Increased affective influence: situational complexity or deliberation time?

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Abstract

The Affect Infusion Model (AIM) is a prominent theory of when current emotional state is expected to influence the interpretation of a social stimulus (situation). We discuss the assumptions in AIM and conclude that its current specification predicts that both deliberation time and situational complexity should lead to affect infusion. The aim of this research was to clarify the relative importance of these factors in determining affect infusion, and hence aid the further development of AIM. We present an experimental design in which situational complexity and deliberation time can be manipulated orthogonally as independent factors. Our results show that it is the latter factor, but not the former, which can influence the degree of affect infusion.

Cognitive theory, despite its sophistication, has been somewhat lacking when it comes to considering the role of emotion in behavior. From a practical point of view, this is an important shortcoming, as, for example, Razran (1940) illustrated in his pioneering study: Razran showed that a happy audience was more likely to welcome socio-political messages, than an unhappy one.

Much research highlights the importance of an expectation of positive affect in decision making. For example, Mellers and McGraw (2001) found that anticipatory pleasure often influenced the choices of their participants. Damasio (1994) suggested that perceptual representations can be linked with any relevant emotional experiences. This can help in decision making situations, by eliminating possibilities which are associated with negative emotions. In Peters' et al. (2006) overview, there are some similar ideas, including the role of affect as a 'common currency' to evaluate disparate possibilities and the motivating role of affect (in terms of attaining positive emotions). Also, in psychopathology, there is an extensive literature on how personally relevant stimuli can capture observers' attention (e.g., Cox, Fadardi & Pothos, 2006).

Without doubt, affect is an important component of utility in decision making. But, one can also ask whether information regarding the current emotional state of an observer can interfere with cognitive processing in a way that does not relate to the utility of expected affect. In particular, we can formulate two general questions. First, what is the nature of the interaction between emotion and (the rest of) cognition and second when is it more likely that the current emotional state will affect a cognitive process. A theory which is particularly well-suited to tackle these problems is Forgas's (1995a) Affect Infusion Model (AIM), an extensively researched and supported model for how emotion and cognition interact. The AIM is innovative in

that it enables predictions of when affect infusion should occur within a principled framework for various mechanisms of decision making. The focus of this work is AIM. We first summarize the main assumptions of AIM and subsequently proceed to motivate the examination of a particular prediction of the theory.

According to AIM, when interpreting a novel social situation, affect infusion is defined to occur when our current emotional state leads to an interpretation of the situation specifically congruent with this emotional state (cf. Bower, 1981; Forgas, 1995a; Isen, Shalker, Clark, & Karp, 1978). For example, consider a scene of a man and a woman talking to each other, such that there are no cues as to whether this is a happy/excited interaction or an unhappy/angry one. Affect infusion would occur if people in (say) an unhappy mood would be more likely to offer unhappy interpretations—this is the basis of our experimental investigation.

Forgas (1995a) proposed that there are four relevant (i.e., when it comes to considering possible interactions between cognition and emotion) modes of cognitive processing; knowing which mode of cognitive processing applies in a given situation can help predict whether affect infusion will occur or not (Figure 1). First, a person can access information about a belief already held; in such cases, an emotional valence may already be attached to a belief and therefore there would be little scope for the current emotional state to affect perception of the belief (this mode is referred to as ‘direct access’). For example, the attitude towards environmental issues of a committed environmentalist will not be affected by her current state of mind. Second, there are situations where information processing takes place in order to accomplish a specific goal, and so an effort would be made to specifically suppress potential emotional influences (this is the ‘motivated processing’ mode). For example, a person in an interview would do his best not to let his current emotional state affect his

performance. Third, we sometimes reach decisions not on the basis of any thorough consideration or examination of alternative possibilities, but rather relying on intuition, first impressions, or gut feeling (this is the 'heuristic' mode). The current emotional state can influence such decisions, as the non-emotional foundation of the decisions is weak (cf. theories considering affect as an additional source of information, e.g., Schwarz & Clore, 1983). Finally, making a social judgment can involve a substantive, generative process, in cases where unfamiliar information is encountered. For example, a novel social stimulus will have to be interpreted possibly by requiring access to personally relevant information. Personally relevant information is often encoded on the basis of emotional valence (as well as other information), therefore, current emotional state may, e.g., prime access to certain memories as opposed to others (this mode is called 'substantive' processing; cf. Kunda, 1990). An example of this is the finding of Bower (1981; Isen, 1984), who showed that participants in an unhappy mood are more likely to recall unhappy episodes etc.

The third and fourth modes of cognitive processing are considered 'constructive', in the sense that a person's reliance on existing knowledge representations, e.g., for understanding a novel social situation, is limited; therefore, novel representations have to be constructed from the combination of stored information and new stimulus details (Fiedler, 1991; Forgas, 1992, 1995b).

----------Figure 1 about here----------

The focus of the present work is the role of deliberation time and situational complexity in the likelihood of affect infusion. By deliberation time, we mean the amount of time devoted to interpreting a novel social stimulus. By situational complexity (or situational information), we mean the amount of information available

for a novel social stimulus. It is interesting to consider these two factors concurrently because they are related (e.g., we may devote more time in interpreting a more complex situation), but in principle, and in many practical situations, are independent. For example, we often have to consider complex problems under time pressure and, conversely, sometimes we have too much time to resolve a relatively uninvolved dilemma. AIM predicts differential affect infusion across situations defined by both high/low deliberation time and high/low situational complexity.

According to the third suggested cognitive mode, affect infusion is more likely to occur when cognitive processing is heuristic. In heuristic processing, we seek to derive a conclusion fast and, therefore, we are more likely to rely on our current emotional state as a decision-making guide. In such cases, the *less* the available time, the more pressure there would be to reach a decision quickly and, therefore, the more we expect heuristic processing to occur (cf. Gigerenzer, 1996). Such a perspective is consistent with theories of affect infusion which posit that affect can be considered an extra source of information (e.g., Schwarz & Clore, 1983), as well, of course, as being part of AIM. Note that whether affect is a valid source of information in interpreting the social scene or not will depend on the context. For example, if a person A is trying to interpret a social interaction between persons B and C and all three persons A, B, C are in the same or similar situation, then the current emotional state of person A will probably be a valid cue for the interpretation of the interaction between B and C.

According to the fourth cognitive mode, substantive processing, substantial transformations/ generative elaboration of the stimulus of interest, are likely to encourage affect infusion. For example, for a person to interpret an ambiguous interaction between a man and a woman such that there are no cues as to whether this is a happy/excited interaction or an unhappy/angry on, it seems inevitable that the

person will have to ‘transform’ this novel social stimulus to a more interpretable form, with the aid of corresponding personal experiences (e.g., the person could remember similar interactions he/she may have had with the opposite gender; cf. Bower, 1981; Bower & Forgas, 2001). This leads to the prediction that the *less* the situation complexity, the longer the generative process which will be required to interpret the novel stimulus, and the more we expect substantive processing to occur.

Thus, the current specification of the AIM architecture predicts that both deliberation time and situational complexity, in principle, predict affect infusion. Whether these factors are equally important in determining affect infusion, or whether one might be dominant relative to the other, is clearly a key empirical issue, which can further inform the AIM and influence its future revisions. The purpose of the present research is to factorially manipulate the two factors within the same experimental design and so settle this issue.

Existing empirical evidence cannot help us clarify the problem of the relative importance between situational complexity and deliberation time. Cognitive load has been manipulated primarily in terms of tasks which compete for resources with the decision making task of interest. Under conditions of high cognitive load and time pressure, the general finding is increased affect infusion (e.g., Forgas, 1993, 1994; Shiv & Fedorikhin, 1999; 2002; Sanbonmatsu & Fazio, 1990). Noda, Takai, and Yoshida (2007; cf. Siemer & Reisenzein, 1998) manipulated information content, but in terms of whether the information provided for a situation was complete or incomplete. When participants had limited time to respond, more affect infusion was observed in the incomplete condition, compared to the complete one. Noda et al. interpreted these results as showing that mood can be a source of information when inferring missing facts in the incomplete condition, under reduced cognitive capacity.

All the above results are suggestive of the relevance of the proposed manipulation, while not quite clarifying it. For example, greater informational complexity *could* correspond to higher cognitive load, but it is not clear whether it would lead participants to rely more on their mood as a decision making shortcut, or whether it would make them engage in more analytic, motivated processing, which should not be associated with affect infusion. Likewise, following Noda et al., under conditions of low informational complexity, we might predict that participants will use mood to 'make up' for the missing information. However, in Noda et al.'s study, the presented information was relevant, whereas in the proposed manipulation all information is basically irrelevant. In other words, in the incomplete condition in Noda et al.'s experiment, affect infusion was encouraged, because current emotional state could be used to infer the missing information; the design of Noda et al.'s experiment was such that low complexity implicated affect infusion. Suppose, however, that the design of the task is such that low (or high) situational complexity does not specifically bias towards affect infusion. Under such circumstances, does low (or high) situational complexity lead to greater affect infusion? This is the key consideration which motivated our design: in our high informational complexity condition, participants do have more facts about the situation they have to interpret, but these facts cannot be used as a guide regarding the interpretation of the emotional valence of the situation.

In sum, while the issues of time pressure and cognitive load have been a focus of extensive research in affect infusion, there are no results relevant to considering informational complexity as such. As discussed above, informational complexity is (in principle, at least) an important factor in determining affect infusion, hence its

examination will allow more confidence both in interpreting the previous empirical results and the development of corresponding theory (such as AIM).

Experimental Investigation

Design & Participants

A 2 x 2 x 2 design was utilized, with mood induction (positive vs. negative), deliberation time (brief vs. prolonged) and situation complexity (less complex vs. more complex) as between-participant factors. Participants were 122 Swansea University students, who either volunteered to take part or took part for course credit. Participants were randomly allocated to each of the eight conditions.

Because of the mood induction procedure, ethical considerations dictated that any participants displaying symptoms of depression or anxiety had to be excluded from the study. For depression, we employed the Beck Depression Inventory II (BDI; Beck, Steer & Brown, 1996), eliminating participants with a BDI score of 10 or higher. Five participants were excluded, leaving us with a sample of 117 (M= 2.83; 40 males, 77 females, mean age: 23.21). For anxiety, we employed the State Trait Anxiety Inventory (STAI; Spielberg, Gorsuch & Lushene, 1970), trait version, eliminating participants with a score of 40 or higher (no participants were eliminated, M=28).

Materials and Procedure

Participants were first asked to complete the BDI and STAI questionnaires. They were subsequently given a *distractor* task to perform, while the experimenter was computing their BDI and STAI scores. The distractor task had the additional objective of inducing a fairly neutral mood to participants. The *mood induction* procedure

followed and then participants watched a *brief animation* (20 seconds) of a social situation. The *main experimental task* was next, whereby participants were asked to interpret the animation, either on the basis of little situational information (less complex condition) or high situational information (more complex condition). They had either a brief period of time to do this (brief condition) or a lot of time (prolonged condition; more details will be provided shortly). Finally, they received *mood assessment* measures (a self-report measure and a mood rating Likert scale) to examine their mood after the experimental task and confirm that it was broadly consistent with the one intended from the mood induction procedure.

The distractor task consisted of reading a brief review of a book by Maggie Campbell-Culver, 'A Passion for Trees: The Legacy of John Evelyn', from the Guardian newspaper (17th June 2006, reviewed by Andrea Wulf). The review was independently considered neutral by the authors of the study.

For the mood induction procedure, participants were asked to write about an emotionally charged personal experience (positive or negative), on a blank A4 sheet, in their own time (no time limit was specified; Brewer, Doughtie and Lubin,1980; Pham, 1998). They were told to emphasize their actual emotions relating to the experience, less so the non-emotional details of the experience. On average, participants took approximately 10 minutes to complete this task. An advantage of this method is that prompting participants to report their own personal experience overcomes the potential confounding effects of the content of the affect-inducing event.

We commissioned the development of a brief animation, which was designed to depict an ambiguous social situation. The animation showed two adults, a male and a female, in conversation. The animated characters were of average physical build and

height, dressed in non-specific everyday clothing, and of indistinct ethnic orientation. The characters were facing away from the observer so that no facial expressions or physical attractiveness were observable. The setting was non-descriptive (the man and the woman were simply placed in a gray background), so as not to give any hints about location and hence the content of the exchange between the man and the woman. The positioning of the characters and the way they gesticulated indicated that they were in conversation. The animation lasted for 20 seconds and was presented on an IBM-compatible personal computer. Figure 2 shows two frames from the animation.

The ambiguousness of the situation was confirmed through a pilot study, whereby the animation was shown to 15 participants (other than the 122 recruited for the main part of the study). The pilot study participants simply saw the animation and were asked to decide what the man and the woman were doing (the response sheet was the same as the one in the less complex condition, see later). Positive and negative interpretations were nearly equal.

----------Figure 2 about here----------

For the main experimental task, each participant received a sheet with information about the characters in the animation, organized into categories. Participants were asked to select the statement in each category which they believed was most accurate. In the simple condition, there were four categories of statements labeled Person A (a category of possibilities for what person A might be like; e.g., ‘is physically active; two statements), Person B (two statements), Setting (a category of possibilities for where person A and person B might be at the time of talking to each other; two statements), and Action (three statements). The Action category is the key category from which the dependent variable is derived. The Action category had three

statements which described possibilities for the interaction between person A and person B. There was a statement corresponding to a positive interaction (an excited conversation about a forthcoming event), one to a negative interaction (a heated conversation about a disagreement), and one to a neutral interaction (having a conversation admiring the landscape). Accordingly, the choice a participant made for the Action category would readily indicate whether the participant interpreted the interaction as a positive, neutral, or negative one.

The situational complexity manipulation was implemented in two ways. First, we varied the number of categories of statements: few categories (four) vs. many categories (five). In the more complex condition, there was an extra category, background, which included six statements of the possible relation between the man and the woman (e.g., married). Second, we varied the number of alternative statements in each category. The four categories of the simple condition were supplemented with extra statements, so that each category had six to eight statements. The critical Action category in the more complex condition had six statements, so that there was a choice between two positive events (‘excited conversation about a forthcoming event’, ‘have just received some good news’), two negative events (‘heated conversation about a disagreement’, ‘have just received some bad news’) or two neutral events (‘conversation about a new film due out in the cinema’, ‘conversation about the weather forecast for the holidays’).

We reasoned that the more the categories and the more the alternative statements per category, the more the available potentially relevant information for the social situation and, hence, the greater the situational complexity of the novel social stimulus. Note, also, that the alternatives in the critical Action category in the more complex condition include *all* the alternatives in the simple condition and some

additional alternatives, which are directly analogous to the ones in the simple condition. That is, the alternatives in both the simple and the complex condition corresponded to a positive, neutral, or negative interaction between person A and person B, but in the complex condition there are, e.g., two possibilities for a positive interpretation, instead of the one in the simple condition.

The deliberation time manipulation was implemented by allowing 30 seconds to participants in the brief condition to complete the decision task, while in the prolonged condition they had three minutes. Note that 30 seconds are more than enough for participants to go through the statements and indicate responses, assuming average reading competence. As all our participants were at least undergraduate students in a higher education institution, there were no concerns regarding their reading competence. Also, we did not include a measure of whether in the three-minute condition participants did employ all available time to consider the relevant information (some candidate such measures we considered would have confounded the manipulation).

After participants had selected the statements interpreting the animation clip, they carried out a brief mood assessment task. Mood assessment was not performed directly following the mood induction, out of concern that the manipulation check would reduce the effects of the mood induction (Keltner, Locke, & Audrain, 1993) and arouse suspicion about the experiment's purpose. As well, we were interested in mood effects that were sufficiently long-lived to affect the experimental task. Accordingly, after the experimental task, participants received a seven point Likert scale in which one represented unhappy/sad mood and seven represented good/happy mood. Participants were instructed to circle the number which most represented their

mood at the present time. Also, they were asked to report their current mood by writing a few sentences, in their own words, to describe how they felt at the time.

Results

For the mood induction task, in general, participants wrote relatively long (2-3 pages) and detailed accounts of emotional personal events. Representative topics included romantic involvement, academic success, and the birth of a child (i.e., happiness), in addition to family breakdown, tragic accidents and the untimely death of a loved one (i.e., sadness). Likert scale ratings for participants who described a positive life event were higher (better mood) than Likert scale ratings for participants who described a negative life event (M = 5.25 vs. M = 3.56), t (115) = 8.32, $p < .0005$). The mood self-reports were generally straightforward to interpret and were classified as indicating good mood, neutral, or bad mood. Accordingly, the mood self-report led to a three-level ordinal mood variable. This variable correlated highly with the Likert scale results (r = .68, p<.0005). These results demonstrate the overall effectiveness of the mood manipulation. Given the consistency between the self reports and the Likert scale results, we decided to employ only the latter in subsequent analyses (since the Likert scale results are more detailed). Finally, we examined possible effects of age or gender on this mood measure, but there were no significant associations (for age: r = .13*ns*; for gender: r = -.06*ns*).

Previous research has shown that the emotional valence of choices is often congruent with current mood (e.g., Razran, 1940). Our results are consistent with this finding: A one-way ANOVA with the emotional valence of choice (positive, neutral, negative) as the independent variable and the ratings on the mood Likert scale as the dependent variable, was highly significant (F(2,114)=50.72, p<.0005; all differences

in the predicted direction). Our objective in the rest of the analyses is to examine whether it is the time manipulation or the complexity one which led to greater affect infusion, and so clarify the AIM. We present three analyses, each having different strengths and weaknesses, which converge to the same conclusions.

We computed a *mood congruency* variable, which indicates the extent to which interpretation of the animation was consistent with participants' mood. The mood congruency variable was a binary variable (congruent, incongruent), computed by combining the mood Likert scores and the emotional valence of the interpretation of the animation. For example, a low score on the mood Likert scale (indicating bad/unhappy mood) and an interpretation of the animation which carried a negative valence would be recorded as a 'congruent' choice. For mood ratings which indicated a neutral mood, a neutral interpretation was entered as mood congruent, whereas a positive, or negative interpretation, was entered as mood incongruent. Note that in the case of neutral mood we do not assume that a neutral mood would specifically lead to a choice of a neutral interpretation of the social interaction but, rather, to a choice of neither a positive nor a negative interpretation.

In the first kind of analysis, we examined the means for the four cells defined by the factorial combination of the time deliberation and situational complexity factors. We ran individual chi-square tests against the null hypothesis that there should be an equal proportion of mood congruent and mood incongruent responses in each cell (Table 1). The only condition in which the frequency of congruent responses is higher than what would be expected by chance is the one of low deliberation time and low situational information; in all the other cases we could not identify a difference in the frequencies of mood congruent and mood incongruent responses.

Table 1. Mood congruency frequencies as a function of the experimental variables. Significance values for the chi-square tests are shown in boldface.

Experimental factors		Responses		
Time	Complexity	Mood congruent	Mood incongruent	Chi square, *p*
High	High	10	13	0.391, **.53**
Low	High	14	11	0.360, **.55**
High	Low	16	22	0.947, **.33**
Low	Low	22	9	5.452, **.02**

The above analysis has only exploratory value, since we cannot be sure that the chance probability of a congruent response is the same as the chance probability of an incongruent response. In the second kind of analysis, we therefore ran a regression analysis with mood congruency (yes, no) as the dependent variable and deliberation time, situational complexity, participant mood (the Likert scale ratings), and gender as the independent variables (all possible two-way interaction terms were included as well). Participant mood was included as a predictor since it is possible that participants might be making more selections congruent with their mood if they were in an, e.g., positive mood. Note that as the self-reported mood variable was a continuous one (Likert scale ratings had a range of 1-7), an ANOVA could not have been employed. With this analysis we assume that it is more appropriate to use the reported mood ratings as an independent variable, rather than the induced mood

manipulation, since the mood manipulation may have been less effective for some participants.

The full regression model was significant ($F(9,107)=2.996$, $p=.003$), however, most standardized beta coefficients were not significant, indicating that we had a case of colinearity. We therefore ran a reduced regression model without the interaction terms (there were six interaction terms in total). This reduced model was also significant: $F(4,112)=4.145$, $p=.004$. In fact, the more elaborate model was not significantly better than the reduced model ($F(5,106)=1.910$, $p=0.098$), so casting doubt on the importance of the interaction terms. Crucially, the reduced model allows us to compare the importance of situational information and deliberation time. The standardized beta for situational complexity was 0.081 and for deliberation time 0.259 (only the latter was significantly different from zero, $p=.005$), indicating that between the two factors, it is clearly deliberation time that is more important in determining affect infusion. Note that the standardized beta coefficient for gender was very high as well (-0.268, $p=.003$)

In the second kind of analysis we assumed that the self-reported mood (the Likert scale ratings) is the valid independent variable with regards to the current emotional state of the participants. However, self-reported mood may be subject to confounds, such as relating to personal traits (we thank Rolf Reber for this observation). In the third kind of analysis, we therefore ran a 2x2x2x2 factorial ANOVA with mood congruency as the dependent variable (yes, no), and deliberation time, situational information, mood induction procedure (positive or negative), and gender as independent variables. As with the regression analysis, the only significant main effects were the main effect of deliberation time ($F(1,101)=4.129$, $p=.045$) and the main effect of gender ($F(1,101)=8.595$, $p=.004$). No two-way interactions were

significant, consistently with the finding from the regression analysis. Note that short deliberation time led to more mood congruent responses (mean 0.64) than long deliberation time (mean 0.43), as expected from Table 1. Also, more mood-congruent selections were observed for females (0.61) than for males (0.38).

Discussion

Understanding when emotion can influence a cognitive process is important both from a practical and theoretical point of view. According to an important theory for affect infusion, the AIM (Forgas, 1995a), one possibility is that affect infusion occurs when there is heuristic processing. Heuristic processing can occur when there is *less* available deliberation time. Another possibility is that affect infusion occurs when there is substantive processing. Substantive (generative) processing could occur when there is *less* information available about a novel stimulus (less situational information). Are deliberation time and situational complexity equally important in determining affect infusion? The current specification of AIM would lead us to expect so, but this may not be the case. We factorially manipulated situational information and deliberation time and found only deliberation time to influence affect infusion, not situational information (cf. Schwarz & Clore, 1983; Schwarz, 1990; 2000).

Is it also possible to conclude that it is heuristic processing which primarily leads to affect infusion, and not substantive processing? There is some preliminary indication that this is the case, because the chi-squared analysis showed the low deliberation time and low situational information condition to be associated with the highest affect infusion. In that condition, we can speculate that participants did not have enough time to engage in substantive processing, so that heuristic processing was the preferred mode of responding. By contrast, there was no evidence of affect

infusion in the high deliberation time, low situational information condition, which we would expect to be associated with substantive/generative processing in our experiment. Promising as this line of reasoning appears, we hasten to add that without independent evidence that heuristic/ substantive processing did or did not occur, it is impossible to verify the above claims; this is an issue which we hope to address in future work.

Methodologically, there are several possibilities for improving the current study. For example, deliberation time could be manipulated more exhaustively, rather than being limited to two conditions, or involve the inclusion of alternative cognitive load manipulations (Maule and Hockey, 1993). A similar problem arises for the manipulation of situational information. We assumed that complexity could be operationalized in terms of the number of categories of information relating to the social situation and also the number of alternative statements. Both these manipulations could be thought of as impacting on the complexity of the situation because they influence the demands on working memory (a task which increases working memory can be considered a more difficult task). Is there a sufficiently large difference in working memory demands between the simple and complex condition? It is hard to provide an exact figure for this difference because we do not know how much of the available information participants concurrently considered (in making their selections). However, a reasonable estimate can be provided as follows. First, in the complex condition there was one more category of statements than in the simple condition. Assuming that participants did not make their selection for each response category independently of the others, this would imply more working memory load throughout the task. Second, in the complex condition, for each response category, there were three to six extra statements, compared to the simple condition. This

difference corresponds well to estimates of the capacity of working memory (e.g., Cowan, 2001).

Our justification for the complexity manipulations can be undermined by two criticisms. First, why not include more statements per response category and more response categories in the complex condition so as to make the difference between the simple and the complex condition more pronounced? The answer here was that we wanted to factorially manipulate deliberation time and situational complexity. Therefore, the high complexity condition was constrained to include as much information as would be possible to process even in the low deliberation time condition. Second, what about alternative complexity manipulations, for example, as might be forthcoming from the logical complexity of a situation (cf. Braine et al., 1995; Johnson-Laird, 1994)? Such an approach may well lead to different results from those we obtained presently and it would be a worthwhile endeavor to pursue it in the future.

Turning to other potential problems, some participants reported having made a preliminary judgment regarding the interpretation of the animation, before they were given the information. It would be desirable to try to prevent such preliminary judgments in future replications. Another tricky issue relates to the way the emotional valence of the interpretation of the situation was assessed. We employed a structured set of alternatives, so that some alternatives corresponded to a clearly positive interpretation, others to a negative one, etc. Another approach would have been to allow participants an unconstrained response mode in interpreting the social situation. We were reluctant to adopt this alternative method, since it might have led to emotionally ambiguous responses.

The objective of this project was to provide results which will help the further development of the AIM theory. Our key result, that deliberation time impacts on affect infusion, but not situational information, suggests ways in which the specification of AIM could be constrained. For example, the AIM mechanisms for affect infusion which depend on situational complexity could be revised. AIM currently predicts that less available information would lead to more generative processing, which may in turn be subject to more affect infusion. However, maybe the critical factor in this mechanism is not the extent of available information but rather the length of deliberation time. It is possible that with a short deliberation time attention can be focused on the specific information relevant to a problem, but as deliberation time increases the focus of attention becomes less sharp and encompasses potentially less relevant information (such as the current emotional state). A study specifically manipulating deliberation time against the extent of generative processes should clarify this possibility.

Another issue worth considering relates to more practical aspects of AIM. This study highlighted the difficulty in identifying the specific mechanism via which participants made their selections. Developing behavioral markers of, e.g., heuristic vs. generative processing of a problem would clearly greatly help further test and elaborate the theory. Finally, theoretically, there is a separate literature on how affect could be influenced by purely cognitive processing considerations, such as perceptual fluency (Reber, Schwarz, & Winkielman, 2004). In our experiments perceptual fluency was not manipulated, although situations of low situational information could be considered broadly analogous to situations of high perceptual fluency. It is not clear whether perceptual fluency can be integrated within AIM, but this is certainly an intriguing possibility for future work.

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Figure captions.

Figure 1. A schematic outline of AIM.

Figure 2. Two frames from a 20s animation, depicting an ambiguous social situation.

Figure 1

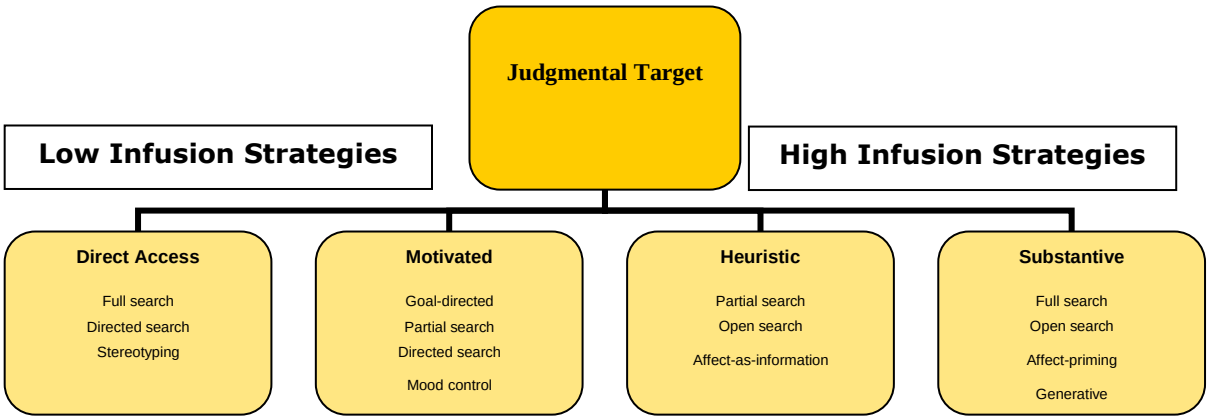
Judgmental Target
Low Infusion Strategies
High Infusion Strategies
Direct Access
Full search
Directed search
Stereotyping
Motivated
Goal-directed
Partial search
Directed search
Mood control
Heuristic
Partial search
Open search
Affect-as-information
Substantive
Full search
Open search
Affect-priming
Generative

Figure 2.