, female = 57; *M* age = 20.0, *SD* = 5.51). However, the study was also advertised via flyers in the psychology building, offering $5 financial compensation for completing the study. This second recruitment method returned a smaller group (n = 11; male = 3, female = 8; *M* age = 22.5, *SD* = 7.18). The two groups were combined to form one sample.

Procedure

The study followed a 2 (goal prime: social vs. individual) x 3 (issue framing: unpopular vs. divisive vs. popular) design. Participants were briefed that the study was investigating responses to the issue of direct-to-consumer drug advertisements. Initially, social vs. independent goals were activated using a scrambled sentence task. Subsequently, participants completed an initial attitude

scale and read some information about the issue, giving a sample of arguments on each side and (fictional) information about social opinion on the advertisements. They then completed an adapted thought listing task, in which they imagined two people discussing the issue and listing arguments which could be used on either side. This task was intended to measure their thoughts while keeping social considerations salient. Finally, participants completed a measure of final attitudes and attitude strength, and personality and demographic questionnaires.

Materials

 Goal priming task. A scrambled sentence task was used to activate participants' social goals. The task was taken from Cook and Bird (2011). Participants were presented with a series of lists of five words, and had to generate a four-word grammatical sentence from each. Participants completed two practice trials, followed by 36 priming trials. They key manipulation was that in the social-goal condition 24 of the priming trials contained words relating to social relationships (e.g., friend, sharing), whereas in the independent-goal condition 24 of the trials contained words related to independence (e.g., private, separate). A full list of sentences is given in Table 3.1.

 Initial attitude. Following the goal priming task, participants were given a brief outline of what is meant by direct-to-consumer drug advertisements and asked to indicate their initial attitude position. This was measured using a six-point scale with no neutral option (*very much against, somewhat against, mildly against, mildly in favor, somewhat in favor, very much in favor*).

 Briefing and issue framing manipulation. After giving their attitudes, participants read a short briefing on the issue. This text drew attention to the widespread nature of drug advertisements, and gave a short summary of an argument on each side of the issue (the ads serve a public information function vs. the ads encourage decisions based on emotional factors). Most importantly, the briefing also contained the issue framing manipulation, a claim that polling indicated that two, five, or eight in ten Americans were in favor of the advertisements (the *unpopular*, *divisive*, and *popular* conditions respectively). To ensure that this information was attended to, participants subsequently completed three multiple choice comprehension questions. These asked participants to identify the name of the

issue to be discussed, what is meant by that issue, and finally the percentage of society in favor of the advertisements. The briefing was then re-presented, to allow participants to check any information they were not clear on.

Argument listing task. The argument-listing task was designed to be a variation on a thought-listing task which would keep social concerns salient to participants. The task is loosely based on the procedure used in Kenworthy, Hewstone, Levine, Martin, and Willis (2008, Study 3). Participants were asked to imagine two people discussing the topic of direct-to-consumer drug advertisements, and to think of arguments each side could use. They entered up to 10 arguments (in any order). They then indicated whether each argument suggested the advertisements were a good or bad idea (or had no implications either way). The number of arguments generated was used as a measure of the amount of thought, and the proportion which support the participants' own attitude provided a measure of confirmatory thinking.[1]

Final attitude scales. After completing the argument-listing task, participants completed the same attitude scale as at the beginning of the study (to test whether the argument-listing task changed attitudes). They also completed a number of measures of attitude strength. Scales of potential and subjective ambivalence were adapted from Preister and Petty (1996). Potential ambivalence measures the degree to which participants hold simultaneous positive and negative evaluations of the attitude object. This was assessed by collecting separate positivity and negativity ratings of direct-to-consumer advertisements (e.g., *Take a moment to just think of the GOOD things about direct-to-consumer drug advertisements. Ignore all the bad things about them. How positive are these good things?).* These were rated on 7-point scales, anchored with *not at all* and *extremely*. These separate ratings were combined using the similarity-intensity model (i.e., the average of the two evaluations minus the difference between them) to give a single value indicating simultaneous positive and negative evaluations. This ambivalence figure could hence range from -2 to 7. Subjective ambivalence (the feeling of tension between positive and negative evaluations) was assessed with three items, asking participants to what extent their thoughts and feelings on the topic were *mixed*,

conflicted and *indecisive*. Participants' attitude certainty was assessed using Petrocelli, Tormala, and Rucker's (2007) scale, which contains four items assessing attitude clarity (e.g., *To what extent is your true attitude toward direct-to-consumer drug advertising clear in your mind?*) and three assessing attitude correctness (e.g., *How certain are you that your attitude toward direct-to-consumer drug advertising is the correct attitude to have?*). The subjective ambivalence and certainty items were all rated on 9-point scales, anchored with *not at all* and *very much*.

     Manipulation check and personality measure. As in Study 1, participants were asked to indicate how much they felt *happy*, *joyful*, *social* and *outgoing,* allowing a check on the efficacy of the social goal prime (and a control for positive valence). Dispositional social orientation was assessed using the same five-item attachment style scale as in previous studies (the Relationship Questionnaire; Griffin & Bartholomew, 1994).[2] Finally, participants completed a range of demographic questions, and were asked if they thought anything they had been told was false and if they had any other comments about the study (both assessed with open-ended text responses).

Results

Analytic strategy

     Rather than entering participants' initial attitude position and the issue framing manipulation as separate predictors, these variables were combined into a single social support variable reflecting whether social opinion was opposed to or supportive of participants' viewpoints. Participants were classified into those who started with positive vs. negative attitudes towards the advertisements (the scale used did not have a neutral point). For participants with a positive attitude, the popular condition was coded as *supportive* and the unpopular condition as *opposing*. For participants with a negative attitude the opposite held; the unpopular condition was coded as *supportive* and the popular condition as *opposing*. The divisive condition was coded as *divided* for all participants. As in previous analyses, contrast coding was used to decompose the overall effect of this variable (opposing, divisive, supportive) into linear (-1, 0,1) and quadratic (-1,2,-1) terms. In this case, the linear term reflects the effect of increasing social support for the participants' attitudes (the opinion support effect), and as

before, the quadratic term reflects the effect of social opinion being divided rather than consensual (the dissensus effect).

Thus, there are three separate groups of predictors. The first group is the *social support* variables (containing the opinion support and dissensus effects). The second group is the *social motivation* predictors: the goal prime manipulation, and the attachment style variable. As in Study 1, these two were treated as separate operationalizations of social motivation, and were not used simultaneously. Rather, different versions of the analyses were conducted using each one. While it is possible that the effects of social goal activation are moderated by attachment style, the current design is not designed to look for these interactions and entering them would render the analyses unfeasibly complex. The third and final predictor is *attitude extremity*. To maintain comparability with previous studies, this was calculated as the square of initial attitude position (although the results are substantially the same if absolute distance from the midpoint is used).

For each DV, a series of regression models was fitted. The first simply included the main effects of the social support and social motivation variables. The second allowed for the interaction between social support and social motivation. The third introduced attitude extremity as a control for social support (and hence allowed for a main effect and interaction with social motivation). Finally, the fourth model tested whether attitude extremity moderated the effect of social support, social motivation, or their interaction. Two versions of these analyses were conducted; the first used the priming manipulation as an operationalization of social motivation, and the second used the two attachment style variables. The full results are given in Tables 3.2-3.7.

Manipulation check: Did the prime lead to greater self-reported sociality?

As in Study 1, the two self-reported sociality items showed a high level of correlation ($r = .78, p < .001$), as did the two self-reported positivity items ($r = .86, p < .001$). The resulting sociality and positivity scales were also correlated ($r = .59, p < .001$) Participants reported higher levels of sociality following the social goal prime ($M = 4.73$) than the individual goal primes ($M = 4.68$). This effect was not significant, $B = 0.05, p = .83$, and remained non-significant controlling for self-

reported positivity, $B = .05$, $p = .75$. Additionally, the prime did not significantly affect reported positivity, either considered alone, $B = -0.01$, $p = .94$, or controlling for reported sociality, $B = -0.01$, $p = .80$. As such, there was no evidence that the goal prime lead to greater self-reported sociality or positivity.

Dissensus effects: Did split social opinion lead to less thought, more bias, and weaker attitudes?

There was not a clear dissensus effect across the DVs. On the one hand, attitude polarization and subjective ambivalence showed a dissensus effects. That is, participants showed less polarization and more conflicted thoughts and feelings when the topic was framed as divisive. There was also some evidence for a similar effect in potential ambivalence and number of arguments generated, although these were less compelling. However, counter to predictions, there was no evidence for an influence of dissensus on proportion of supportive arguments or attitude certainty. The effects which did emerge were much more apparent in the analyses which used attachment as a measure of social motivation; when using the priming task as a predictor, the dissensus effects were only significant in the simpler models. As such, the discussion below will focus on the version of the analysis which uses attachment as a moderator.

There was good evidence that framing an issue as divisive led participants to depolarize their attitudes (Table 3.2). Across the simplest three versions of the model, the main effect of dissensus was significant or marginally significant. In the final model, the three-way interaction between dissensus, the attachment self-model and attitude extremity was significant. A test in the increase in R^2 revealed this more complex model to be a significantly better fit than the simpler models. Plotting this interaction revealed that the dissensus effect was most notable for insecure participants with extreme attitudes (Figure 3.1). Both these conditions fit with my predictions. First, an insecure attachment style should intensify the dissensus effect, because it indicates a high level of social motivation. Second, the depolarization effect should be stronger for those with initially extreme attitudes as they have further to move to get to attitude neutrality.

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There was also good evidence that framing an issue as divisive lead to a greater sense of subjective ambivalence ($\alpha = .86$; Table 3.6). Models 1 and 2 show a main effect of dissensus, such that participants felt more subjective ambivalence when the issue was framed as divisive (these effects were significant and marginally significant for Models 1 and 2 respectively). This effect remained significant in Model 3, which also showed a marginally significant interaction between dissensus and the other-dimension model of attachment. The direction of the coefficient shows that participants insecure on the attachment measure showed a stronger dissensus effect than those who were more secure, an effect shown graphically in Figure 3.1. The overall increase in R^2 associated with this model was marginally significant. Finally, adding the final set of interactions in Model 4 did not lead to a significant increase in fit. As such, there was good evidence for a main effect of dissensus on subjective ambivalence, and some evidence for this effect being stronger for those who are insecure on the other-model dimension of attachment.

There were suggestions of dissensus effects in other outcomes, but this evidence was not as compelling. First, the overall number of arguments generated showed a marginal two-way interaction between dissensus and the other-model dimension of attachment, qualified by a marginal three-way interaction with attitude extremity (Table 3.3, Models 3 & 4). Neither of these models (or, for that matter, any of the more simple ones which preceded them) was associated with a significant increase in R^2. Furthermore, plotting out the interaction (Figure 3.2) shows that it is actually securely attached people with extreme attitudes who are showing a notable dissensus effect. As such, these effects are of questionable reliability, and do not fit well with findings on the role of attachment in other outcomes (in both Studies 1 & 2). . Second, potential ambivalence showed a significant three-way interaction between dissensus, attitude extremity, and the self-model of attachment (Table 3.5, Models 3 & 4). As shown in Figure 3.2, this interaction was in line with the findings in depolarization. Framing a topic as divisive led to high levels of potential ambivalence, but only for participants who were insecure on the self-model of attachment and who had extreme attitudes. This finding therefore supported the results in polarization. However, there was no main effect of

dissensus in any of these models, the increase in R^2 associated with the final model was non-significant, and none of the simpler versions of the model were associated with a significant increase in R^2. As such, this effect is somewhat tenuous.

An unexpected effect: Social goals and attitude extremity

Across a number of variables, there was evidence of an interaction between attitude extremity and the social goal manipulation. This interaction had the same basic form across attitude certainty (α = .90; Table 3.7, Version A, Model 3) and the two ambivalence measures (potential and subjective; Tables 3.5 & 3.6, Version A, Models 3 & 4 respectively). The interactions in these variables are plotted in Figure 3.3. In the individual prime condition, attitude extremity was associated with stronger attitudes (i.e., participants with more extreme initial attitudes showed greater certainty and less ambivalence). In the social goal prime condition, this relationship was eliminated (for certainty) or reversed (for the ambivalence measures). Put simply, being socially motivated undermined the tendency for people with more extreme attitudes to be more certain of their views, and actually seemed to make people with extreme attitudes more ambivalent. For subjective ambivalence this effect was qualified by an interaction with social opinion, such that it was strongest when participants thought they were in the minority. These effects did not reach full significance; for certainty, the effect was marginal, whereas for the two ambivalence measures the effect was significant but the increase in R^2 associated with the block was marginal. However, given that the study was not designed to test for this effect, the convergence of results is notable.

In interpreting these effects, it is important to take account of whether the prime affected the initial level of attitude extremity. The initial attitude measure came after the prime (although before the social opinion manipulation), and as such it is plausible that the prime could have had a causal effect on attitude extremity (complicating interpretation of interactions between the two). However, there was no evidence for such a causal effect. Extremity was higher after the social prime ($M = 1.25$) than after the individual prime ($M = 1.09$), but this effect was non-significant, $t(145) = -0.60$, $p = .55$. As such, the prime and attitude extremity can be seen as independent predictors.

A further question is whether the effects of the prime are best explained in terms of sociality or positive affect. While the priming manipulation was intended to activate social motivations, the specific primes used could also have activated more general positive vs. negative feelings. In the current data, the only measures relevant to this question are the sociality and positivity items in the manipulation check. Given that the prime did not affect these measures, as well as the more general issue of whether implicit goal activation bypasses conscious motivation, this was not an ideal test. It did, however, provide an initial check on plausible meditational mechanisms.

To test the possible mediation of the prime effects by sociality and positivity, two models were fitted to each DV. The first model was a simplified version of the main analytic model, including only the terms relevant to the current question (i.e., prime, attitude extremity, and their interaction). This simplified model was sufficient to replicate the interactions from the original analyses, Bs = 0.39, 0.37, -0.32, ps = .03, .05, .06, for potential ambivalence, subjective ambivalence, and certainty respectively.

The second model added self-reported sociality, self-reported positivity, and their two-way interactions with attitude extremity. If the effect of the prime can be reduced to self-reported sociality or positivity, then entering these additional predictors should eliminate the original interaction. This was not the case; for all three DVs, the prime by attitude extremity interaction remained significant, Bs = 0.38, 0.51, -0.41, ps = .05, .01, .02, (in the same order as above). Furthermore, the only significant interaction between the self report variables and attitude extremity was in the opposite direction to the prime effect. More specifically, self-reported sociality showed a negative interaction with attitude extremity in predicting subjective ambivalence, B = -0.25, p = .03, such that feeling social actually intensified the tendency for more extreme attitudes to be less ambivalent. None of the other interactions of sociality or positivity with attitude extremity were significant, ps > .14. As such, the effects of the prime cannot be reduced to (accessible and reportable) feelings of sociality or positivity.

Discussion

Overall, the evidence for a dissensus effect on cognitive responses was not strong. Polarization and subjective ambivalence showed dissensus effects, but there were not clear effects on other variables. In the absence of clear evidence for reduced or biased thought, the effect on polarization and subjective ambivalence could be interpreted in terms of a conciliatory social style. That is to say, rather than seeking rapid cognitive closure, participants were committing themselves to a flexible conversational position which would make it easier to interact with others of a wide range of opinions. Thus, they move themselves towards a neutral position and declare themselves open to alternative viewpoints (although it does not seem they have actually thought through these alternative views any more, as shown by the lack of effect on balance of arguments or potential ambivalence).

The dissensus effects only emerged when attachment style was used as a measure of social motivation. When the priming task was used, the evidence for the dissensus effects was virtually non-existent. As the primes did have a reliable moderating effect on other predictors (namely, attitude extremity), it is hard to explain the lack of an interaction with dissensus as a failure of the manipulation as in Study 1. This is compatible with the null results in the manipulation check, as implicit goal activation can have effects which are not accessible to self-report (e.g., Aarts, Gollwitzer & Hassin, 2004; Bargh, Gollwitzer, Lee-Chai, Barndollar & Trötschel, 2001; Eitam, Hassin & Schul, 2008) . As such, the finding that the priming task did not moderate the dissensus effect cannot be attributed to an ineffective manipulation. Rather, social goal priming and attachment style seem to be fundamentally different constructs, which are driving different effects. The potential difference between the two constructs will be taken up in the next chapter.

It is encouraging that the priming variable moderated the effect of attitude extremity. First, as mentioned above, this interaction validates the priming manipulation. The fact the task reliably moderated the effect of another variable shows that it is having a consistent and detectable effect. Second, this interaction testifies to the role of social motivations in attitudinal processes. When people are not socially motivated, holding an extreme attitude is associated with feeling certain of

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one's position and not seeing the other side. When people are more socially motivated, however, then holding a more extreme attitude is associated with no greater certainty and an increased tendency to see the other side of the issue. Social motivations disrupt the relationship between different aspects of attitude strength, at least when the idea of discussing a topic is made salient. Thus, while this interaction does not involve social opinion, it does fit well with the broader theoretical framework; the social challenges associated with talking about issues can change people's opinions on these issues.

<h1 style="text-align:center">Endnotes</h1>

[1]Participants also rated their arguments for strength. Both versions of the analysis were run on this variable, and none of the models were associated with a significant increase in R^2. As this outcome was not central to the current argument, it will not be discussed further.

[2]Participants also completed a measure of how much they had thought about the issues before coming to the study (initial elaboration, measured on a 5-point scale), and an 18-item measure of tendency to invest effort in thought (need for cognition; Cacioppo, Petty, & Kao, 1984). Initial elaboration was generally low, with 127 participants rating themselves on the lowest two points about the scale (*not at all*; *somewhat*). Need for cognition was primarily collected as it was plausibly an additional source of variability in performance on the argument task, and hence controlling for it would increase statistical power. However, adding this predictor to the analyses of the argument task variables (number of arguments generated and proportion of supportive arguments) did not significantly increase R^2 and so it will not be discussed further.

CHAPTER IV

General discussion

Overall, these studies offered mixed support for my hypotheses. On the one hand, the basic dissensus effect on affect was replicated, and there was evidence for the predicted moderation by adult attachment. On the other hand, there was no evidence for moderation by social goals, and the predicted cognitive avoidance did not clearly emerge. These results will first be discussed in more detail, then two broad aspects of the findings will be examined directly (specifically, the divergence between the attachment measure and social goal manipulations, and the consequences of the dissensus effect).

The current findings: Dissensus, social motivation, and cognitive consequences

First, the basic dissensus effect was replicated in the current research. In the first study, participants felt more anxiety when thinking about discussing divisive topics. Furthermore, this effect could not be explained in terms of individual attitude extremity or general negativity, replicating findings from the initial studies. In Study 2, there was a notable dissensus effect in attitude polarization and subjective ambivalence, such that participants were more likely to move towards neutrality and feel conflicted when thinking about discussing a divisive topic. This not only demonstrates a dissensus effect on a new set of responses, it was also found using a novel manipulation of consensus. Thus, the current data offers excellent support for the initial studies; dissensus has widespread and robust effects.

The role of social motivations was less clear. On the one hand, there was robust moderation of the dissensus effects by the self-model of attachment. Participants who were more insecure about their self-worth showed a greater anxiety response to divisive issues, as well as greater attitudinal

depolarization. The other-model dimension had less straightforward effects; there was some evidence that this variable moderated subjective ambivalence and thought generation responses, but the evidence for these effects was not as strong. As such, it seems that people's dispositional social orientation does moderate responses to social division in the predicted fashion, and that feelings of self-worth are a stronger and more robust determinant of these responses than distrust of others.

However, the social goal manipulations did not show the predicted intensification of the dissensus effects. In neither study did participants whose social goals were activated show a greater dissensus response. In the first study, this was plausibly due to a manipulation failure. In the second, however, there was good evidence that the manipulation was effective; in particular, the priming task showed a reliable and consistent interaction with attitude extremity. Thus, it is hard to escape the conclusion that the priming task did not moderate responses in the same way attachment did. Possible reasons for this discrepancy (and the implications for understanding the causal mechanism of the effect) will be discussed in the following section.

Finally, there was not good evidence for cognitive avoidance of divisive topics. There was a dissensus effect on attitude polarization and subjective ambivalence, such that divisive topics made people move their attitudes towards neutrality and feel more torn between the alternative viewpoints. There was also some suggestion of a dissensus effect on number of arguments generated and potential ambivalence, but these latter findings were not compelling. In light of the null effect in many variables, an overall cognitive avoidance of the issue does not seem plausible. While the effects found were consistent with cognitive avoidance, they are just as plausibly explained as a more conciliatory social style; social division leading participants to adopt a more flexible conversational position.

Themes of results: Social motivation and cognitive avoidance

Social concern: The complexity of social motivation

Perhaps the most surprising feature of these results was the discrepancy between the two operationalizations of social motivation. While attachment insecurity intensified the dissensus effect as predicted, experimentally activating social goals did not. In the face of these findings, it is hard to

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maintain the idea that the two tasks are both operationalizations of the same underlying variable. Rather, it seems they are two different constructs. Thus, social motivation proves to be a more complex and multifaceted concept than originally conceived.

One possible way to characterize the difference between these two constructs is that goal priming is purely motivational, whereas attachment captures beliefs about the self and others (i.e., the internal working model of relationships). This conceptualization would imply that the dissensus effect is driven more by beliefs about interpersonal episodes than by the desire to have smooth interactions. To illustrate this point, imagine modeling aversion to negative social outcomes in an expectancy-value framework. The probability of such outcomes would be linked to beliefs about the nature of people and interactions (determined in part by internal working model of relationships), whereas the aversion to them would be linked to the desire to avoid negative outcomes (determined in part by social goals). Roughly speaking, attachment style is linked to expectancy, whereas goal activation is linked to value. As such, participants with active social goals may have valued a smooth interaction more, but this effect is dwarfed by the differences in how probable they saw negative social outcomes as being (determined by attachment).

Alternatively, the differential roles of social goal priming and attachment may be due to the difference between approach and avoidance motivation. Being socially motivated is ambiguous; it could mean striving to achieve all the positive outcomes which could come from social interactions, but it could also mean desiring to avoid all the negative outcomes which could come from interactions. While these may sound redundant, psychologically they are two very different motivational states; note that being purely approach motivated would lead people to engage in every possible interaction (even if the probability of conflict was extremely high), whereas pure avoidance motivation would lead people to refuse to engage in any interaction (even if the possibility of it being positive was very high). Given the proposed causal mechanism, the dissensus effect should be linked to avoidance motivation; it stems from the desire to avoid negative social outcomes. Thus, the

difference between the attachment measure and the goal priming could be due to the priming task affecting approach motivation, but the attachment measure being linked to avoidance motivation.

Cognitive avoidance and the consequences of dissensus

As outlined above, there was not compelling evidence of cognitive avoidance of divisive topics; while discussing divisive topics does make people feel more threatened and move their attitudes towards neutrality, there was not strong evidence for reduced or more biased thought about these topics. One possible conclusion from this is that the dissensus effect is of little practical significance; while divisive topics do make people feel threatened, this affective response does not have much bearing on opinions about the topic. Another possible conclusion is that the procedure used in the current experiment is too detached from actual interactions; while the imagined discussions in the current study are sufficient to show affective consequences, an actual interaction would be required to find effects on more substantive variables. I would suggest that while there may be some truth to these charges, they both over-state their case. On the one hand, while the current data do suggest that it would be fruitful to look beyond private cognition, this does not mean there are no important consequences of the dissensus effect. On the other, while the current procedure may neglect certain features of actual interactions, it may be that these features can be manipulated within the context of individual participants imagining or anticipating talking with others.

One possibility, consistent with the current findings, is that dissensus gives rise to social (rather than cognitive) avoidance. Rather than examining the consequences of discussions on private thought, it might be more fruitful to examine the effects of social division on interactional styles. If knowing that a discussion topic splits societal opinion changes the ways in which people interact with others, this is likely to have important consequences for the degree to which information spreads through society and the degree to which people hear diverse viewpoints.

This social avoidance could manifest in different ways. On the one hand, people might show *compensatory sociality*. When interacting on a difficult topic, the potential disruption to interpersonal relationships might motivate people to be particularly solicitous and accommodating towards their

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interaction partners. This would explain the attitudinal depolarization found in Study 2, and would be consistent with the finding that thwarted social goals can motivate affiliative tendencies (Lakin & Chartrand, 2003). However, an alternative response would be *reactive hostility*. In this case, because social goals are threatened, become highly sensitive to negative cues (e.g., Strachman & Gable, 2006) and start pursuing alternative goals such as upholding values (Nash, McGregror & Prentice, 2011). One plausible moderator of which response style is shown is the perceived possibility of a positive interaction. Compensatory sociality would be a plausible response if there seems a reasonable probability the interaction could go well (e.g., the partner seems friendly), whereas reactive hostility would be more appropriate if the interaction seems likely to go poorly (e.g., if the partner seems hostile).

Both of these response styles would have important consequences for the discussion of divisive topics. Neither mindset is conducive to interaction partners calmly discussing their opinions (which may be similar or divergent from one another), identifying points of difference, and ultimately finding consensus. However, each response style would disrupt this process in a different way. On the one hand, compensatory sociality would lead to an aversion to saying anything about the topic at all; given the desire to have a positive interaction, people would be very hesitant to commit to a viewpoint or criticize the views of others. On the other hand, reactive hostility would lead to an overly combative style, whereby people would become very committed to their own position and very inflexible. Thus, an understanding of the interpersonal effects of social dissensus may prove very important to promoting the successful resolution of difficult social issues.

Summary

In sum, the current studies provide a strong replication of the dissensus effect, some evidence for moderation by social motivation, and weak evidence for cognitive avoidance. The basic reasoning that divisive topics are socially challenging is strongly supported, suggesting that this line of research has identified a real and potentially important social psychological phenomenon. However, the causes and consequences of the dissensus effect are less clear than was originally hypothesized. With regard

to causes, social motivation proved to be a more complex construct than originally anticipated. With regard to consequences, it seems that it may be more fruitful to focus the effect dissensus has on social processes rather than private cognition.

APPENDIX: TABLES AND FIGURES

Table 2.1. Issue stimuli (Study 1).

Popular	Divisive	Unpopular
Safe tap water	Affirmative action	Social segregation
Human rights	Intelligent design	Teenage mothers
Home privacy	Legalizing marijuana	Air pollution
Food safety	Health care reform	Poverty
Free speech	Stem cell research	Racial prejudice
Supporting veterans	Internet pornography	Childhood obesity
Safe sex	Abortion	High unemployment
Fair pay	Capital punishment	Vandalism
Medical confidentiality	Endangered species	Drug addiction
Equal opportunities	War in Iraq	Slavery

Table 2.2. Multilevel model of the effects of social opinion, attitude extremity, general negativity, and social motivation (goal prime, attachment style) on anxiety in an anticipated discussion (Study 1).

	Model 1: No moderators			Model 2: Prime as moderator			Model 3: Attachment as moderator		
	Version A: No control	Version B: Att. control	Version C: Val. control	Version A: No control	Version B: Att. control	Version C: Val. control	Version A: No control	Version B: Att. control	Version C: Val. control
Fixed effects									
Intercept	1.44 ***	1.27 ***	0.89 ***	1.48 ***	1.24 ***	0.87 ***	1.44 ***	1.27 ***	0.90 ***
Popularity (Linear social opinion)	-0.26 ***	-0.03	0.00	-0.27 ***	-0.03	0.00	-0.26 ***	-0.03	-0.01
Dissensus (Quad. social opinion)	0.04 ***	0.07 ***	0.06 ***	0.03 †	0.07 ***	0.06 ***	0.04 ***	0.07 ***	0.06 ***
Position (Linear attitude)		-0.15 ***	-0.07 ***		-0.14 ***	-0.07 **		-0.14 ***	-0.07 ***
Extremity (Quadratic attitude)		-0.07 ***	-0.07 ***		-0.10 ***	-0.10 ***		-0.07 ***	-0.07 ***
General negativity			0.24 ***			0.24 ***			0.24 ***
Prime				-0.09	0.06	0.05			
Prime x popularity				0.02	0.02	0.00			
Prime x dissensus				0.02	-0.01	0.00			
Prime x attitude position					-0.01	-0.01			
Prime x attitude extremity					0.06 *	0.05 *			
Attachment (Self)							0.02 **	0.00	0.00
Attachment (Other)							-0.02 **	-0.01	-0.02 †
AS x popularity							0.00	0.00	0.00
AO x popularity							0.00	0.00	0.00
AS x dissensus							0.01 *	0.01 **	0.01 **
AO x dissensus							0.00	0.00 †	0.00
AS x attitude position							0.00	0.00	0.00
AO x attitude position								0.00	0.00
AS x attitude extremity								-0.01 ***	-0.01 ***
AO x attitude extremity								0.00	0.00
Variance components									
Intercept	0.43	0.35	0.33	0.43	0.35	0.33	0.41	0.34	0.32
Linear Social Opinion (Popularity)	0.20	0.03	0.03	0.20	0.03	0.03	0.20	0.04	0.04
Quadratic Social Opinion (Dissensus)	0.08	0.05	0.05	0.08	0.05	0.05	0.07	0.04	0.05
Linear Attitude (Position)		0.13	0.12		0.13	0.12		0.13	0.12
Quadratic Attitude (Extremity)		0.10	0.12		0.10	0.10		0.10	0.09
Residual	0.83	0.79	0.77	0.83	0.79	0.77	0.83	0.79	0.77
Model information									
Obs.	4290	4261	4261	4290	4261	4261	4290	4261	4261
Participants	143	143	143	143	143	143	143	143	143
Log likelihood	-5555	-5364	-5261	-5560	-5373	-5271	-5571	-5396	-5293
AIC	11123	10750	10546	11140	10779	10577	11168	10834	10631
BIC	11168	10820	10622	11204	10880	10685	11250	10967	10771

N.B. † p < .10; * p < .05; ** p < .01; *** p <.001

Table 2.3. Multilevel model of the effects of social opinion, attitude extremity, general negativity, and social motivation (goal prime, attachment style) on interest in an anticipated discussion (Study 1).

	Model 1: No moderators			Model 2: Prime as moderator			Model 3: Attachment as moderator		
	Version A: No control	Version B: Att. control	Version C: Val. control	Version A: No control	Version B: Att. control	Version C: Val. control	Version A: No control	Version B: Att. control	Version C: Val. control
Fixed effects									
Intercept	1.84 ***	1.43 ***	1.60 ***	1.87 ***	1.46 ***	1.63 ***	1.84 ***	1.43 ***	1.61 ***
Popularity (Linear social opinion)	0.03 †	-0.21 ***	-0.22 ***	0.01	-0.23 ***	-0.24 ***	0.03 †	-0.21 ***	-0.22 ***
Dissensus (Quad. social opinion)	-0.06 ***	0.01	0.02 †	-0.06 ***	0.00	0.01	-0.06 ***	0.01	0.02 †
Position (Linear attitude)		0.16 ***	0.12 ***		0.16 ***	0.12 ***		0.16 ***	0.12 ***
Extremity (Quadratic attitude)		-0.17 ***	-0.16 ***		-0.17 ***	-0.17 ***		-0.17 ***	-0.16 ***
General negativity			-0.12 ***			-0.12 ***			-0.12 ***
Prime				-0.06	-0.06	-0.05			
Prime x popularity				0.05	0.04	0.05			
Prime x dissensus				0.02	0.02	0.02			
Prime x attitude position					-0.01	0.00			
Prime x attitude extremity					0.00	0.00			
Attachment self-model (AS)							-0.01	-0.01	-0.01
Attachment other-model (AO)							-0.01 *	-0.02 *	-0.02 *
AS x popularity							0.00	0.01	0.01
AO x popularity							0.00	-0.01	-0.01
AS x dissensus							0.00	0.00	0.00
AO x dissensus							0.00	0.00	0.00
AS x attitude position								-0.01	-0.01
AO x attitude position								0.00	0.00
AS x attitude extremity								0.00	0.00
AO x attitude extremity								0.00	0.00
Variance components									
Intercept	0.28	0.22	0.21	0.28	0.22	0.21	0.27	0.21	0.21
Popularity (Linear social opinion)	0.13	0.02	0.03	0.13	0.02	0.03	0.14	0.04	0.05
Dissensus (Quad. social opinion)	0.09	0.06	0.06	0.09	0.06	0.06	0.09	0.06	0.06
Position (Linear attitude)		0.10	0.09		0.10	0.09		0.10	0.09
Extremity (Quadratic attitude)		0.05	0.05		0.05	0.05		0.06	0.06
Residual	0.87	0.81	0.81	0.87	0.81	0.81	0.87	0.81	0.81
Model information									
Obs.	4230	4201	4201	4230	4201	4201	4230	4201	4201
Participants	141	141	141	141	141	141	141	141	141
Log likelihood	-5578	-5294	-5273	-5583	-5305	-5284	-5600	-5334	-5313
AIC	11170	10610	10570	11187	10643	10602	11227	10710	10671
BIC	11214	10679	10646	11250	10744	10710	11309	10844	10810

N.B. † p < .10; * p < .05; ** p < .01; *** p < .001

Table 2.4. Self-reported sensitivity to controversy scale (Study 1).

You will be given a series of statements.
Please use the scale to indicate how true they are of you.

When people have different opinions on an issue, thinking about the issue makes me feel anxious.

I feel tense and uncomfortable when people have different opinions.

I feel calm when everyone is in agreement.

I am at my most relaxed when people have the same opinion.

When people have different opinions on an issue, it makes me feel interested in thinking about the issue.

I feel intrigued when people have different opinions.

I feel bored when everyone is in agreement.

I am at my least interested when everybody has the same opinion.

1	*2*	*3*	*4*	*5*	*6*	*7*
Not at all						*Very much*
like me						*like me*

Table 3.1. Words used in scrambled sentence task (Study 2).

	Social prime					Individual prime				
	Prime trials (Prime in sentence)									
1	she	is	a	**friend**	over	she	is	a	**rebel**	over
2	he	is	very	**talkative**	purchased	he	is	very	**selfish**	purchased
3	he	likes	being	**sociable**	battery	he	likes	being	**alone**	battery
4	Jack	is	now	**married**	weekend	Jack	is	now	**single**	weekend
5	Jill	enjoys	**group**	work	scarf	Jill	enjoys	**independent**	work	scarf
6	often	she	is	**outgoing**	travel	often	she	is	**withdrawn**	travel
7	the	beach	is	**crowded**	onion	the	beach	is	**secluded**	onion
8	Tom	is	normally	**cooperative**	adjacent	Tom	is	normally	**uncooperative**	adjacent
9	James	was	naturally	**agreeable**	geography	James	was	naturally	**disagreeable**	geography
10	she	loves	her	**family**	tendency	she	loves	her	**independence**	tendency
11	Clare	is	very	**friendly**	apple	Clare	is	very	**private**	apple
12	he	thinks	about	**others**	surfed	he	thinks	about	**himself**	surfed
	Prime trials (Prime not in sentence)									
13	the	curtains	were	pink	**team**	the	curtains	were	pink	**individual**
14	apples	are	english	fruits	**chatty**	apples	are	english	fruits	**think**
15	printers	use	ink	cartridges	**gathering**	printers	use	ink	cartridges	**solitary**
16	the	flag	was	multicoloured	**together**	the	flag	was	multicoloured	**solo**
17	the	sky	is	blue	**unity**	the	sky	is	blue	**detached**
18	the	moon	was	full	**sharing**	the	moon	was	full	**lone**
19	cars	can	be	silver	**joined**	cars	can	be	silver	**separate**
20	bananas	grow	in	Jamaica	**interactions**	bananas	grow	in	Jamaica	**one**
21	the	water	flowed	fast	**society**	the	water	flowed	fast	**isolated**
22	cotton	wool	is	soft	**meeting**	cotton	wool	is	soft	**personal**
23	Champagne	is	very	expensive	**community**	Champagne	is	very	expensive	**self**
24	cacti	grow	in	deserts	**popularity**	cacti	grow	in	deserts	**unpopular**
	Non-prime trials									
25	the	pans	are	dirty	pillow	the	pans	are	dirty	pillow
26	it	snowed	on	Tuesday	puzzle	it	snowed	on	Tuesday	puzzle
27	the	road	was	icy	wooden	the	road	was	icy	wooden
28	the	bread	was	dry	phase	the	bread	was	dry	phase
29	Italy	is	in	Europe	hill	Italy	is	in	Europe	hill
30	the	blanket	was	woollen	tree	the	blanket	was	woollen	tree
31	the	balcony	was	high	radio	the	balcony	was	high	radio
32	trains	are	often	dirty	test	trains	are	often	dirty	test
33	the	zoo	was	small	cars	the	zoo	was	small	cars
34	the	fire	spread	quickly	bench	the	fire	spread	quickly	bench
35	the	circus	came	here	open	the	circus	came	here	open
36	the	car	went	fast	spoon	the	car	went	fast	spoon

Table 3.2. Regression analysis of effects of social opinion, attitude extremity, and social motivation (goal prime, adult attachment) on attitudinal polarization (Study 2).

Version A: Prime (n = 147)	Model 1 $R^2 = .03$	Model 2 $\Delta R^2 = .01$	Model 3 $\Delta R^2 = .13$ ***	Model 4 $\Delta R^2 = .03$
Intercept	-0.15	-0.16	-0.03	0.04
Prime (0=Individual, 1=Prosocial)	-0.08	-0.06	0.13	0.06
Opinion support (Social support, linear)	-0.03	0.08	0.08	-0.14
Dissensus (Social support, quadratic)	-0.11 *	-0.09	-0.07	-0.10
Prime x Opinion support		-0.21	-0.09	0.12
Prime x Dissensus		-0.05	-0.03	0.07
Attitude extremity			-0.12 †	-0.19 *
Prime x Attitude extremity			-0.14	-0.05
Attitude extremity x Opinion support				0.22 *
Attitude extremity x Dissensus				0.03
Prime x Attitude extremity x Opinion support				-0.25
Prime x Attitude extremity x Dissensus				-0.09
Version B: Attachment (n = 147)	Model 1 $R^2 = .06$ †	Model 2 $\Delta R^2 = .01$	Model 3 $\Delta R^2 = .17$ ***	Model 4 $\Delta R^2 = .08$ *
Intercept	-0.19 **	-0.19 **	0.07	0.09
AS (Attachment self-model)	-0.02	-0.01	0.00	0.00
AO (Attachment other-model)	-0.03 †	-0.04 †	-0.02	-0.01
Opinion support (Social support, linear)	-0.02	-0.02	0.01	-0.04
Dissensus (Social support, quadratic)	-0.11 *	-0.11 *	-0.08 †	-0.05
AS x Opinion support		-0.02	-0.02	-0.05
AO x Opinion support		0.00	0.00	0.00
AS x Dissensus		0.00	-0.01	0.02
AO x Dissensus		-0.01	0.00	0.01
Attitude extremity			-0.25 ***	-0.27 ***
AS x Attitude extremity			-0.03 *	-0.03 *
AO x Attitude extremity			-0.01	-0.01
Attitude extremity x Opinion support				0.08
Attitude extremity x Dissensus				-0.05
AS x Attitude extremity x Opinion support				0.03
AO x Attitude extremity x Opinion support				0.00
AS x Attitude extremity x Dissensus				-0.02 *
AO x Attitude extremity x Dissensus				-0.01

N.B. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3.3. Regression analysis of effects of social opinion, attitude extremity, and social motivation (goal prime, adult attachment) on number of arguments generated (Study 2).

Version A: Prime (n = 143)	Model 1 $R^2 = .01$	Model 2 $\Delta R^2 = .01$	Model 3 $\Delta R^2 = .03$	Model 4 $\Delta R^2 = .03$
Intercept	5.04 ***	5.07 ***	5.29 ***	5.23 ***
Prime (0=Individual, 1=Prosocial)	0.26	0.23	0.30	0.51
Opinion support (Social support, linear)	0.09	-0.09	-0.09	-0.09
Dissensus (Social support, quadratic)	-0.05	-0.06	-0.03	0.17
Prime x Opinion support		0.34	0.46	0.30
Prime x Dissensus		0.01	-0.02	-0.03
Attitude extremity			-0.20	-0.11
Prime x Attitude extremity			-0.07	-0.35
Attitude extremity x Opinion support				0.00
Attitude extremity x Dissensus				-0.17
Prime x Attitude extremity x Opinion support				0.15
Prime x Attitude extremity x Dissensus				0.01

Version B: Attachment (n = 143)	Model 1 $R^2 = .04$	Model 2 $\Delta R^2 = .04$	Model 3 $\Delta R^2 = .03$	Model 4 $\Delta R^2 = .06$
Intercept	5.16 ***	5.18 ***	5.45 ***	5.47 ***
AS (Attachment self-model)	-0.02	-0.03	-0.02	0.02
AO (Attachment other-model)	-0.10 *	-0.11 *	-0.15 *	-0.15 *
Opinion support (Social support, linear)	0.11	0.08	0.12	0.07
Dissensus (Social support, quadratic)	-0.06	-0.09	-0.09	0.09
AS x Opinion support		0.04	0.04	-0.01
AO x Opinion support		-0.08	-0.08	-0.10
AS x Dissensus		0.03	0.03	-0.01
AO x Dissensus		-0.07 †	-0.08 †	-0.13 *
Attitude extremity			-0.29 *	-0.31 †
AS x Attitude extremity			-0.03	-0.05
AO x Attitude extremity			0.04	0.03
Attitude extremity x Opinion support				0.02
Attitude extremity x Dissensus				-0.15
AS x Attitude extremity x Opinion support				0.04
AO x Attitude extremity x Opinion support				0.02
AS x Attitude extremity x Dissensus				0.04
AO x Attitude extremity x Dissensus				0.05 †

N.B. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3.4. Regression analysis of effects of social opinion, attitude extremity, and social motivation (goal prime, adult attachment) on proportion of attitude-supportive arguments generated (Study 2).

Version A: Prime (n = 141)	Model 1 $R^2 = .02$	Model 2 $\Delta R^2 = .04$ *	Model 3 $\Delta R^2 = .05$ *	Model 4 $\Delta R^2 = .01$
Intercept	0.59 ***	0.58 ***	0.56 ***	0.56 ***
Prime (0=Individual, 1=Prosocial)	-0.02	-0.01	-0.03	-0.04
Opinion support (Social support, linear)	-0.01	0.05	0.05	0.05
Dissensus (Social support, quadratic)	-0.02	-0.02	-0.02	-0.01
Prime x Opinion support		-0.10 *	-0.12 **	-0.10 †
Prime x Dissensus		0.00	0.01	-0.01
Attitude extremity			0.02	0.03
Prime x Attitude extremity			0.02	0.03
Attitude extremity x Opinion support				-0.01
Attitude extremity x Dissensus				-0.01
Prime x Attitude extremity x Opinion support				-0.02
Prime x Attitude extremity x Dissensus				0.01
Version B: Attachment (n = 141)	Model 1 $R^2 = .04$	Model 2 $\Delta R^2 = .00$	Model 3 $\Delta R^2 = .03$	Model 4 $\Delta R^2 = .03$
Intercept	0.58 ***	0.58 ***	0.56 ***	0.55 ***
AS (Attachment self-model)	-0.01 †	-0.01	0.00	0.00
AO (Attachment other-model)	0.00	0.00	0.00	0.00
Opinion support (Social support, linear)	-0.01	-0.01	-0.01	0.01
Dissensus (Social support, quadratic)	-0.02	-0.02	-0.02	-0.01
AS x Opinion support		0.00	0.00	0.00
AO x Opinion support		0.00	0.00	0.00
AS x Dissensus		0.00	0.00	-0.01
AO x Dissensus		0.00	0.00	0.00
Attitude extremity			0.02	0.03 †
AS x Attitude extremity			0.00	0.00
AO x Attitude extremity			0.00	0.00
Attitude extremity x Opinion support				-0.02
Attitude extremity x Dissensus				-0.01
AS x Attitude extremity x Opinion support				0.00
AO x Attitude extremity x Opinion support				0.00
AS x Attitude extremity x Dissensus				0.00
AO x Attitude extremity x Dissensus				0.00

N.B. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3.5. Regression analysis of effects of social opinion, attitude extremity, and social motivation (goal prime, adult attachment) on potential ambivalence (Study 2).

Version A: Prime (n = 147)	Model 1 $R^2 = .01$	Model 2 $\Delta R^2 = .03$	Model 3 $\Delta R^2 = .03$ †	Model 4 $\Delta R^2 = .03$
Intercept	3.12 ***	3.15 ***	3.45 ***	3.49 ***
Prime (0=Individual, 1=Prosocial)	0.00	-0.03	-0.46	-0.55
Opinion support (Social support, linear)	-0.18	-0.39	-0.39	-0.59 †
Dissensus (Social support, quadratic)	0.08	-0.09	-0.06	0.01
Prime x Opinion support		0.38	0.33	0.75 †
Prime x Dissensus		0.33 †	0.29	0.13
Attitude extremity			-0.27 †	-0.29 †
Prime x Attitude extremity			0.38 *	0.49 *
Attitude extremity x Opinion support				0.21
Attitude extremity x Dissensus				-0.05
Prime x Attitude extremity x Opinion support				-0.42
Prime x Attitude extremity x Dissensus				0.09
Version B: Attachment (n = 147)	Model 1 $R^2 = .05$	Model 2 $\Delta R^2 = .03$	Model 3 $\Delta R2 = .03$	Model 4 $\Delta R^2 = .07$
Intercept	3.12 ***	3.10 ***	3.08 ***	3.05 ***
AS (Attachment self-model)	0.08 *	0.09 *	0.04	0.05
AO (Attachment other-model)	0.01	0.00	0.02	0.01
Opinion support (Social support, linear)	-0.16	-0.13	-0.12	-0.12
Dissensus (Social support, quadratic)	0.09	0.09	0.10	0.09
AS x Opinion support		-0.08	-0.08 †	-0.06
AO x Opinion support		-0.02	-0.02	-0.01
AS x Dissensus		-0.03	-0.03	-0.08 *
AO x Dissensus		-0.01	-0.01	-0.04
Attitude extremity			0.07	0.08
AS x Attitude extremity			0.05 †	0.05
AO x Attitude extremity			-0.02	-0.02
Attitude extremity x Opinion support				-0.04
Attitude extremity x Dissensus				0.04
AS x Attitude extremity x Opinion support				-0.02
AO x Attitude extremity x Opinion support				-0.01
AS x Attitude extremity x Dissensus				0.04 *
AO x Attitude extremity x Dissensus				0.03

N.B. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3.6. Regression analysis of effects of social opinion, attitude extremity, and social motivation (goal prime, adult attachment) on subjective ambivalence (Study 2).

Version A: Prime (n = 147)	Model 1 $R^2 = .04$	Model 2 $\Delta R^2 = .00$	Model 3 $\Delta R^2 = .03$	Model 4 $\Delta R^2 = .05$ †
Intercept	5.09 ***	5.10 ***	5.37 ***	5.41 ***
Prime (0=Individual, 1=Prosocial)	-0.44	-0.44	-0.88 *	-1.05 **
Opinion support (Social support, linear)	0.13	0.12	0.12	0.13
Dissensus (Social support, quadratic)	0.18 †	0.22	0.25 †	0.12
Prime x Opinion support		0.04	-0.02	0.45
Prime x Dissensus		-0.09	-0.13	-0.04
Attitude extremity			-0.25 †	-0.31 †
Prime x Attitude extremity			0.38 *	0.69 **
Attitude extremity x Opinion support				-0.01
Attitude extremity x Dissensus				0.11
Prime x Attitude extremity x Opinion support				-0.54 †
Prime x Attitude extremity x Dissensus				-0.17

Version B: Attachment (n = 147)	Model 1 $R^2 = .08$ *	Model 2 $\Delta R^2 = .03$	Model 3 $\Delta R^2 = .05$ †	Model 4 $\Delta R^2 = .03$
Intercept	4.87 ***	4.88 ***	4.84 ***	4.78 ***
AS (Attachment self-model)	0.09 *	0.09 *	0.03	0.04
AO (Attachment other-model)	0.02	0.03	0.09 †	0.08
Opinion support (Social support, linear)	0.18	0.19	0.20	0.37
Dissensus (Social support, quadratic)	0.20 *	0.20 †	0.21 *	0.16
AS x Opinion support		0.02	0.02	0.00
AO x Opinion support		-0.01	0.00	-0.02
AS x Dissensus		-0.04	-0.04	-0.05
AO x Dissensus		0.04	0.06 †	0.02
Attitude extremity			0.12	0.17
AS x Attitude extremity			0.06 *	0.06 †
AO x Attitude extremity			-0.05	-0.07 †
Attitude extremity x Opinion support				-0.18
Attitude extremity x Dissensus				0.03
AS x Attitude extremity x Opinion support				0.00
AO x Attitude extremity x Opinion support				0.02
AS x Attitude extremity x Dissensus				0.02
AO x Attitude extremity x Dissensus				0.03

N.B. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3.7. Regression analysis of effects of social opinion, attitude extremity, and social motivation (goal prime, adult attachment) on attitude certainty (Study 2).

Version A: Prime (n = 147)	Model 1 $R^2 = .02$	Model 2 $\Delta R^2 = .01$	Model 3 $\Delta R^2 = .06$ *	Model 4 $\Delta R^2 = .03$
Intercept	5.18 ***	5.20 ***	4.79 ***	4.71 ***
Prime (0=Individual, 1=Prosocial)	0.44 †	0.41	0.77 *	0.90 **
Opinion support (Social support, linear)	0.01	-0.13	-0.13	-0.04
Dissensus (Social support, quadratic)	-0.04	-0.03	-0.08	0.10
Prime x Opinion support		0.27	0.25	0.00
Prime x Dissensus		-0.02	0.02	-0.22
Attitude extremity			0.38 **	0.48 **
Prime x Attitude extremity			-0.33 †	-0.54 *
Attitude extremity x Opinion support				-0.09
Attitude extremity x Dissensus				-0.15
Prime x Attitude extremity x Opinion support				0.30
Prime x Attitude extremity x Dissensus				0.24 †
Version B: Attachment (n = 147)	Model 1 $R^2 = .04$	Model 2 $\Delta R^2 = .01$	Model 3 $\Delta R^2 = .03$	Model 4 $\Delta R^2 = .02$
Intercept	5.41 ***	5.40 ***	5.20 ***	5.19 ***
AS (Attachment self-model)	-0.07 *	-0.07 *	-0.05	-0.04
AO (Attachment other-model)	-0.02	-0.02	-0.03	-0.03
Opinion support (Social support, linear)	-0.03	-0.04	-0.08	-0.06
Dissensus (Social support, quadratic)	-0.05	-0.05	-0.07	-0.06
AS x Opinion support		-0.01	-0.01	0.00
AO x Opinion support		0.01	0.01	0.01
AS x Dissensus		0.02	0.02	0.01
AO x Dissensus		-0.01	-0.02	0.02
Attitude extremity			0.17 †	0.17
AS x Attitude extremity			-0.01	-0.02
AO x Attitude extremity			0.01	0.02
Attitude extremity x Opinion support				-0.02
Attitude extremity x Dissensus				0.01
AS x Attitude extremity x Opinion support				0.00
AO x Attitude extremity x Opinion support				0.00
AS x Attitude extremity x Dissensus				0.01
AO x Attitude extremity x Dissensus				-0.03

N.B. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Figure 1.1. The dissensus effect (a predicted quadratic relationship between perceived social opinion and threat in discussions).
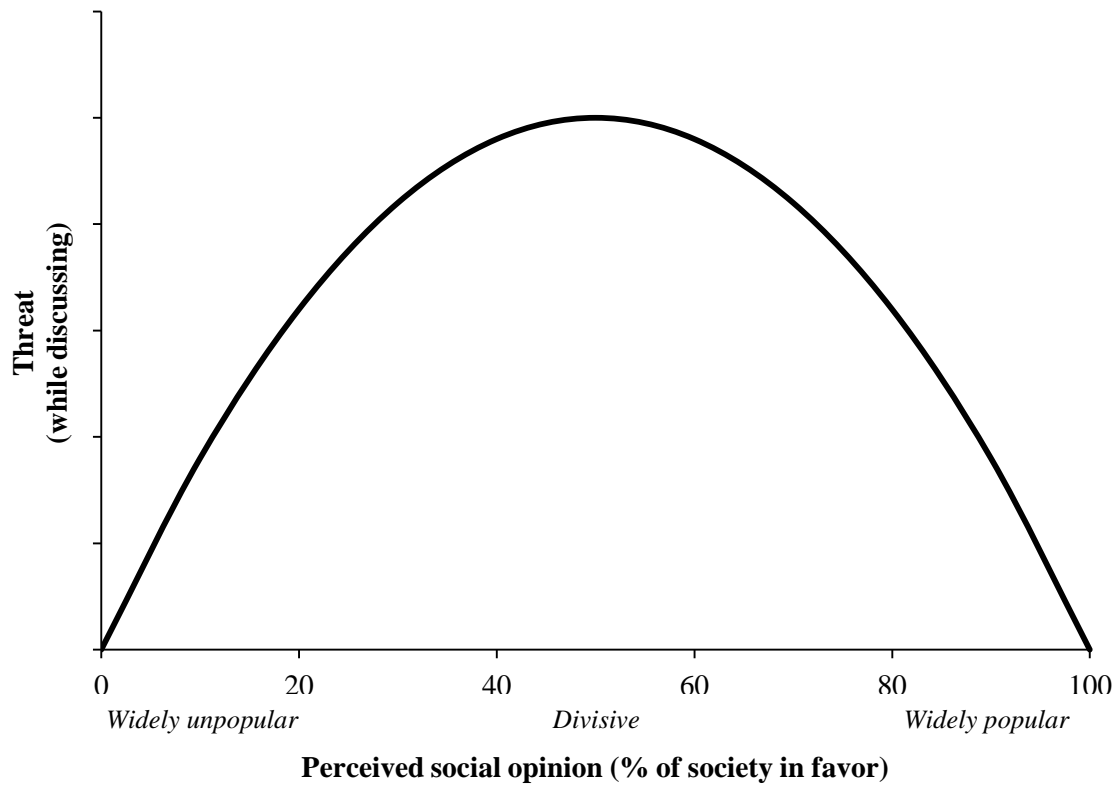
Figure 1.2. The proposed model. Social division is hypothesized to increase threat and cognitive avoidance, an effect which will be intensified by higher levels of social motivation.
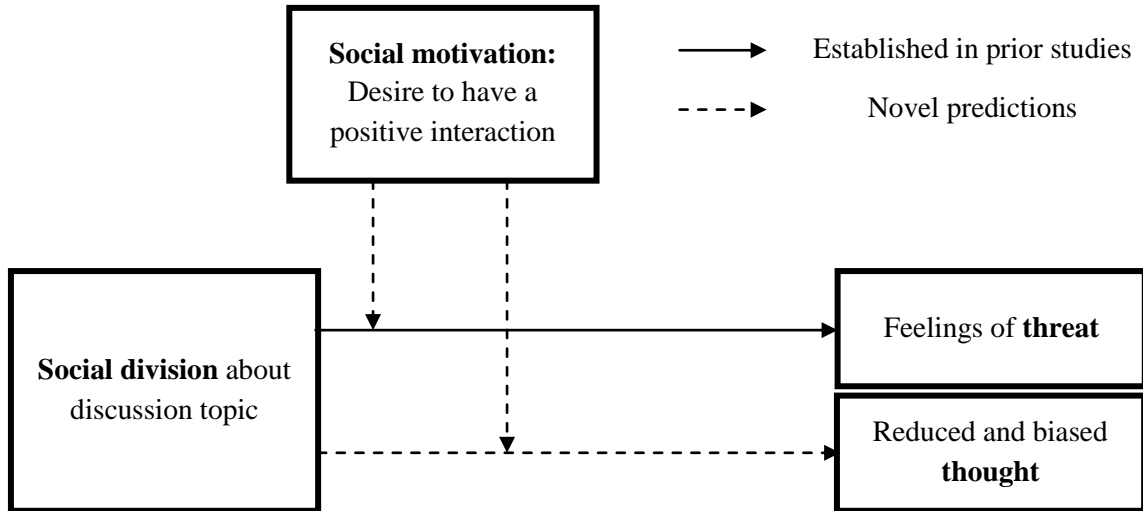
Figure 2.1. Interaction of attachment self-model and dissensus in determining anxiety (Study 1).
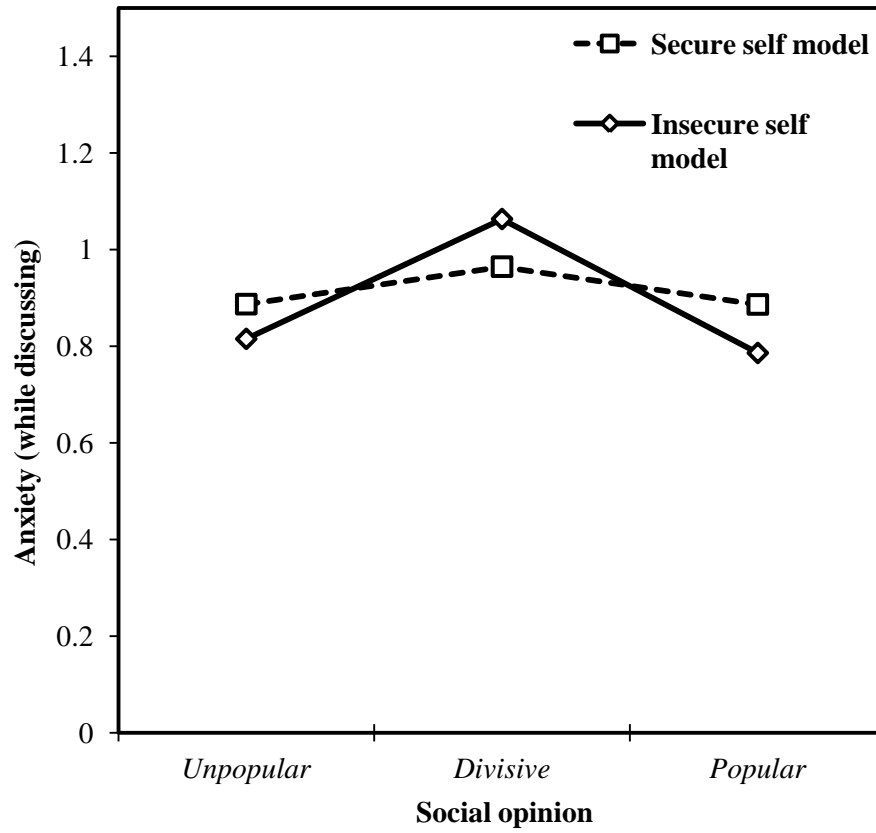
N.B. Attachment variable plotted at +1 / -1 SD from the mean.

Figure 3.1. Dissensus effects in attitude polarization and subjective ambivalence (Study 2).
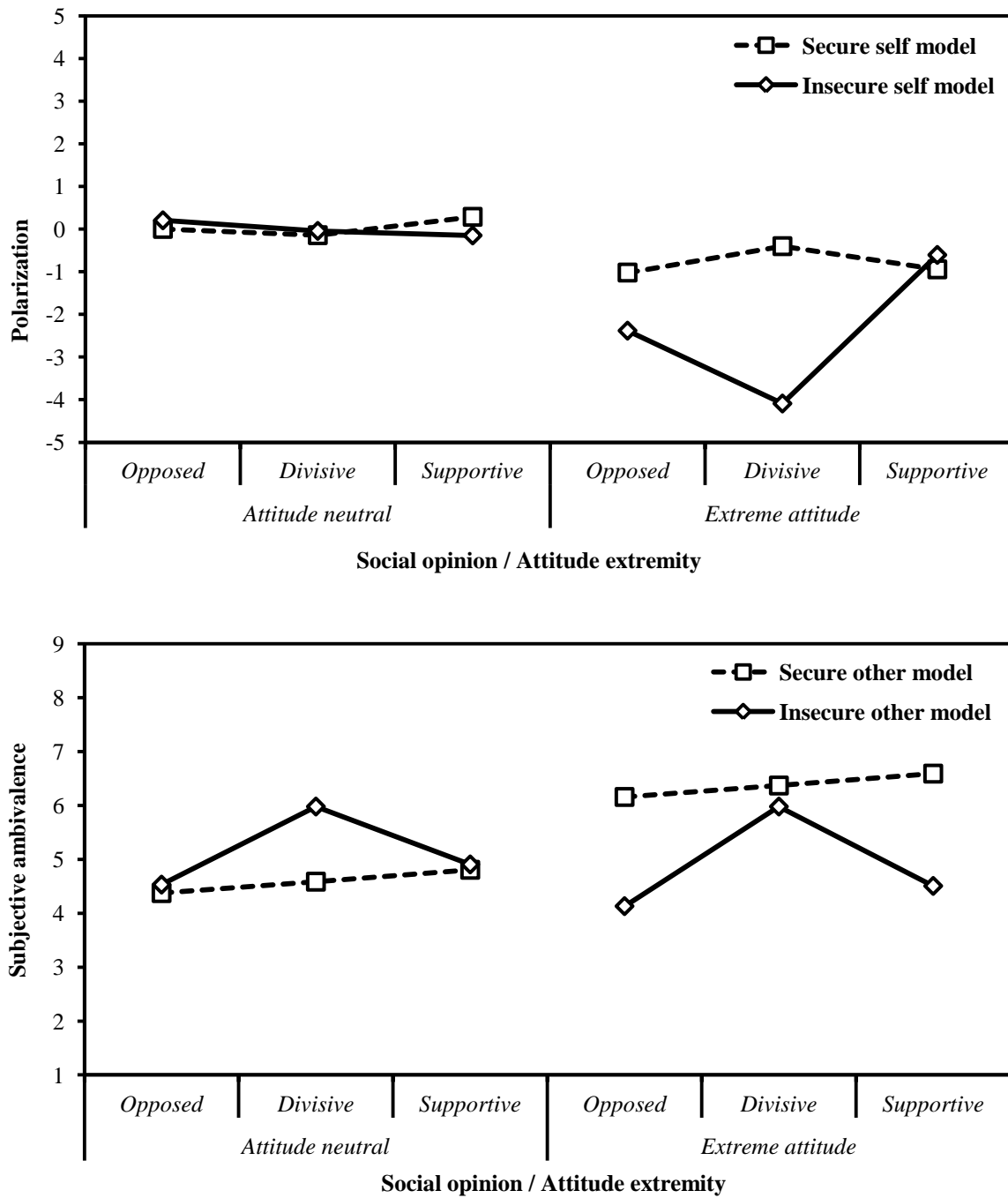
N.B. Attachment variables plotted at +1 / -1 SD from the mean. Attitude extremity plotted at the extremes of the scale.

Figure 3.2. Dissensus effects in number of arguments generated and potential ambivalence (Study 2).
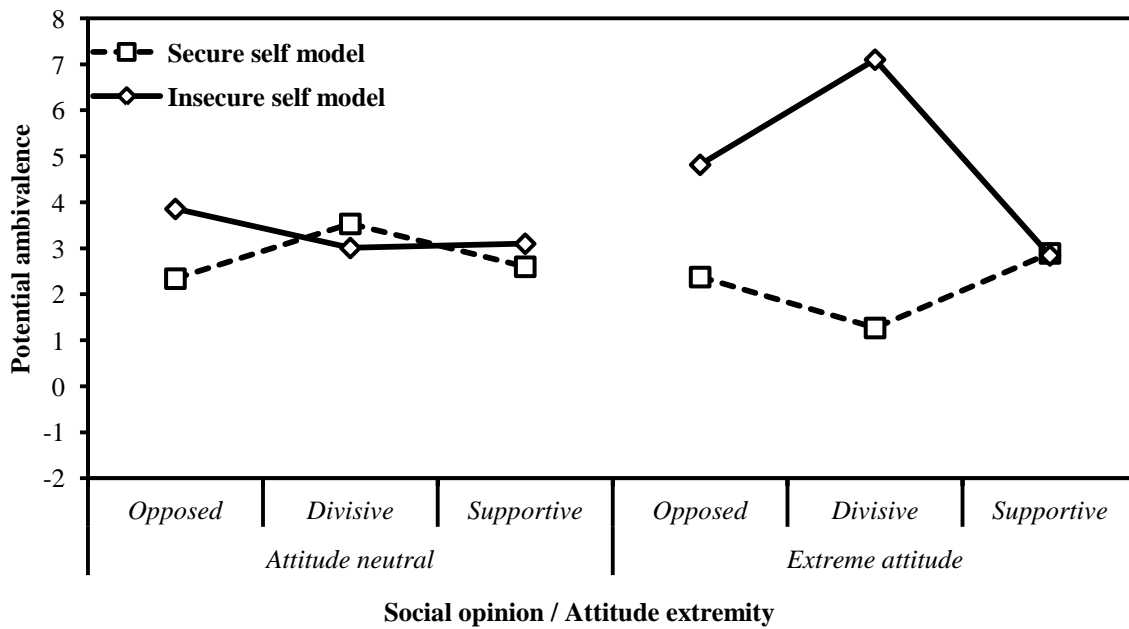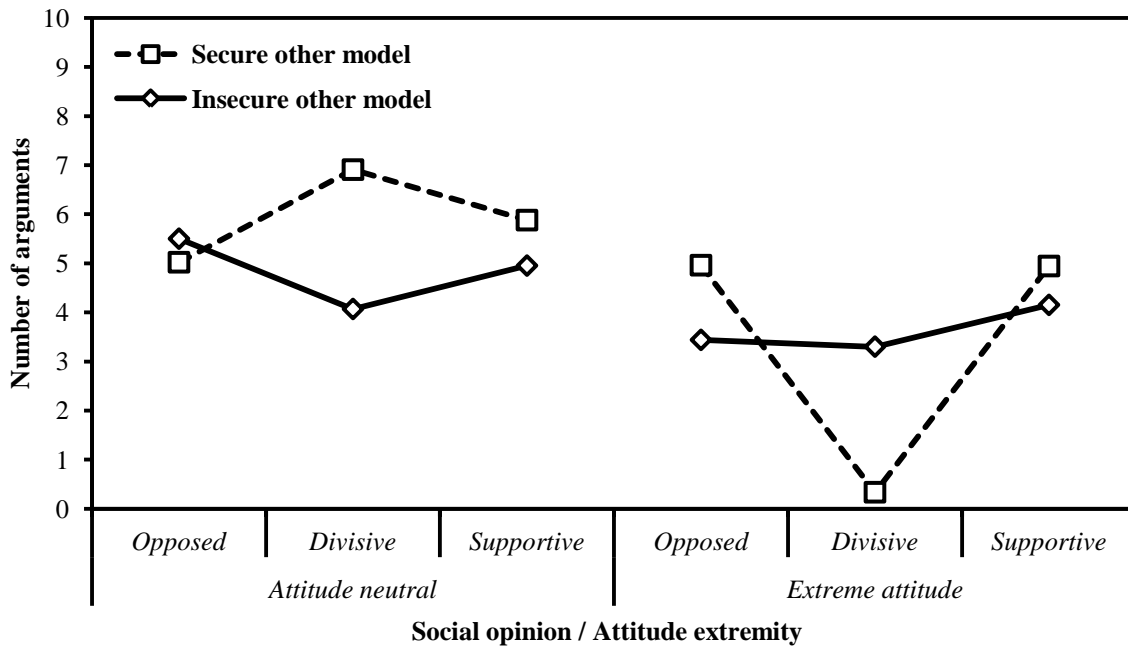
N.B. Attachment variables plotted at +1 / -1 SD from the mean. Attitude extremity plotted at the extremes of the scale.

Figure 3.3. Interaction of goal priming task and attitude extremity in predicting potential ambivalence, subjective ambivalence, and attitude certainty (Study 2).
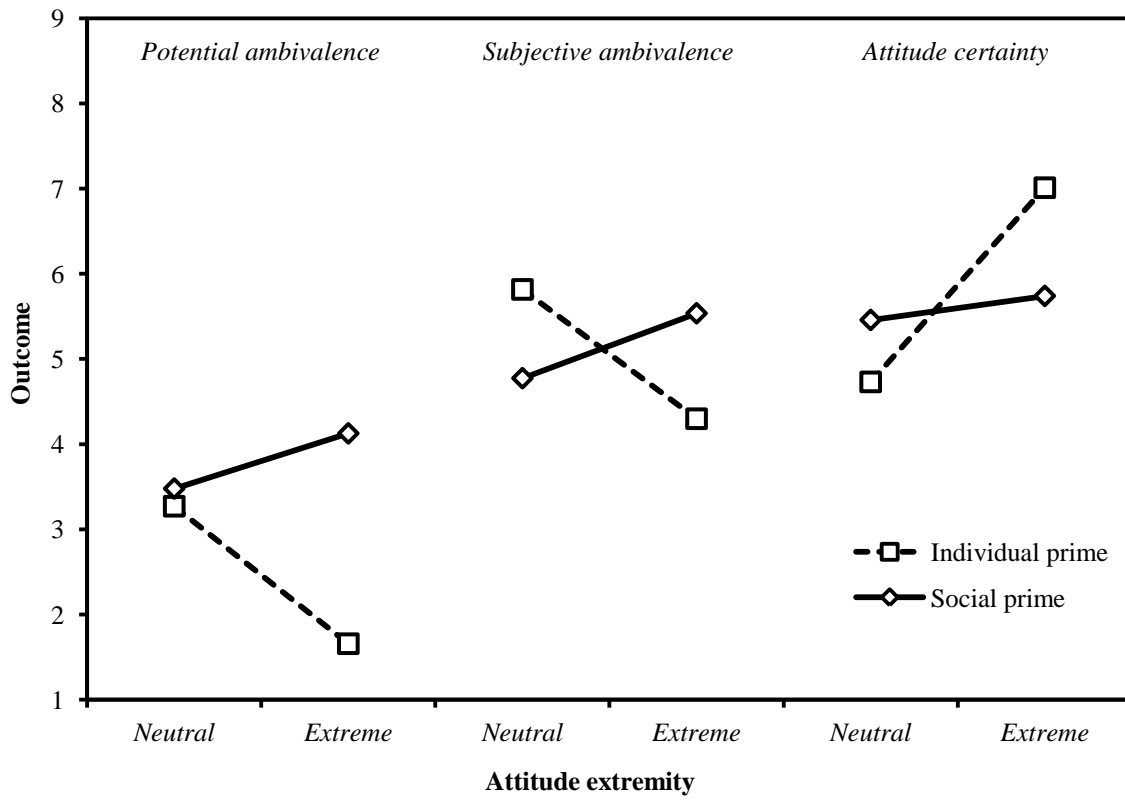
N.B. Attitude extremity plotted at the extremes of the scale.

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