Proximity seeking in adult attachment: Examining the role of automatic approach–avoidance tendencies

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In two experiments, participants made symbolic approach and avoidance movements towards or away from attachment figure- and acquaintance-related cues after being primed with a distressing or a non-distressing context. Results showed that automatic approach responses towards the attachment figure were stronger in a distressing than in a non-distressing context, regardless of whether the source of distress was attachment-relevant or -irrelevant and regardless of one’s attachment style. Individual differences in attachment anxiety and avoidance were associated with the predicted patterns of approach–avoidance tendencies: attachment anxiety heightened the tendency to approach the attachment Figure (Experiments 1 and 2), whereas attachment avoidance reduced this tendency (Experiment 2). Findings are discussed as providing first evidence on the role of automatic action tendencies in adult attachment.

Over the past decades, Bowlby’s attachment theory (1969) has been highly influential in understanding the regulation of closeness in attachment relationships. Central to attachment theory is the existence of an attachment behavioural system that fosters individual differences in the motivation to seek or avoid proximity towards the attachment figure in times of need. Given that motivational elements and behavioural strategies are clearly represented in attachment theory (see Collins, Guichard, Ford, & Feeney, 2004), we believe that it is useful to study attachment in relation to broader motivational systems such as approach–avoidance. Consistent with this idea, it has indeed been argued that attachment behaviour is driven by an attachment motivational system that is automatically activated by threatening stimuli and evokes a set of approach or avoidance behavioural tendencies. Furthermore, conceptualizing proximity seeking in terms of automatic approach–avoidance tendencies allows for a more valid test of this mechanism as a central aspect of attachment working models and provides a broader framework for understanding individual differences in attachment behaviour.

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Proximity seeking and adult attachment: Theory and past evidence

The idea that emotions have the ability to motivate, that is, to direct behaviour towards certain (emotion-related) goals (e.g. Carver, Sutton, & Scheier, 2000; Frijda, 1986), is inherently present in attachment theory. The attachment behavioural system is commonly described as a goal-directed system that is oriented towards distress alleviation when confronted with threat by seeking proximity towards someone who can provide comfort and protection (i.e. the attachment figure) (Bowlby, 1969; Mikulincer & Shaver, 2003). It is also a goal-correcting system, meaning that the utility of one's behaviour will be appraised in light of its progress towards security attainment so that, in the case of a goal discrepancy, the individual can adjust his/her behaviour and/or goals. When the attachment figure is believed to answer one’s bids for proximity, a sense of protection and security is attained, ending the activation of the attachment system. Repeated episodes of attachment figure availability lead to the development of positive beliefs (i.e. working models) about the self and others, which in turn reinforces active approach behaviour. When the attachment figure is perceived as being inattentive and unresponsive to one’s needs, however, the primary attachment strategy of proximity seeking fails to achieve the main goal of ‘felt security’ and is therefore likely to be replaced by alternative strategies of distress regulation which are driven by specific subgoals organized around seeking (extreme) closeness or keeping independence. Hyperactivating strategies are characterized by an intense desire for fusion and closeness that is manifested in worries about separation and abandonment, strong efforts to maintain proximity, and excessive attempts to minimize emotional, cognitive, and physical distance from the attachment figure. The main goal of this strategy is to get the unavailable attachment figure as yet to be responsive, attentive, and supporting through intensifying proximity-seeking behaviour. Deactivating strategies, on the other hand, aim at inhibiting the activation of the attachment system by attenuating proximity-seeking behaviour through emotional and physical distancing and self-reliance. Thoughts about closeness, separation, or abandonment are being suppressed in an attempt to avoid intimacy and interdependence while defensively convincing others of one’s own efficacy and autonomy. The hyperactivating and deactivating strategies can operate independently or in parallel and are closely tied to the dimensions of, respectively, attachment anxiety and avoidance, which are assumed to underlie individual differences in attachment style (Brennan, Clark, & Shaver, 1998).

Empirical support for the normative and individual differences component of proximity seeking stems primarily from behavioural observation and self-report studies. In relation to attachment theory, it has been shown that couples who were separating at the airport sought and maintained more proximity than couples who were not separating (Fraley & Shaver, 1998). The results of a diary study also revealed that couples reported seeking more support from their partner on days when they experienced distress (Collins & Feeney, 2004). With regard to individual differences, several studies have demonstrated that secure people exhibit more proximity-seeking behaviour (Fraley & Shaver, 1998) and seek or provide more support than insecure people, especially in a distressing situation (e.g. Collins & Feeney, 2000; Simpson, Rholes, &

1 Note that the terms ‘attachment anxiety’ and ‘attachment avoidance’ (as well as anxiously and avoidantly attached individuals) could be incorrectly interpreted as reflecting distinct categories instead of two continuous dimensions. Therefore, it would be more correct to use the label ‘individuals scoring higher on attachment anxiety/avoidance’ because it better conveys the dimensional aspect of attachment. However, we used the original labels for reasons of brevity.
Nelligan, 1992; Simpson, Rholes, Oriña, & Grich, 2002). Furthermore, they are found to be more comfortable with interpersonal closeness when discussing personal issues (Kaitz, Bar-Haim, Lehrer, & Grossman, 2004) and display a more open expression of thoughts and emotions in social settings (e.g. Mikulincer & Nachshon, 1991). The opposite is shown for avoidant individuals, namely seeking and providing less support when feeling distressed and pulling away from the attachment figure when separation is imminent. Note, however, that avoidant people do seek contact with their attachment figure when experiencing lower levels of distress and anxiety (see Fraley & Shaver, 1998; Simpson et al., 1992). In addition, they were found to report being less supportive (e.g. Carnelley, Pietromonaco, & Jaffe, 1996), to prefer more interpersonal distance, and to display less open communication in a relationship-relevant or social situation (Gillath et al., 2006; Kaitz et al., 2004). For anxious individuals, no clear relations were found with observable attachment-related behaviour (e.g. Fraley & Shaver, 1998), yet they clearly report wanting more closeness and interdependence (e.g. Collins & Allard, 2001; Griffin & Bartholomew, 1994; Mikulincer & Nachson, 1991).

Also within the social-cognitive domain, studies relying on reaction time measures have provided interesting information on the relationship between attachment styles, stress, and proximity seeking. For example, Mikulincer, Birnbaum, Woddis, and Nachmias (2000) examined the accessibility of proximity themes and worries upon the priming of a stress and neutral word. Using a lexical decision task with proximity, distance, neutral, positive, and negative words, they found that, regardless of attachment style, the induction of stress led to faster reaction times on proximity words. In addition, individual differences in attachment were found to modulate cognitive reactions to stress. That is, anxious individuals showed faster reaction times to distance words – when compared with secure and avoidant people – both after priming with a threat and neutral word, but reacted faster to proximity words only when a neutral word was primed. Avoidant individuals, on the other hand, generally displayed fast reaction times to proximity words, but reacted faster to proximity worries only when a cognitive load was added, which may suggest that they defensively suppress proximity worries. Note that their pattern of reaction times on proximity words contradicts their consciously reported need for cognitive and emotional distance. In a follow-up study, Mikulincer, Gillath, and Shaver (2002) elaborated on the stress–proximity link by focusing on the accessibility of attachment figure representations in situations of distress. Using a lexical decision and an emotional Stroop task, participants were exposed to the names of their attachment figure, a close person, a known person, and an unknown person after the induction of a threat (failure or separation) and a neutral word. They found that threat primes led to higher accessibility of mental representations of the attachment figure as was indicated by faster reaction times on trials with the attachment name. Attachment anxiety increased this effect in both neutral and threat contexts, whereas attachment avoidance was related to slower reaction times to the attachment name following a separation (but not a failure) word prime.

**Proximity seeking as an automatic action tendency**

An important merit of the two studies described above is their reliance on unobtrusive reaction time measures that are less susceptible to conscious deliberation and self-presentation issues than self-report and observation methods. This characteristic is especially relevant for investigating the cognitive structures and processes underlying attachment avoidance because their deactivating strategies sometimes fail in dismissing...
distress arousal (e.g. Dozier & Kobak, 1992) or suppressing the need for closeness (Mikulincer et al., 2000) when measured at the automatic level. Focussing on automatic processes is thus essential for gaining a deeper insight into the working mechanisms of attachment strategies of which many components are assumed to operate automatically and without conscious awareness (Mikulincer & Shaver, 2003). This certainly applies to the study of proximity seeking because the latter may be considered as an automatic action tendency associated with achieving attachment-related goals that people pursue without conscious awareness, intention, effort, and control (see Collins et al., 2004). In this respect, the Mikulincer studies can provide only a partial support on the theoretical assumptions regarding proximity seeking. The tasks and stimulus material that they used can serve only as a measure of cognitive activation of semantic knowledge regarding proximity seeking and do not allow for drawing conclusions on the effects of stress on behavioural tendencies. Moreover, Mikulincer and colleagues were primarily interested in demonstrating preconscious activation of the attachment system upon distress arousal, whereas we wanted to focus on the effects of stress on the proximity-seeking mechanism itself.

As reported in the beginning of the introduction, a key difference between individuals with different attachment styles is their level of motivation to seek closeness towards their attachment figure when feeling distressed versus keeping independence and self-control. These behavioural differences stem from different goal structures that can be roughly divided into approach (i.e. proximity maintenance) and avoidance (i.e. avoiding rejection) goals that are associated with approach and avoidance action tendencies (see Mikulincer & Shaver, 2007). Accordingly, it may be theoretically relevant to conceptualize proximity seeking as a motivational action tendency aimed at reducing the discrepancy between one’s actual (i.e. distress) and desired goal state (i.e. security) and to organize individual differences in proximity seeking along an approach–avoidance continuum. Note that such action tendencies are likely to operate automatically and may or may not be translated into overt behavioural responses (see Carver & Scheier, 1998; Custers & Aerts, 2007).

The conceptualization of proximity seeking in terms of approach–avoidance tendencies fits thus more closely with the theoretical definition of proximity seeking as a goal-directed response. Furthermore, this conceptualization allows for empirical testing of several core assumptions of attachment theory. First, we tested the idea that, in the general population, a distressing context will automatically evoke a stronger proximity-seeking tendency towards the attachment figure relative to a non-distressing context. Second, we examined whether individual differences in attachment anxiety and avoidance will modulate this general tendency and are associated with the predicted patterns of approach and avoidance, namely an increase in approach responses in the case of attachment anxiety and a decrease in the case of attachment avoidance. So far, there has been little empirical work that directly addresses these hypotheses by focusing on both the automatic and the behavioural components of proximity seeking.

The present study
To investigate approach–avoidance strategies that are automatically evoked by attachment figure-related stimuli, we used a stimulus response compatibility (SRC) task that was first used by Mogg, Bradley, Field, and De Houwer (2003). In this task, participants are instructed to make a symbolic approach or avoidance response depending on a certain feature of the presented stimuli. In our version of the SRC task,
on each trial a word was presented on a computer screen together with the drawing of a manikin above and below the word. The presented word could refer to either the attachment figure of the participant or an acquaintance. The participants were instructed to make the manikin move towards (approach) or away (avoid) from the word based on the identity of the person to which the word referred (attachment figure or acquaintance). In the compatible block, an approach movement had to be made towards attachment-related words and an avoidance movement away from acquaintance-related words, whereas in the incompatible block the instructions were reversed. Subtracting the reaction times in the compatible block from the reaction times in the incompatible block gives us information on the strength of automatic approach versus avoidance tendencies towards the attachment figure. In this context, it should be noted that the SRC task is a relative measure. It allows one to draw conclusions on the extent to which one category of stimuli evokes an approach or avoid tendency, but only relative to the extent to which another category of stimuli evokes this tendency. This is suggested by the fact that in similar tasks with two relevant categories, reactions to one category can depend on the nature of the other category (Brendl, Markmann, & Messner, 2001). Because we were interested in the impact of attachment on approach–avoidance responses, we selected as secondary category acquaintance-related stimuli that are also familiar to the participant, but differ from attachment-related stimuli primarily with regard to their relevance for serving attachment goals (i.e. providing comfort and security in times of need).

Hypotheses
Considering proximity seeking as the central regulatory force of the attachment system, we expect that secure as well as insecure people will show stronger approach tendencies towards the attachment figure in a distressing context compared with a non-distressing one. We also predict that this normative process will be modulated by individual differences in attachment anxiety and avoidance: the tendency to approach the attachment figure is expected to increase with higher scores on attachment anxiety and decrease in the case of attachment avoidance. Attachment theory also postulates that attachment strategies (i.e. hyperactivating and deactivating) are mainly activated upon distress arousal because only then coping actions are required. Accordingly, it can be predicted that individuals scoring higher on attachment avoidance will display a decreased tendency to approach the attachment figure only when feeling distressed. Drawing on both attachment theory and previous research (Mikulincer et al., 2002; Rholes, Simpson, Tran, Martin, & Friedman, 2007), we did not anticipate an interaction effect between prime condition and attachment anxiety. That is, anxious individuals' chronically active attachment system is assumed to strengthen approach responses towards the attachment figure in both distressing and non-distressing contexts.

EXPERIMENT 1

Method
Participants
Sixty first-year psychology students (48 females, 12 males) from Ghent University participated in return for extra course credit. The average age of participants was 19.80
years, ranging from 18 to 27. They were randomly divided into two priming conditions, each consisting of 30 participants.

Material
The stimulus material for the approach–avoidance task consisted of two categories of words. Four word stimuli referred to the attachment figure, that is, first name, surname, hometown, and the word ‘partner’, ‘friend’, ‘mother’, or ‘father’ (according to the nature of the relationship). Another four words referred to an acquaintance, that is, first name, surname, hometown, and the word ‘acquaintance’. All words were presented at the centre of the screen in white uppercase letters (Arial Black, font size 42) on a black background. The manikin consisted of a white circle for the head, an ellipse for the body and lines that represented arms and legs. It was about 2.8 cm high and 1.5 cm wide (arms inclusive). The participants could make the manikin move upwards by pressing the ‘8’ key of the numeric part of the keyboard and could make it move downwards by pressing the ‘2’ key. When one of these keys was pressed, the manikin ‘walked’ towards the word presented at the centre of the screen or away from the word (towards the upper or lower edge of the screen). The approach–avoidance task was programmed and presented using the INQUISIT Milliseconds software package (INQUISIT 2.01, 2005) on a Pentium II computer with a 15-inch colour monitor.

As a measure of individual differences in attachment style, we used a Dutch translation of the ECR-revised (Experiences in Close Relationships scale, Fraley, Waller, & Brennan, 2000; ECR-R-NL, Buysse & Dewitte, 2004). Eighteen items tap attachment anxiety (i.e. fear of abandonment and strong desires of interpersonal merger) and eighteen items tap attachment avoidance (i.e. discomfort with closeness, dependence and intimate self-disclosure). The reliability and validity of these scales are well documented (e.g. Fraley et al., 2000; Sibley & Liu, 2004). Also in the current sample, Cronbach alpha values were high for the Anxiety subscale ($\alpha = .90$) as well as for the Avoidance subscale ($\alpha = .95$).

Procedure
First, our participant’s primary attachment figure was identified using the WHOTO scale which consists of six questions referring to the three critical features that distinguish attachment figures from non-attachment attachment figures (proximity seeking and separation distress, safe haven, and secure base; Hazan & Zeifman, 1994). For each question, participants had to write the name of the person that best served each of these functions. The person who was listed most frequently was labelled as the primary attachment figure. In case of an ex aequo, we chose as the attachment figure the person that satisfied the larger number of attachment-related functions (see Fraley & Davis, 1997). Next, the participants were asked to write down the first name, surname, and hometown of their attachment figure and to label that person’s relational role (partner, friend, mother, father . . .). Similarly, they were asked to give the first name, surname, and hometown of someone they know and meet frequently, but with whom they do not have a special, close relationship. To ensure that the stimuli listed for the attachment figure did not overlap with those of the acquaintance, participants were urged to choose an acquaintance that had different names and a different hometown than their attachment figure. While the experiment leader set up the computer task, participants received priming instructions. One-half of the participants were asked to imagine that
their attachment figure would go abroad for 1 or 2 years and had to write about thoughts and feelings related to such an event (separation threat condition), whereas the other half of the participants were asked to describe a typical Tuesday (control condition). Research has shown that disruptions of proximity maintenance to the attachment figure (e.g. separation), whether these are real or imagined, generate intense distress reactions (Feeney & Kirkpatrick, 1996; Fraley & Shaver, 1997, 1998). The participants were randomly assigned to the separation threat and control condition in order to avoid systematic differences between conditions.

After the priming task, the participants completed the approach–avoidance task. For this task, they were seated behind the computer at a distance of approximately 60 cm from the screen. The task consisted of 8 practice and 64 test trials of a first response assignment and 8 practice and 64 test trials of a second response assignment. Instructions informed the participants that on each trial they would see a word that either referred to their attachment figure or to a know person. A manikin would also appear either below or above the word. Their task was to move the manikin towards or away from the word depending on the identity of the person to which the word referred. In the compatible block, participants were instructed to make the manikin run towards attachment-related stimuli and away from stimuli related to the acquaintance. In the incompatible block, instructions were reversed, that is, they had to move the manikin away from attachment stimuli and towards acquaintance-related stimuli. The order of the blocks was counterbalanced across participants.

Each trial started with the presentation of the manikin that appeared in the centre of the upper or lower half of the screen. The starting position of the manikin (above or below) was determined randomly and throughout the task the manikin appeared equally often above and below the words. After 750 ms, a word stimulus was presented at the centre of the screen. The participants reacted on the word by pressing on the ‘8’ and ‘2’ key of the numeric part of the keyboard. All words disappeared as soon as the manikin reached the centre of the screen (the location of the word) or the edge of the screen. The inter-trial interval was 1,000 ms. The latency between the onset of the word and the first key press was registered as the reaction time.

Results
Latencies from trials with errors were removed (4.2% of all trials). Reaction times that were shorter than 200 ms or more than 3SD above the general mean were treated as outliers and excluded from analyses (see Mogg et al., 2003).

In examining our hypothesis on the normative component of the proximity-seeking mechanism, we conducted a repeated measures ANOVA with compatibility as a within-subjects variable and prime condition as a between-subjects variable. The relevant mean reaction times are presented in Table 1. This analysis yielded a significant main effect of compatibility, $F(1, 58) = 11.76, p < .01$, and of prime condition, $F(1, 58) = 5.00, p < .05$, as well as a significant interaction effect of compatibility and prime condition, $F(1, 58) = 7.47, p < .01$. Overall, participants reacted faster in the compatible task ($M = 885$ ms, $SD = 215$) than in the incompatible task ($M = 991$ ms, $SD = 279$) and reaction times were significantly faster in the non-threat condition ($M = 878$ ms, $SD = 224$) compared with the separation threat condition ($M = 998$ ms, $SD = 262$). The significant interaction effect indicated a stronger approach tendency (i.e. RT in incompatible task–RT in compatible task) after priming with a separation threat context ($M = 191$ ms, $SD = 258$) compared with a non-threat context ($M = 22$ ms, $SD = 221$).
To investigate the relation between attachment style as measured by the ECR and the approach–avoidance index, we conducted hierarchical regression analyses with the approach–avoidance index as a dependent variable and prime condition, attachment anxiety, and attachment avoidance as predictors. In a first step, prime condition, attachment anxiety, attachment avoidance, and the two-way interaction of anxiety and avoidance were entered as predictors. To reduce possible problems of multicollinearity when analysing the interaction term, the anxiety and avoidance scores were centred (Aiken & West, 1991). In a second step, the two-way interactions between prime condition and attachment anxiety, and between prime condition and attachment avoidance were added. The first model explained a significant part of the variance in approach–avoidance responses, $R^2 = .42$, $p < .05$. More specifically, the regression analysis revealed a significant main effect of prime condition, $\beta = 0.31$, $p < .05$, $d = .66$, and a marginally significant main effect of attachment anxiety, $\beta = 0.27$, $p = .06$, $d = .52$. The main effect of attachment avoidance was not significant, $t < 1$, $d = .15$, neither was the interaction effect between attachment anxiety and avoidance, $t < 1$, $d = .15$. In the second step, the interactions between prime condition and attachment anxiety, and between prime condition and attachment avoidance did not add significantly to the prediction of approach–avoidance responses, $\Delta R^2 = .01$, $p > .10$, $t$ values $< 1$, $d$ values $< .10$. Note, however, that this test had a power of only .12 to detect a small effect ($d = .20$) and a power of .61 to detect a medium effect ($d = .50$).

We also explored whether task order would moderate the relationship between the predictors and the approach–avoidance index by entering task order and the interaction terms (i.e. task order $\times$ predictors) into the regression analyses. Neither the order main term nor the interaction terms were significant, $t$ values $< 1$, indicating that the pattern of results was not affected by task order effects.

### Discussion

Most importantly, we found that the general tendency to approach (versus avoid) the attachment Figure (relative to the acquaintance) was stronger when a distressing context was induced compared with a non-distressing context. These data confirm our

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<th>Prime condition</th>
<th>Congruency</th>
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<td><strong>Experiment 1</strong></td>
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<td>Non-threat prime</td>
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<td>Incongruent</td>
<td>889</td>
<td>189</td>
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<tr>
<td>Threat prime</td>
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<td><strong>Experiment 2</strong></td>
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prediction that the priming of a distressing context automatically increases behavioural approach strategies that are oriented towards the attachment figure. We also found evidence for individual differences in proximity-seeking tendencies. Overall, the analyses revealed that attachment anxiety was related to faster approach (versus avoidance) responses towards the attachment figure (relative to an acquaintance) and this relation was not influenced by the type of prime condition. This result reflects the assumed hyperactive attachment system of anxiously attached individuals, which is characterized by constant and excessive efforts to gain the proximity of the attachment figure in any kind of situation, whether it is a threatening one or not (e.g. Mikulincer & Florian, 1998; Mikulincer et al., 2000). Note, however, that we have to be careful in interpreting the lack of interaction effects because this might be attributed to the small sample sizes ($N = 30$ in the separate samples) and the resulting lack of power.

Attachment avoidance, on the other hand, was not related to the approach–avoidance index. This result was rather unexpected, especially because the avoidance dimension is considered crucial in determining the motivational orientation of behavioural strategies (Fraley & Shaver, 1998, 2000). In addition, we did not find the expected interaction effect between prime condition and attachment avoidance. As such, we could not confirm the hypothesis that only a distressing context evokes an avoidance response in avoidantly attached individuals, whereas a non-distressing context is assumed to evoke a normative reaction (i.e. approaching the attachment figure) (e.g. Mikulincer & Shaver, 2003). A possible explanation for this lack of results regarding attachment avoidance could be the nature of the threat prime. That is, separation from the attachment figure is an explicitly attachment-related threat context that may be defensively suppressed in avoidant individuals. Research has shown that, in the case of attachment threat, deactivating strategies can act pre-emptively, that is, precluding attachment-related distressing material from further cognitive processing in an attempt to avoid activation of the attachment system (Fraley, Garner, & Shaver, 2000; Fraley & Shaver, 1997; Mikulincer & Shaver, 2003). Because of this pre-emptive strategy, it could be that participants scoring higher on attachment avoidance do not experience distress in response to a separation threat, which would imply that no coping actions are required and thus no distance goals are being activated. We therefore designed a second study in which we used a different prime, one that induces an attachment-relevant and non-interpersonal threat context, namely academic failure. This specific prime is useful in circumventing the defensive reactions of avoidantly attached individuals. Given that avoidant individuals' defensive mechanism is organized around their strong need for self-reliance and self-promotion, it has been argued that any kind of situation that threatens their self-esteem is likely to cause distress in avoidant individuals (Mikulincer & Shaver, 2003; Mikulincer et al., 2002). An attachment-unrelated prime like failure is also useful in excluding an alternative interpretation of our findings. This alternative interpretation is related to the fact that the threat prime in Experiment 1 focused on thoughts about the attachment figure which might have been sufficient to activate attachment-related goals of proximity and safety, regardless of the experience of threat (see Gillath et al., 2006). Hence, to explicitly investigate the effects of threat versus no threat on the automatic tendency to approach the attachment figure while controlling for influences of attachment figure-related thoughts, we asked our participants in the second experiment to think about not passing their final exams at university.
EXPERIMENT 2

Method

Participants
Sixty students (44 women, 16 men) from various faculties at Ghent University participated in the experiment. Each participant received 5 euros for his/her participation. The average age of participants was 20.53 years, ranging from 18 to 35. None of them had participated in the first experiment. As in the first experiment, the participants were randomly divided into two conditions. The scores of one participant were removed from the analyses because of extreme values (i.e. more than 3SD above the general mean) on the ECR Anxiety scale. The remaining sample consisted of 30 participants in the non-threat prime condition and 29 participants in the threat prime condition.

Procedure
The second experiment followed the exact same procedure as the first one, except for the nature of the priming task. Instead of the separation prime, we presented our participants with an attachment-unrelated threat prime. More specifically, participants were asked to imagine failing their final exams and consequently failing to obtain their degree and then had to write about related thoughts and feelings. The participants in the non-threat prime condition received the same prime as in the first experiment, namely describing a typical Tuesday. Again, the two subscales of the ECR were found to be highly reliable (\(\alpha = .94\) for the Anxiety subscale and \(\alpha = .84\) for the Avoidance subscale).

Results
A repeated measures ANOVA with compatibility as a within-subjects variable and prime condition as a between-subjects variable revealed a significant main effect of compatibility, \(F(1, 57) = 94.81, p < .01\) (Table 1). The main effect of prime condition, \(F(1, 57) = 5.31, p < .05\), and the interaction effect between compatibility and prime condition, \(F(1, 57) = 8.31, p < .01\), also reached significance. Similar to the first experiment, participants reacted faster in the compatible task (\(M = 827\) ms, \(SD = 178\)) than in the incompatible task (\(M = 1,004\) ms, \(SD = 209\)) and reaction times were significantly faster in the non-threat condition (\(M = 864\) ms, \(SD = 179\)) compared with the failure threat condition (\(M = 968\) ms, \(SD = 192\)). The significant interaction effect indicated that participants displayed stronger approach tendencies after priming with a failure threat context (\(M = 231\) ms, \(SD = 162\)) compared with a non-threat context (\(M = 125\) ms, \(SD = 115\)).

To explore the contribution of attachment styles on approach–avoidance tendencies, we performed hierarchical regression analyses on the approach–avoidance index with prime condition, attachment anxiety, attachment avoidance, and their interaction terms as predictors. Prime condition and attachment scores together accounted for a significant portion of the variance in approach–avoidance responses, \(R^2 = .50, p < .01\). Concretely, a significant main effect emerged of prime condition, \(\beta = 0.37, p < .01, d = .81\), a marginally significant main effect of attachment anxiety, \(\beta = 0.25, p = .06, d = .51\), and a significant main effect of attachment avoidance,
β = −0.27, p = .05, d = .54. The interaction effect between attachment anxiety and avoidance did not reach significance, t < 1, d = .33. In the second step, the interactions between prime condition and attachment anxiety, and between prime condition and attachment avoidance did not add significantly to the prediction of approach–avoidance responses, ΔR² = .02, p > .10, t values < 1, d values < .28. As in Experiment 1, the above reported associations were not influenced by task order effects, t values < 1.

Discussion

The findings of Experiment 2 replicated and extended those of Experiment 1. In general, it was found that the approach (versus avoidance) responses towards the attachment figure (relative to an acquaintance) were stronger in a distressing context compared with a non-distressing context. Hence, the priming of an attachment-unrelated threat context yielded the same effect on the normative functioning of the attachment system as the priming of an attachment-related threat, providing further support for the hypothesis that threat automatically activates stronger approach tendencies towards the attachment figure.

With regard to individual differences in approach–avoidance tendencies, we found that higher scores on attachment avoidance were associated with a lower tendency to approach the attachment figure, which is consistent with theoretical and empirical findings (Fraley & Shaver, 1998; Mikulincer & Shaver, 2003). Contrary to our expectations, however, this relation was not influenced by the type of prime condition which suggests that higher scores on attachment avoidance are associated with a lower tendency to approach the attachment figure in both stress and non-stress contexts. This seems at odds with the theoretical assumption that the deactivating strategies of avoidantly attached individuals counteract the tendency to approach the attachment figure only when feeling distressed. The findings on attachment anxiety replicated those of Experiment 1. That is, attachment anxiety was related to a stronger tendency to approach the attachment figure only when feeling distressed. The findings on attachment anxiety replicated those of Experiment 1. That is, attachment anxiety was related to a stronger tendency to approach the attachment figure and this relation was not influenced by the type of prime condition. These findings provide further evidence for anxious individuals' chronic activation of (excessive) proximity-seeking tendencies in both stress and non-stress contexts (Mikulincer & Florian, 1998). Note, however, that the lack of interaction effects between prime condition and both attachment anxiety and avoidance should be interpreted with caution because the power to detect statistically significant interactions was rather low. Recall that our test had a power of only .12 to detect a small effect (d = .20) and a power of .61 to detect a medium effect (d = .50).

GENERAL DISCUSSION

The primary objective of the present studies was to investigate a core assumption of attachment theory by conceptualizing proximity seeking as a motivational action tendency that operates in an automatic mode. In general, our results show that a distressing situation automatically evokes stronger approach responses towards the attachment figure, regardless of whether the source of distress was attachment-relevant or -irrelevant and regardless of one's attachment style. Secondly, our findings suggest that individual differences in attachment anxiety and avoidance are associated with the predicted patterns of approach-avoidance tendencies: attachment anxiety was related
to a stronger tendency to approach the attachment figure (Experiments 1 and 2) whereas attachment avoidance was related to a weaker tendency to approach the attachment figure (Experiment 2).

Across both studies, we found that the tendency to approach (versus avoid) the attachment figure (relative to an acquaintance) is significantly stronger in a distressing compared with a non-distressing context. This provides evidence for the core idea in attachment theory that threat automatically activates a stronger proximity-seeking tendency towards the attachment figure (Bowlby, 1973; Mikulincer & Shaver, 2003; Shaver & Mikulincer, 2002). Furthermore, this pattern of results was found regardless of individual differences in attachment orientation, which is in line with other studies demonstrating the normative functioning of the attachment system under conditions of threat (Mikulincer et al., 2000, 2002). Another important finding of the present study is that this approach response was replicated using two different threat primes: an attachment-relevant (i.e. separation) and an attachment-irrelevant (i.e. failure) threat context, which is consistent with theoretical predictions (Bowlby, 1969; Mikulincer & Shaver, 2003) and empirical research on attachment system activation (e.g. Mikulincer et al., 2002). That is, every event that is perceived by a person as being threatening is assumed to activate the attachment system and these triggers include both attachment-related and -unrelated sources of threat. On a side-note, we would like to remark that our results do not imply that distress-alleviating functions necessarily need to be salient for proximity-seeking tendencies to occur. That is, we primarily demonstrated that these approach responses were stronger in a distressing compared with a non-distressing context. One can imagine, of course, that people can seek proximity for affiliative or sexual reasons as well.

Both studies also provided evidence on attachment-style differences in behavioural responses towards the attachment figure. In both Experiments 1 and 2, we found that attachment anxiety was related to heightened approach (versus avoidance) responses towards the attachment figure (relative to an acquaintance). This finding confirms the theoretical assumption that anxious individuals make insistent attempts to seek and maintain proximity towards their attachment figure. Furthermore, the results of both experiments suggested that the relation between attachment anxiety and approach–avoidance tendencies did not depend on the presence of threat. This finding is in line with the general idea that anxious people are chronically preoccupied with attachment concerns and tend to appraise ‘objectively’ safe situations as being threatening (Mikulincer & Florian, 1998; Mikulincer et al., 2000; Shaver & Hazan, 1993). It also fits with other empirical research showing a main effect of attachment anxiety on the accessibility of attachment figure representations following the priming of a separation threat, failure threat, and neutral context (Mikulincer et al., 2002). On the other hand, the lack of interaction contradicts the findings of another study by Mikulincer and colleagues (2000) that examined the effects of stress on the accessibility of proximity-related thoughts. In these studies, an interaction effect was found between prime condition and attachment anxiety, indicating heightened accessibility of proximity words (compared with secure and avoidant attachment) only in the neutral prime condition, but not in the stress prime condition. The divergence in results between our study and that of Mikulincer et al. (2000) could possibly be explained by the different tasks used and the differences in focus, namely proximity seeking as a behavioural action tendency in the present study (symbolic movements in the SRC task) versus proximity-related thoughts in the Mikulincer et al. study (reacting to words in the lexical decision task). This difference in operationalization impairs a straight comparison
between the results of both studies because what people think and what they tend to do is not always likely to converge. We will return to this in the following paragraph.

With regard to attachment avoidance, only the second experiment yielded the expected pattern of results, namely a weaker tendency to approach the attachment figure. This illustrates avoidant individuals’ tendency to downplay attachment experiences by deactivating the attachment system. On the one hand, this finding is in line with attachment theory and the findings of self-report and behavioural observation studies (e.g. Fraley & Shaver, 1998). On the other hand, it does not fit well with previous social-cognitive research demonstrating a preconscious activation of proximity-related themes in avoidant individuals after being primed with distress (Mikulincer et al., 2000). The results on attachment avoidance are also inconsistent with another study by Mikulincer et al. (2002) that showed lower accessibility of attachment figure representations in a separation threat context, whereas the present study found decreased approach responses in the failure and neutral context of Experiment 2, but not in the separation context of Experiment 1. Again, the focus on semantic knowledge versus action tendencies could provide a plausible explanation for the divergence in results between our study and that of Mikulincer. It is possible that avoidant people do experience preconscious activation of proximity needs, but these may not necessarily be translated into behavioural action tendencies because of past failures to attain security through proximity seeking. In other words, they may want, yet simultaneously, fear closeness with the attachment figure because the latter has been associated with rejection and abandonment and over the course of years may have resulted in the development of distance instead of proximity goals. The latter conclusion has been substantiated by research on automatic goal-pursuit in which attachment avoidance was found to be associated with a stronger implicit motivation for distance goals (Dewitte & De Houwer, 2008; Gillath et al., 2006). Drawing on this line of reasoning, we thus argue that the present results do not contradict, but rather complement the results of Mikulincer et al. (2000, 2002). To explain the finding that a failure threat did elicit the expected avoidance response whereas a separation threat did not, we refer to the nature of the threat prime. Separation involves a disruption of proximity maintenance, so there is no need for avoidant individuals to defend themselves by keeping distance and independence. Failure, on the other hand, is more likely to create distress in avoidant individuals because it undermines their sense of self-worth and self-efficacy, which will encourage them to restore their sense of control through the inhibition of proximity seeking (see Mikulincer & Florian, 1998).

The latter assumption implies, however, that the inhibition of proximity seeking in the case of attachment avoidance should be evident only in the context of distress; yet this could not be confirmed by the present results. Instead, a main effect of attachment avoidance was found, indicating that these individuals tend to inhibit approach responses to the attachment figure in both distressing and non-distressing contexts. This could raise the question why we did not find these avoidance responses in the first experiment, especially because the same neutral prime was used in Experiments 1 and 2. In addressing these issues, we need to consider some weaknesses regarding the interpretation of our findings. First, we have to be careful in interpreting the lack of interaction effects between prime condition and attachment style, because this might be due to the small sample sizes in the separate prime conditions which has limited the power to detect statistically significant interaction effects. Also note that the small sample size did not allow us to test the hypothesis that attachment security (i.e. low on attachment anxiety and avoidance) is related to heightened approach responses.
particularly in a threat context, because this would have required testing a three-way interaction between attachment anxiety, avoidance, and prime condition. The statistical power of the present experiment is, however, not sufficient to test higher-order effects.\textsuperscript{2} On the other hand, it is worth noting that we did find fairly consistent results in two consecutive experiments, despite these small sample sizes, which seems to suggest that our results are reliable and theoretically meaningful.

Another remark concerns the relative nature of the SRC task used in the present study. The compatible and incompatible blocks are always defined in terms of symbolic movements towards or away from the attachment figure versus the non-attachment figure. Hence, it is difficult to disentangle if our results reflect stronger approach responses towards the attachment figure or faster avoidance responses away from the acquaintance. However, we think it is most plausible to interpret our results in terms of approach responses towards the attachment figure because it would be rather difficult to justify theoretically that an acquaintance evokes proximity or distance motives. In relation to the previous remark, it can also be argued that an attachment figure and an acquaintance differ not only on the crucial attachment dimension but also in terms of familiarity, cognitive accessibility, relationship closeness, etc., which may introduce some ambiguities for interpreting our results. Yet, the observed relationships between the approach–avoidance score and individual differences in attachment style do seem to indicate that it is indeed the relevance of attachment goals that is the crucial difference between both categories of stimuli. Furthermore, the fact that our studies yielded results compatible with attachment theory and other studies on automatic activation of the attachment system upon threat validates the present method as providing evidence on the impact of attachment on approach–avoidance tendencies.

In general, our results provided several new insights on attachment-style differences in the tendency to approach or avoid the attachment figure, especially with regard to attachment anxiety. That is, previous observational research revealed that only variation in attachment avoidance was related to actual behavioural strategies, whereas attachment anxiety was unrelated to proximity seeking (e.g. Collins & Feeney, 2000; Fraley & Shaver, 1998; Simpson et al., 1992, 2002). As a result, attachment anxiety has often been referred to as an appraisal dimension that is primarily related to distress reactions (Fraley & Shaver, 1998). The present studies, in contrast, did demonstrate an association between attachment anxiety and behavioural responses because we operationalized proximity seeking as an automatic action tendency. This seems to suggest that anxious individuals motivation for closeness and intimacy is primarily operating in an automatic mode and this fits with research on automatic goal pursuit in which attachment anxiety was found to be associated with proximity goals (e.g. Gillath et al., 2006; Rom & Mikulincer, 2003). An explanation in terms of automatic processing may thus clarify why our SRC task could tap the expected approach responses in anxious individuals, whereas observational methods could not. Within the SRC task, the tendency to seek or avoid proximity towards the attachment figure is inferred from the speed of symbolic approach and avoidance responses, which is less susceptible to demand effects. Such biases cannot be ruled out in observation studies because

\textsuperscript{2}Regarding the lack of relationship between attachment security and the approach–avoidance index, it is also important to note that some researchers (e.g. Fraley et al., 2000) have argued that the ECR is better able to capture the high ends of the anxiety and avoidance dimensions than it does the low (or secure) ends of each dimension which would imply that the ECR may not be as sensitive for assessing attachment security.
proximity-seeking behaviour may be influenced by self-presentation issues or conscious deliberation about the expected outcome of this behaviour. In the case of attachment anxiety, the latter could possibly interfere with the actual manifestation of proximity motives because thoughts about not receiving as much proximity from the attachment figure as one desire may cause ambivalence and inner conflict in anxious individuals which may eventually detract them from actual seeking proximity. This fits with the idea that anxious individuals are not only sensitive to proximity goals but also to anti-goals such as rejection, separation, and attachment figure unavailability (Mikulincer & Shaver, 2007; Mikulincer et al., 2000).

It is remarkable that anxious individuals continue their approach behaviour, despite their appraisal of the attachment figure as being unavailable and unsupportive (Collins, 1996; Simpson, Rholes, & Phillips, 1996). A possible explanation for this discrepancy could be that anxious individuals stay committed to proximity goals despite their negative expectations regarding goal attainment because they have no alternative for achieving security due to their sense of self as weak, vulnerable, and incompetent. In relation to this, it could also be that anxious individuals do not form univalent, negative views of their attachment figure, because this appraisal may depend on their current goal state (see also Mikulincer & Shaver, 2007). When confronted with distress, it may be that anxious individuals’ underlying proximity motive makes more accessible the positive aspects of the goal-helpful object (i.e. the attachment figure) while inhibiting its negative aspects (see Moors & De Houwer, 2001, also see Ferguson & Bargh, 2004). In other words, the pursuit of intimacy goals in anxious individuals may automatically render the attachment figure approach-friendly and facilitate goal-consistent behaviour (i.e. proximity seeking). Future work is needed to elaborate on these ideas and to explore them further in systematic research. In addition, more direct tests are needed to investigate the influence of attachment schemas on motivation, goals, and action tendencies measured at the automatic level, because this may advance our understanding on attachment-related differences in behavioural responses.

References


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