Sex differences in anger expressions: the shaping role of social appraisals
Evers, C.A.J.M.

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: http://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

UvA-DARE is a service provided by the library of the University of Amsterdam (http://dare.uva.nl)
CHAPTER 2

“I’d Better Cool Down Before I Explode and Spoil My Friendship With This Person”: On Anger, Social Appraisal, and Gender

---

Summary

Emotions are socially constituted, yet social aspects of appraisal have played only a minor role in appraisal research. Four studies are reported that examine the role of social appraisal in explaining sex differences in anger regulation. A first autobiographical study showed that men and women report different social appraisals when expressing and suppressing their anger. Next, in three vignette studies social context was manipulated in order to evoke different social appraisals. They showed collectively that social appraisal (a) partly mediates the relation between sex and anger expression, and (b) is a valuable contribution to current appraisal dimensions.
CHAPTER 2  

"I'd Better Cool Down ...": On Anger, Social Appraisal, and Gender  

Introduction

Research in a wide range of social psychology has convincingly shown that people are sensitive to other person's reactions. Emotional situations are no exception to this general finding. Individuals actively seek out information concerning how others evaluate and react to emotional situations (e.g., Festinger, 1954), and social comparison can influence and determine one's own subjectively experienced and overtly expressed emotional state (Schachter & Singer, 1962). Others' emotional reactions may also directly influence the regulation of one's emotions. For example, Craig and Prkachin (1978) found that participants who are exposed to a model who is tolerant of pain stimuli exhibit decreased experience and expression of pain, compared to participants who were not exposed to such a model. Research on display rules (Ekman & Friesen, 1969) also indicates that social processes are important for the expression of emotions. We learn early in life when to intensify or mask displays of emotion. Especially in social situations, people manage their expressions and emotional behavior following these rules (Zaalberg, Manstead, & Fischer, 2004). These lines of research have shown that emotions are influenced by social factors (see also Baumeister, Stillwell, & Heatherton, 1994; Fridlund, 1994; Keltner & Haidt, 1999; Parkinson, 1996; Parkinson, Fischer, & Manstead, 2005; Parrott, 2001; Philippot, Feldman, & Coats, 1999; Shields, 2002). To date, however, most research has focused on the social aspects of emotional expressions, and little attention has been paid to the social aspects of appraisal processes underlying these emotions.

Appraisals have mainly been defined and studied at such a level that the social event is only appraised with regard to the meaning and impact for the individual him- or herself (see Scherer, Schorr, & Johnstone, 2001 for an overview of current appraisal theory and research). The fact that in addition to the emotional event itself, the behavior, thoughts, or feelings of other persons are implicitly or explicitly involved in the construction of appraisal has been neglected (Manstead & Fischer, 2001). The objective of the current chapter is to show that appraisal processes are socially constituted and, therefore, that the concept of social appraisal is a valuable addition to current appraisal dimensions. Moreover, I aim to show that social appraisals are important for understanding the regulation of emotional expressions. I will focus on the emotion anger because the press for emotion regulation is greatest in the context of intense negative emotions (Feldman Barrett, Gross, Christensen, &
Benvenuto, 2001). Moreover, anger is typically an interpersonal emotion (Averill, 1983). Because men and women seem to regulate their anger differently (Gottman & Levenson, 1988; Shields, 2002), I was interested in comparing the role of social appraisal in men and women.

**Social appraisal and anger**

Manstead and Fischer (2001) distinguished two major aspects of social appraisal. On the one hand, social appraisals should play a significant role in the experience of an emotion, i.e., the way in which we evaluate an emotional event can be affected by the way in which others (apparently) evaluate that same event (see Parkinson, 2001; Fischer, Rotteveel, Evers, & Manstead, 2004). On the other hand, social appraisals should play a significant role in the expression of an emotion, i.e., the way in which we express our emotions is influenced by the imagined social implications of that expression. For instance, we may appraise how others react to our own emotional reaction (“The other will be hurt if I express my anger”) or we appraise how others’ reactions to our own reaction may conflict with our personal interests (“The other may not want to see me anymore, if I express my anger”). In the present dissertation I focus on the latter aspect of social appraisal.

For present purposes, then, a social appraisal is defined as the appraisal of the expected social implications of one’s emotional expression for the self, the provoker, or other people possibly present in the situation. These social implications can be divided into two categories. The first category refers to the expected negative social implications of the emotion response. This is related to the extent to which a person expects his/her emotional response to have negative social consequences for the person him- or herself, for the provoker, or for other people present in the situation. The second category refers to the expected positive social implications of one’s own emotional response, thus the extent to which a person expects that his/her emotional response will result in positive social consequences. In other words, social appraisals concern possible changes in one’s relations with others, or in how others think of us.

Social appraisals may be an important determinant of sex differences in anger. Although anger is sometimes seen as a typically ‘male’ emotion, studies of sex differences in anger have shown that men and women differ not so much in the experience of anger, but rather in the way in which they express and regulate their anger (e.g., Gottman & Levenson, 1988; Shields, 2002). However, the direction of
this sex difference is unclear, for some studies show more anger expressions by men, whereas other studies show an opposite pattern (e.g., Archer, 2000), or no sex differences at all (e.g., Campbell & Muncer, 1987; King & Emmons, 1990). It is therefore unclear how and why men and women differ in the regulation of their anger expressions (see also Kring, 2000).

I propose that these inconsistent results may be due to the wide variety of contexts that have been used, because these may have evoked different social appraisals in men and women. For example, it has been found that women express their anger less often in contexts involving strangers (Kring, 2000) and express their anger more often in intimate contexts (Archer, 2000; Dossen, Balswick & Halverson, 1983; Kring, 2000). Women might make more positive (or fewer negative) social appraisals in intimate contexts, because they are less anxious about the negative implications of their anger expression in intimate relations, and as a consequence express their anger more freely.

Another example is that people have trouble expressing anger to higher status individuals (e.g., Keltner, Gruenfeld, & Anderson, 2003; Keltner, Young, Oemig, Heerey, & Monarch, 1998; Kuppens, Van Mechelen, & Meulders, 2004; Strachan & Dutton, 1992). Moreover, prior findings suggest that people in higher status positions more frequently express anger and are also more anticipated to display anger (Tiedens, 2001; Tiedens, Ellsworth, & Mesquita, 2000). Especially women seem to have trouble expressing anger to individuals with a higher status, for example managers (see e.g., Beinstein Miller, 1991), because historically they occupied positions of lower status in society. Eagly (1987) incorporated the higher status of men into social role theory through evidence that status is associated with agentic characteristics, which are stereotypically seen as masculine. As a consequence, it seems likely that women appraise the implications of their anger more negatively than men do when they have a lower status than the opponent, because a decision to confront someone of higher status with one’s anger may yield stronger disadvantages (see also Anderson & Berdahl, 2002). Together, these studies suggest that intimacy and status may be contexts that evoke different social appraisals in men and women, and may therefore moderate the relationship between sex and anger.

In the four studies presented here sex differences in social appraisal will be examined and I aim to show that (a) these social appraisals cannot simply be
subsumed under the headings of current appraisal dimensions, and (b) social appraisals are responsible for sex differences in anger expressions. With regard to the first issue, current appraisal dimensions are generally regarded as playing an important role in the elicitation of emotion. In the studies reported below I focus on the role of social appraisal once an emotion has been elicited. Such social appraisals are assumed to be important for the expression of emotion, and can therefore be seen as serving a role additional to that served by situational appraisals. With regard to the second issue, because social appraisals are thought to be especially important after the emotional experience has been elicited, they are assumed to play a central role in the regulation of emotional expression and therefore help to explain why we regulate our emotional behavior. It seems likely that persons expecting negative social implications of an unregulated emotion response are more likely to inhibit this response. Persons expecting their response to result in positive social implications, on the other hand, seem more likely to express this emotion.

However, the first aim was to show that men and women do indeed differ in their social appraisals, that is, in their expectations concerning the social implications of their anger expressions. In Study 2.1 men and women’s social appraisals were examined when they freely imagined autobiographical anger events in which they either suppressed or expressed their anger. In the three studies that follow I used a vignette method and manipulated social context in the vignette (intimacy and status) in order to investigate the role of social appraisals in explaining men’s and women’s anger expressions.

**Study 2.1**

Do men and women report different social appraisals during anger events in which they either suppressed or expressed their anger? I assume that social appraisals are related to anger regulation: Individuals reporting negative social appraisals are more likely to suppress their anger, whereas individuals reporting positive social appraisals are more likely to express their anger. In order to test these assumptions, participants were asked to imagine an autobiographical anger event under one of two conditions. They were asked to remember an event in which they were angry and either expressed this anger (the ‘express’ condition) or suppressed their anger (the ‘suppress’ condition). It was assumed that men and women would differ in their social appraisals. Women should be less likely to express their anger if they expect
any negative social outcomes of their anger. I therefore assumed that when anger was suppressed, women – by comparison with men – should report stronger negative social appraisals and weaker positive appraisals. On the other hand, when anger was expressed women should report weaker negative appraisals and stronger positive appraisals. In other words, women should express their anger only if they are reasonably confident that it will have a positive impact, or at least no negative impact. Following the same line of reasoning, it was assumed that women would express their anger more readily to intimates than to strangers, because they may be better able to assess whether or not an intimate relationship will suffer from the anger expression. Moreover, in line with the literature, it was assumed that participants in the suppress condition would more often have a lower status than the provoker, because expressing negative emotions towards a higher status person is more dramatic (Strachan & Dutton, 1992) and may be associated with more negative social consequences.

In sum, the following hypotheses were tested. First, I expected an interaction effect of sex and type of expression (expressing or suppressing anger) on social appraisal, with women in the express condition reporting stronger positive or weaker negative social appraisals than men, and women in the suppress condition reporting stronger negative social appraisals or weaker positive social appraisals than men. Second, I predicted a main effect of type of expression on social appraisal, such that participants who expressed their anger would report stronger positive social appraisals, whereas participants who suppressed their anger would report weaker negative social appraisals. Finally, it was hypothesized that within the express condition women would have a more intimate relationship with the provoker than would men. With regard to status it was expected that participants within the suppress condition would more often have a provoker of higher status than would their counterparts in the express condition.

Method

Participants

Two hundred and sixty-one Dutch students (average age 20.2 years, 81 males and 180 females) participated in this study by completing a questionnaire. Participants received course credit for participation and were randomly assigned to one of two conditions.
Design and procedure

The study employed a 2 (sex of participant) x 2 (response type: expression vs. suppression) design. In the express condition, participants were asked to recall an event from the past 6 months in which they had experienced anger and had also expressed this anger. In the suppress condition, participants were also asked to recall an event from the past 6 months in which they had experienced anger, but had suppressed it. Questions about the incident were posed after the incident had been imagined. Participants completed the questionnaire together in a large room as part of a larger test battery.

Dependent variables

Social appraisals. Ten items were used to assess social appraisal. Participants were asked to rate on 7-point rating scales ranging from 1 (not at all) to 7 (very much) the extent to which they had taken the following implications of their anger expression into account. Two items were used to measure ‘negative social appraisal’, and were combined to form a scale: ‘I expected to hurt the provoker’ and ‘I expected the provoker to become angry with me’ ($r = .36, p < .0001$). The other items assessed positive social appraisals, and they were combined to form a scale: ‘I wanted the provoker to regret his/her behavior’, ‘I wanted to show that I am not to be trifled with’, ‘I wanted to show that the situation is under my control’, ‘I wanted the provoker to respect me’, ‘I wanted to prevent the other from behaving like this in future’, ‘I wanted to show that I was angry’, ‘I thought it would be effective to show my anger’, and ‘I thought the behavior of the provoker would change as a consequence of my anger’ ($\alpha = .75$).

Anger intensity. In order to be able to rule out the possibility that differences between the suppress and express conditions were due to differences in anger intensity, participants were asked to rate the intensity of their anger on a 7-point scale ranging from 1 (not at all) to 7 (very much).

Intimacy and status regarding the provoker. Participants were asked to indicate whether the provoker was more powerful than, less powerful than, or equally powerful as the participant; in addition, they were asked how intimate their relation with the provoker was, rated on a 7-point scale ranging from 1 (not at all) to 7 (extremely).
Results

Social appraisals

A 2 (sex) x 2 (response type) MANOVA was performed with negative and positive social appraisals as the dependent variables. A multivariate main effect for response type emerged, $F(2,256) = 46.86, p < .0001, \eta^2 = .29$. Univariate analyses showed that this effect was significant for both social appraisals: negative social appraisal, $F(1,257) = 8.41, p < .001, \eta^2 = .03$ and positive social appraisal, $F(1,257) = 81.07, p < .0001, \eta^2 = .24$. Means showed that participants who suppressed their anger reported more negative social appraisals ($M = 4.60, SD = 1.59$) than did participants who expressed their anger ($M = 3.77, SD = 1.62$). However, participants who expressed their anger reported more positive social appraisals ($M = 5.07, SD = 1.10$) than did participants who suppressed their anger ($M = 3.84, SD = .95$).

Further, the multivariate interaction effect was significant, $F(2,256) = 3.41, p < .03, \eta^2 = .03$. Univariate analyses showed that this interaction effect was significant for negative social appraisal, $F(1,257) = 6.61, p < .01, \eta^2 = .03$. Simple main effects showed that women reported more negative social appraisals than men when they suppressed their anger, $F(2,258) = 7.50, p < .01, d = .35$, but that they reported fewer negative social appraisals than men when they expressed their anger, $F(2,258) = 7.18, p < .01, d = .40$ (see Table 2.1 for means). Moreover, women reported stronger negative social appraisals when they had suppressed their anger than when they had expressed their anger, $F(2,258) = 24.73, p < .0001, d = .83$ (see Table 2.1 for the means). The multivariate main effect of sex was not significant ($p > .10$).

Table 2.1 Means (standard deviations in parentheses) for the Interaction Effects of Response type by Sex for Negative and Positive Social Appraisal and Intimacy

<table>
<thead>
<tr>
<th>Expression</th>
<th>Men</th>
<th>Women</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative social appraisal</td>
<td>4.16 (1.75)\textsubscript{a}</td>
<td>3.55 (1.52)\textsubscript{b}</td>
<td>4.23 (1.97)\textsubscript{ac}</td>
<td>4.73 (1.42)\textsubscript{d}</td>
</tr>
<tr>
<td>Positive social appraisal</td>
<td>4.90 (1.27)\textsubscript{a}</td>
<td>5.16 (1.00)\textsubscript{a}</td>
<td>3.63 (1.01)\textsubscript{a}</td>
<td>3.91 (.92)\textsubscript{a}</td>
</tr>
<tr>
<td>Intimacy</td>
<td>4.87 (2.26)\textsubscript{a}</td>
<td>5.71 (1.80)\textsubscript{b}</td>
<td>5.97 (1.53)\textsubscript{c}</td>
<td>5.82 (1.97)\textsubscript{bc}</td>
</tr>
</tbody>
</table>

Note. Means in the same row that do not share subscripts differ at $p < .03$
Anger intensity

A 2 (sex) x 2 (response type) ANOVA was performed with intensity of anger as the dependent variable. A significant effect of sex was found, with women ($M = 5.65, SD = 1.07$) reporting more intense anger than men did ($M = 5.37, SD = 1.38$), $F(1,257) = 3.93, p < .05, \eta^2 = .03$. Further, a marginally significant effect was found for response type, with participants in the express condition ($M = 5.69, SD = 1.19$) reporting more intense anger than did participants in the suppress condition ($M = 5.43, SD = 1.16$), $F(1,257) = 3.54, p = .06, \eta^2 = .01$. The interaction effect was not significant ($p > .80$).

Intimacy and status regarding the provoker

Intimacy. A 2 (sex) x 2 (response type) ANOVA was performed with intimacy of relationship with the provoker as the dependent variable. A main effect emerged for response type, $F(1,257) = 6.36, p < .01, \eta^2 = .02$. In the suppress condition participants had a more intimate relationship with the provoker ($M = 5.86, SD = 1.48$), than did participants in the express condition ($M = 5.41, SD = 2.01$). Further, the interaction effect was significant, $F(1,257) = 4.34, p < .04, \eta^2 = .02$. Simple main effects showed that women had a more intimate relationship with their provoker than men did in the express condition, $F(1,259) = 4.67, p < .03, d = .47$ (see Table 2.1 for means). No sex differences were found in the suppress condition ($F < 1$). Moreover, simple main effects showed that men had a more intimate relationship with the provoker when they suppressed their anger than when they expressed their anger, $F(1,257) = 6.36, p < .01, d = .72$ (see Table 2.1 for means). The main effect for sex was not significant ($p > .10$).

Status. The association between status of the provoker and response type was significant, $\chi^2(2) = 6.17, p < .05, \eta^2 = .15$. When the anger was expressed, participants were more likely to say that the provoker was of equal status (63%) than that the provoker was of higher status (32%). Moreover, when the anger was suppressed, participants also more often reported a provoker of equal status (74%) than of higher status (26%). A provoker of lower status was hardly reported (when anger was expressed: 5%, when anger was suppressed: 1%). Apparently, participants more often mentioned situations with a provoker of equal status, no matter whether they had expressed or suppressed their anger. No sex effect was found, $\chi^2(2) = 4.36, p = .11.$
thus men and women equally often reported a provoker with more, less, or equally status.

In order to rule out the possibility that sex differences in responses to social appraisal or status and intimacy regarding the provoker were solely a function of the different intensities of men's and women's anger experiences, ANCOVAs, MANCOVAs, or logistic regression analyses (as appropriate) were performed, using intensity of anger as a covariate, on all measures of social appraisal, status of and intimacy with the provoker. In two cases the covariate exerted a significant effect. First, intensity of anger was a marginally significant covariate for the intimacy of the relationship with the provoker, $F(1,256) = 3.62, p < .06, \eta^2 = .01$. However, the interaction effect remained significant, $F(1,256) = 4.32, p < .04, \eta^2 = .02$, as did all simple main effects. Also the main effect for response type remained significant, $F(1,256) = 5.27, p < .02, \eta^2 = .02$. Second, intensity of anger was a significant covariate for the social appraisals, $F(2,255) = 9.43, p < .0001, \eta^2 = .07$. Here too, the interaction effect remained significant, $F(2,255) = 3.43, p < .03, \eta^2 = .03$, as did the response type effect, $F(2,255) = 50.62, p < .0001, \eta^2 = .28$. It was therefore concluded that intensity of anger was not a major reason for any of the observed effects on intimacy of the relationship with the provoker or on social appraisals.

Discussion

The results were generally consistent with the predictions. When anger was expressed, more positive social appraisals were reported, and when anger was suppressed, more negative social appraisals were reported. This suggests that when people fear that their anger will have negative social consequences, they are more likely to suppress it. On the other hand, when fear of such negative consequences was absent or when positive outcomes were expected, participants were more likely to express their anger. Further, women reported weaker negative social appraisals than men did when anger was expressed; when anger was suppressed, however, women reported stronger negative social appraisals than men did. This suggests that women are more sensitive to the negative social consequences of their anger expressions. Negative social consequences were perceived as relatively unlikely in situations in which women were willing to express their anger, but when they had suppressed their anger these appraisals were present. For men, in contrast, the fear of such negative outcomes appeared to be less significant in how they dealt with their anger. It is
important to note that the positive appraisals of men and women were equally strong in the two conditions. This suggests that differences in anger regulation were primarily due to the fact that women were more focused than men on the negative social implications of their anger.

The results also showed that men and women had an equally intimate relationship with the provoker when anger was suppressed, whereas women had a more intimate relationship with their provoker than men when anger was expressed. This is consistent with studies showing that women are more likely to express their anger to intimates than to strangers (Archer, 2000; Kring, 2000), and suggests that women are less anxious about the negative impact of their anger in an intimate relationship. An explanation for this phenomenon might be that women estimate the negative implications of their anger on intimates differently, because they expect more unconditional positive regard from partners or intimate friends than do men, trusting that their relationship would not be affected by an anger outburst.

With regard to status, the results indicated that participants more often reported a provoker with equal status than a provoker of higher status, regardless of whether they had expressed or suppressed their anger. This suggests that participants are more often angry in situations with equal status provokers.

Although an important advantage of the present study is its ecological validity, there are also some limitations. A first problem is that the anger-inducing event was different for all participants. There may be other factors, in addition to status of and intimacy with the other person that could explain the sex differences in social appraisals. Second, participants were asked to imagine a situation in which they expressed their anger, but obviously anger can be expressed in different ways, varying from very subtle or indirect expressions to very strong antagonistic responses. Thus, the extent to which it is social appraisal that explains sex differences in anger expression remains unclear. Therefore three other studies were performed in which a vignette method was used, in order to standardize the anger-provoking event for all participants, and to experimentally manipulate the social context.

**Study 2.2**

One important aspect of the social context that appeared to differentiate male and female anger reactions was intimacy: Women had a more intimate relationship with their provoker than men when anger was expressed. It may be assumed that
women expect different social implications than do men of anger reactions expressed towards intimates, i.e. they make different social appraisals, and therefore express their anger differently. One objective of Study 2.2 was to show that sex differences in anger expressions are mediated by sex differences in social appraisal. To investigate this assumption, the intimacy with the anger provoker was varied: The provoker was either a (romantic) partner, or a friend, or a colleague. The sex differences in social appraisals were expected to vary with this social context, with women appraising their anger more negatively than men in the colleague condition, but more positively in the intimate partner and friend conditions. Study 2.1 showed that especially negative social appraisals were different for men and women. However, these negative social appraisals were assessed using only two items. Therefore five additional negative social appraisal items were added, and the measurement of positive social appraisals was refined.

In order to investigate the effects of social appraisals on anger expressions, different ways of expressing one’s anger were measured, varying from seeking confrontation to starting to cry. Here I am tapping two types of anger expressions: direct expressions, which would be more stereotypically masculine, versus “powerless” expressions, which would be more stereotypically feminine. It was assumed that women express their anger in a more powerless way, whereas men express their anger more directly. However, this effect should be qualified by intimacy, with women expressing their anger more directly in the intimate conditions, because of their stronger positive social appraisals in this context.

Further, I wanted to show that social appraisals have a function different from that of standard appraisals like primary and secondary appraisals. Primary appraisals reflect the meaning of an event for the individual and its implications for personal well-being; secondary appraisals concern the person’s resources and options for coping with the situation (Smith & Lazarus, 1993). One objective was to show that social appraisals -- and not primary and secondary appraisals - mediate the relation between sex and anger expression.

In sum, the following predictions were tested. First, sex differences in the expression of anger should be moderated by the social context: Women should express anger more directly in the intimate conditions, i.e., the partner and friend conditions, than men. Moreover women should express anger in a more powerless
way in the colleague-condition than men. Men, on the other hand, should express anger more directly in the colleague condition than women. Second, sex differences in social appraisals were expected, which would vary with social context. Women were expected to report more negative social appraisals than men, but mainly in the colleague condition. In intimate relations, women should report stronger positive social appraisals than men, whereas men should report stronger positive social appraisals than women in the colleague-condition. Third, I hypothesized that the predicted sex differences in anger expressions would be mediated by sex differences in social appraisals (and not by sex differences in primary and secondary appraisal).

Method

Participants

One hundred and eighty-three Dutch students (average age 22.5 years, 51 males and 132 females) participated in this study. The following participants were excluded from the analyses: those in the partner condition who did not have a romantic relationship ($N = 27$); those reporting that they could not imagine the situation described in the vignette ($N = 14$); and those reporting that they had not answered the questionnaire seriously ($N = 39$). One hundred and three participants remained (average age 23.6 years, 42 men, 61 women). Participants received course credit for participation and were randomly assigned to one of the three conditions of the study.

Design and procedure

A pilot study ($N = 43$) showed that participants most often mentioned no-show at an appointment as the reason why they would become angry with partners, friends, and colleagues. Participants were therefore asked to read a vignette describing a situation in which they were waiting in a restaurant for a person who was not there at the agreed time. Then a text message appeared on the protagonist’s phone, saying that this person would not show up because he or she was out with other people. Immediately after this text message, the protagonist tries to call this person, but the phone is not answered. The study employed a 2 (sex of participant) x 3 (intimacy: partner vs. friend vs. colleague) design. Dependent on the condition, participants had to imagine that their (romantic) partner, a good friend, or a colleague did not show up. Questions were posed after having read the vignette. Sixty-two percent of participants completed the questionnaire in a large room as part of a larger test battery, and 38%
completed the questionnaire by email. The different ways of completing the questionnaire did not exert any influence on the results.

**Dependent variables**

Questions were answered on 7-point rating scales ranging from 1 (*not at all*) to 7 (*very much*).

**Anger experience.** Participants were asked how strongly they would feel the emotion anger.

*Primary and secondary appraisal.* Primary appraisal was measured with the items: ‘The event struck me as fair’ and ‘The event struck me as justifiable’ ($r = .80, p < .0001$). Secondary appraisal was measured with the items: ‘I feel in control in this situation’ and ‘I feel I can change this situation’ ($r = .46, p < .0001$). Thus, primary appraisal reflects feeling of fairness, and secondary appraisal feeling of control.

**Anger expression.** Six items were used to measure direct and powerless expressions. Direct anger expression was measured with three items. These items started with: ‘As soon as I see my partner/friend/colleague...’ and finished with: ‘I confront this person with his/her behavior’, ‘I act as if nothing happened’ (reverse coded), and ‘I say that I do not tolerate this kind of behavior’ ($\alpha = .74$). Powerless anger expression was measured with three other items: ‘I seek someone to comfort me’, ‘My eyes become watery’, and ‘I feel powerless’ ($\alpha = .74$).

**Social appraisals.** Twelve items were used to assess social appraisal. It was made clear that these items were focused on the participants’ unregulated anger response. Seven items were used to measure ‘negative social appraisal’, and were combined to form a scale: ‘I would be worried that my relationship with my partner/friend/colleague would be ruined because of my anger reaction’, ‘I would worry how my partner/friend/colleague would think about me because of my anger reaction’, ‘I would fear that my partner/friend/colleague would take revenge on me’, ‘My partner/friend/colleague would see me as a whiner because of my anger reaction’, ‘It would harm my reputation if I were to show my anger’, ‘It would be terrible if my partner/friend/colleague would be hurt by my anger expression’, and ‘It would be terrible if my anger expression would make my partner/friend/colleague angry’ ($\alpha = .71$).

The other five items assessed ‘positive social appraisal’ and were combined into a scale: ‘It would be good for my relationship with my partner/friend/colleague to
express my anger’, ‘I would want to show that I am angry, regardless of how my partner/friend/colleague will think about me’, ‘My partner/friend/colleague will not show this kind of behavior in future because of my anger reaction’, ‘Expressing my anger would show my partner/friend/colleague that the situation is under my control’, and ‘Expressing my anger would make my partner/friend/colleague realize that he/she behaved unfairly’ ($\alpha = .71$).

**Intimacy and status regarding provoker.** In order to check whether partners, friends, and colleagues involved different levels of intimacy, participants were asked how intimate their relation was with the person they had in mind and how much status they assigned to this person.

**Results**

**Anger experience**

A 2 (sex) x 3 (intimacy) ANOVA was performed with experienced anger as dependent variable. Women ($M = 6.25$, $SD = .81$) reported experiencing more anger than men did ($M = 5.68$, $SD = 1.10$), $F(1,95) = 7.63, p < .001, \eta^2 = .07$. Further, an effect was found for intimacy, $F(2,95) = 5.56, p < .01, \eta^2 = .11$. A post-hoc Bonferroni test showed that participants experienced more anger towards partners ($M = 6.10, SD = 1.08$) than towards friends ($M = 5.52, SD = 1.24$), $p < .05, d = .54$, and more anger towards colleagues ($M = 6.30, SD = .60$) than towards friends, $p < .001, d = .63$. There was no difference in anger experience towards partners and colleagues ($p = .10$). The interaction effect was not significant ($p > .40$).

**Primary and secondary appraisal**

A 2 (sex) x 3 (intimacy) MANOVA was performed with primary and secondary appraisal as dependent variables. A multivariate main effect emerged for sex, $F(2,96) = 3.95, p < .02, \eta^2 = .08$. Univariate analyses showed that women ($M = 1.80, SD = .85$) assessed the situation as less fair than men did ($M = 2.17, SD = 1.09$), $F(1,97) = 4.88, p < .03, \eta^2 = .05$. Univariate analyses further showed that men ($M = 2.84, SD = 1.19$) reported stronger secondary appraisals than women did ($M = 2.35, SD = 1.04$), $F(1,97) = 5.44, p < .02, \eta^2 = .05$. This indicates that men experienced more control than women did.

Further, the multivariate interaction effect was significant, $F(4,94) = 2.50, p < .04, \eta^2 = .05$. Univariate analyses showed that this interaction effect was marginally significant for both primary appraisal, i.e., the fairness appraisal, $F(2,97) = 2.91, p <$
.06, η² = .06, and for secondary appraisal, i.e., appraisal of control, F(2,97) = 2.63, p < .07, η² = .05. Simple main effects showed that in the partner condition, F(1,99) = 6.36, p < .01, d = 1.24, as well as in the friend condition, F(1,99) = 3.15, p < .08, d = .67, women assessed the situation as less fair than men did (see Table 2.2 for the means). Moreover, simple main effects showed that in the partner condition men reported stronger secondary appraisals, i.e., experienced more control, than women, F(1,99) = 8.92, p < .001, d = 1.18 (see Table 2.2 for the means). The multivariate main effect for intimacy was not significant (p > .50).

**Anger expression**

A 2 (sex) x 3 (intimacy) MANOVA was performed with direct and powerless anger expression as dependent variables. A multivariate main effect emerged for sex, F(2,96) = 28.23, p < .0001, η² = .37. Univariate analyses showed that women (M = 4.72, SD = 1.27) showed more powerless anger expressions than men did (M = 2.94, SD = .98), F(1,97) = 55.67, p < .0001, η² = .37.

Further, the multivariate interaction effect was marginally significant, F(4,194) = 1.78, p < .06, η² = .06. Univariate analyses showed that this interaction effect was marginally significant for direct expression, F(2,97) = 2.70, p < .07, η² = .05. Simple main effects showed that women expressed anger more directly than men did in the partner condition, F(1,99) = 4.40, p < .04, d = .50 (see Table 2.2 for the means). Moreover, simple main effects showed that women differed in their direct anger expressions as a function of intimacy, F(2,98) = 3.26, p < .04. A posthoc Bonferroni test, applied only to women, showed that women expressed anger more directly towards their partners than towards colleagues, p < .04, d = .87 (see Table 2.2 for the means). The differences between partners and friends and between friends and colleagues were not significant (both ps > .50). The multivariate main effect for intimacy was not significant (p > .40).

**Social appraisals**

A 2 (sex) x 3 (intimacy) MANOVA was performed with negative and positive social appraisals as dependent variables. A multivariate main effect emerged for sex, F(2,96) = 5.29, p < .01, η² = .10. Univariate analyses showed that women (M = 4.81, SD = .69) reported stronger positive social appraisals than men did (M = 4.54, SD = .83), F(1,97) = 4.93, p < .03, η² = .05, and that women (M = 3.17, SD = .82) also reported stronger negative social appraisals than men did (M = 2.79, SD = .83),
$F(1,97) = 4.52, p < .04, \eta^2 = .04$. This indicates that social implications of anger expressions were in general more salient for women than for men.

Table 2.2  

Means (standard deviations in parentheses) for the Interaction Effects of Intimacy by Sex for Appraisals and Expression

<table>
<thead>
<tr>
<th>Intimacy</th>
<th>Sex</th>
<th>Sex</th>
<th>Sex</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td><strong>Appraisals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>2.33</td>
<td>1.50</td>
<td>2.43</td>
<td>1.80</td>
</tr>
<tr>
<td>(a)</td>
<td>(.69)</td>
<td>(.67)</td>
<td>(.94)</td>
<td>(1.04)</td>
</tr>
<tr>
<td>Secondary</td>
<td>3.42</td>
<td>2.16</td>
<td>2.64</td>
<td>2.57</td>
</tr>
<tr>
<td>(a)</td>
<td>(1.12)</td>
<td>(1.07)</td>
<td>(1.03)</td>
<td>(1.08)</td>
</tr>
<tr>
<td>Positive social</td>
<td>4.53</td>
<td>4.84</td>
<td>4.17</td>
<td>5.04</td>
</tr>
<tr>
<td>(a)</td>
<td>(.95)</td>
<td>(.62)</td>
<td>(.51)</td>
<td>(.71)</td>
</tr>
<tr>
<td>Negative social</td>
<td>2.86</td>
<td>2.76</td>
<td>2.57</td>
<td>3.18</td>
</tr>
<tr>
<td>(a)</td>
<td>(.68)</td>
<td>(.73)</td>
<td>(.88)</td>
<td>(.83)</td>
</tr>
<tr>
<td><strong>Expressions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>5.94</td>
<td>6.55</td>
<td>6.43</td>
<td>6.28</td>
</tr>
<tr>
<td>(a)</td>
<td>(1.22)</td>
<td>(.71)</td>
<td>(.63)</td>
<td>(.67)</td>
</tr>
<tr>
<td>Powerless</td>
<td>2.89</td>
<td>5.04</td>
<td>2.76</td>
<td>4.37</td>
</tr>
<tr>
<td>(a)</td>
<td>(.73)</td>
<td>(1.31)</td>
<td>(1.15)</td>
<td>(1.33)</td>
</tr>
</tbody>
</table>

*Note.* Means within rows that do not share subscripts differ between $p < .001$ and $p < .08$

Further, the multivariate interaction effect was significant, $F(4,194) = 3.20, p < .01, \eta^2 = .06$. Univariate analyses showed that this interaction effect was significant for positive social appraisal, $F(2,97) = 4.60, p < .01, \eta^2 = .09$. Simple main effects showed that women reported stronger positive social appraisals than men did in the friend condition, $F(1,99) = 10.49, p < .001, d = 1.23$ (see Table 2.2 for the means). Moreover, simple main effects showed that men differed in their positive social appraisal for intimacy, $F(2,98) = 3.08, p < .05$. A posthoc Bonferroni test, applied
only to men, showed that men reported stronger positive social appraisals towards colleagues than towards friends, \( p < .06, \, d = 1.35 \) (see Table 2.2 for the means). The differences between colleagues and partners and between friends and partners were not significant \( (ps > .70) \). The multivariate main effect for intimacy was not significant \( (p > .20) \).

**Intimacy and status regarding provoker**

Two separate 2 (sex) x 3 (intimacy) ANOVAs were performed with the intimacy of the relationship and the amount of status that participants assigned to the other person as dependent variables. First, for intimacy of the relationship, a significant effect was found for the manipulation of intimacy, \( F(2,95) = 33.56, \, p < .0001, \eta^2 = .41 \). As expected, post-hoc Bonferroni tests showed that the relationship was judged as more intimate in the partner condition \( (M = 6.42, \, SD = .77) \) than in the friend \( (M = 5.19, \, SD = 1.15) \) and colleague conditions \( (M = 4.14, \, SD = 1.55) \), both \( ps < .001 \) and both \( ds > 1.07 \). The difference between the friend and colleague conditions was also significant, \( p < .001, \, d = .91 \). Further, a marginal sex effect was found, \( F(1,95) = 2.93, \, p < .09, \eta^2 = .03 \). Women \( (M = 5.31, \, SD = 1.30) \) rated their relationships as slightly more intimate than men did \( (M = 4.83, \, SD = 1.89) \). The interaction effect was not significant \( (p > .10) \).

Second, for the amount of status assigned to the other person, a significant sex effect was found, \( F(1,97) = 6.05, \, p < .02, \eta^2 = .06 \). Women \( (M = 4.44, \, SD = .89) \) assigned the other person more status than men did \( (M = 3.98, \, SD = 1.02) \). No other main or interaction effects were significant \( (ps > .10) \).

---

1 In order to rule out the possibility that sex differences in responses to intimacy were solely a function of the different intensities of men’s and women’s anger experiences, MANCOVAs were performed using intensity of anger as a covariate, on all measures of primary and secondary appraisal, social appraisal, and anger expression. For primary and secondary appraisal, intensity of anger was a significant covariate, \( F(2,93) = 10.69, \, p < .0001, \eta^2 = .19 \). The multivariate interaction effect remained marginally significant, however, at univariate level the effects were no longer significant. Also, the main effect for sex was no longer significant. Thus sex differences in intensity of anger explain the effects on primary and secondary appraisal. For anger expression, intensity of anger was also a significant covariate, \( F(2,93) = 11.96, \, p < .0001, \eta^2 = .23 \). The multivariate effect for sex remained significant, however, although the multivariate interaction effect was no longer significant. Thus, sex differences in intensity of anger explain the interaction effect for anger expression. Finally, intensity of anger experience was also a significant covariate for social appraisal, \( F(2,93) = 5.74, \, p < .001, \eta^2 = .11 \). However, the previously found interaction and sex effects remained significant. Therefore, it was concluded that the effects on social appraisal were unrelated to sex differences in anger intensity.
Mediation analyses

Given the assumption that social appraisals mediate the relation between sex and anger expression, the observed sex differences in powerless anger expression should be mediated by social appraisals. Mediation was tested in the four steps described by Baron and Kenny (1986). The first two analysis steps showed that women expressed anger in a more powerless way than men did ($\beta = 1.777, p < .0001$), and that women reported stronger negative social appraisals than men did ($\beta = .385, p < .02$). Step 3 showed that reporting stronger negative social appraisals resulted in more powerless anger expressions ($\beta = .374, p < .01$). Step 4 showed that the relationship between sex and powerless expression was not completely mediated by negative social appraisal ($\beta = 1.633, p < .0001$). To establish whether there was partial mediation a Sobel test was performed, which showed that the reduction in the explanatory power of sex when social appraisals were controlled for was marginally significant ($Sobel's \ Z = 1.77, p < .07$). Additional analyses showed that the relationship between sex and powerless expression was not mediated by positive social appraisals or by primary and secondary appraisal. Thus negative social appraisals partially mediated the relation between sex and powerless expressions.

Discussion

Study 2.2 examined the role of social appraisal in explaining sex differences in anger expressions, by manipulating the intimacy with the provocateur of one's imaginary anger. As expected, results showed that women reported more powerless expressions than men, but no sex differences were found in direct anger expressions. As expected, this effect was moderated by the social context: Women expressed their anger more directly than men did in the partner condition. Moreover, women in the colleague condition expressed their anger less directly than did women in the partner condition.

This sex difference in anger expression should have been related to sex differences in social appraisal. The results showed that women were more focused than men on both negative and positive consequences of their anger expressions, suggesting that women were in general more focused on the social implications of their anger expressions. This sex difference was moderated by the manipulation of intimacy. As expected, women reported stronger positive social appraisals than men did in the friend condition, whereas men reported stronger positive social appraisals than women did in the colleague condition. Although no sex differences in social
appraisal were found in the partner condition, in line with the assumptions women seem to be less anxious about the negative impact of their anger in conditions with intimate friends, whereas men expect more positive social consequences of their anger expressions in situations with less intimate provokers. This is consistent with studies that found that men are more angered by behavior of a non-intimate other (Lohr, Hamberger & Bonge, 1988), and that women are more angered by behavior of a close other (Fehr, 1996).

As predicted, negative social appraisals partly accounted for the sex differences in powerless anger expression. Thus the fact that women were more likely to express their anger in a powerless way than men were was in part due to their expectations that their anger response would have negative social implications. The present study provides the first empirical evidence, to my knowledge, that social appraisal is related to the regulation of anger expression. Positive social appraisals played a negligible role in explaining the sex differences in direct anger expression. Thus it is not so much the positive implications of their anger that make women express anger more directly in intimate settings, but rather the relative absence of negative implications. It seems reasonable to assume that negative social appraisals play a more important role in negative emotions like anger than do positive social appraisals.

The intimacy of the relationship with the provoker clearly has an impact on men’s and women’s perceptions of the social implications of their anger and thereby influences their anger expressions. Moreover, the results showed that social appraisal is a valuable addition to standard appraisal dimensions, which was empirically validated by the fact that primary and secondary appraisals did not mediate, either wholly or partly, the relation between sex and anger expression.

Further, women reported feeling angrier than men did, which has also been found in other studies (e.g., Brody, Lovas & Hay, 1995; Strachan & Dutton, 1992). Apparently the anger situation as described in the vignette made women angrier than men. This is in line with the primary appraisals women reported: Women appraised the anger-evoking situation as less fair than men did. However, analyses using intensity of anger as covariate did not decrease the significance of the sex effects found for anger expressions and social appraisals.
It is worth noting that women assigned more status to their opponents in all conditions, whereas one would expect status relations to be equal in the friend and partner conditions. It is suggested that the female participants may have interpreted 'status' not as literally having status or power, but as subjectively experienced status. In this study it remained unclear why women assigned more status to their friends and partners than men did. If it is indeed the case that women's sense of status to intimates is different than men's, this might have affected women's social appraisals and anger expressions, because other studies have shown that expressing anger towards higher status people is likely to produce negative outcomes (see also Anderson & Berdahl, 2002).

For this reason, subjective status may be an important aspect of the relationship that determines sex differences in anger expression. One way of equalizing the amount of subjective status that men and women ascribe towards intimate others is by manipulating subjective status. In the next study, subjective status is operationalized in terms of receiving social support. For example, when you know that other people agree with you, you feel supported, which may increase your sense of subjective status. Linden et al. (1997) showed that subjective status in the form of social support increased anger under certain conditions. Furthermore, other studies have shown that women are more likely to mobilize social support than men (Taylor et al., 2000), suggesting that subjective status in the form of social support is more important for women than for men.

**Study 2.3**

In order to explore further the role of status in anger experienced in the context of intimate relations, another study was performed using a vignette with an anger-provoking event and an experimental manipulation of subjective status. Because Linden et al. (1997) showed that subjective status in the form of social support may be important in anger situations, subjective status was manipulated as receiving or not receiving social support. The protagonist in the vignette was a friend rather than a partner, because the participants were students and romantic relationships vary extensively in depth and length especially in this sample. Because status was operationalized as subjective status, the social approval of friends was manipulated: They were either rejecting or supportive. It was expected that social
approval would lead to stronger positive social appraisals and social rejection to stronger negative social appraisals.

In sum, the following predictions were tested. First, there should be sex differences in the expression of anger, with women reporting more powerless and less direct anger expressions. This effect should be moderated by social context, with women expressing anger more directly than men when receiving social approval, and expressing anger more in a powerless way than men when being socially rejected. Further, I expected women to report—as in the previous study—more positive and negative social appraisals than men, and that the social context would moderate this effect: Women should report stronger positive or weaker negative social appraisals than men in the social approval condition, because it is here where women should be least anxious about the negative impact of their anger. Finally, it was hypothesized that the predicted sex differences in anger expressions would be mediated by sex differences in social appraisal, and not by primary and secondary appraisals.

**Method**

**Participants**

One hundred and twenty-six Dutch students (average age 22.0 years, 62 males and 64 females) participated in this study. Participants received course credit for participation and were randomly assigned to one of the two conditions of the study.

**Design and procedure**

Participants read a vignette describing a situation in which a friend treats them unfairly by canceling a dinner appointment because of a supposed illness, but later it turns out that this friend went out later that evening with other friends. The study employed a 2 (sex of participant) x 2 (social approval: mutual friends supportive vs. rejecting) design. The social support of mutual friends was varied by having them agree with the protagonist that the friend had behaved unfairly in the supportive condition; or disagree with the protagonist in the rejecting condition. Questions were posed after the vignette.

**Dependent variables**

The same item as in Study 2.2 was used to measure anger experience. Primary and secondary appraisals were assessed using the same items: primary appraisal with two fairness items \( r = .64, p < .0001 \), and secondary appraisal with two control items \( r = .61, p < .0001 \). In order to measure anger expression, direct and powerless
anger expression was assessed as in Study 2.2 (direct anger expression: $\alpha = .72$, powerless anger expression: $\alpha = .61$). Social appraisals were assessed using the same positive ($\alpha = .60$) and negative ($\alpha = .82$) social appraisal items as in Study 2.2, adjusted for the content of the vignette (i.e., focused on the friend instead of the partner/friend/teacher).

### Results

#### Anger experience

A 2 (sex) x 2 (social approval) ANOVA was performed with experienced anger as dependent variable. Women ($M = 4.98, SD = 1.64$) reported experiencing marginally more anger than men did ($M = 4.42, SD = 1.83$), $F(1,122) = 3.55, p < .06, \eta^2 = .03$. No other main or interaction effects were found ($ps > .10$).

#### Primary and secondary appraisal

A 2 (sex) x 2 (social approval) MANOVA was performed with primary and secondary appraisal (respectively fairness and control appraisals) as dependent variables. No significant effects were found ($ps > .20$), so men and women rated the situation as equally fair, and experienced control to the same degree.

#### Anger expression

A 2 (sex) x 2 (social approval) MANOVA was performed with direct and powerless anger expressions as dependent variables. A multivariate main effect emerged for sex, $F(2,121) = 16.51, p < .0001, \eta^2 = .21$. Univariate analyses showed that women ($M = 4.21, SD = 1.18$) reported more powerless anger expressions than men did ($M = 3.02, SD = 1.22$), $F(1,122) = 31.25, p < .0001, \eta^2 = .20$. No other main or interaction effects were found ($ps > .25$).

#### Social appraisals

A 2 (sex) x 2 (social approval) MANOVA was performed with negative and positive social appraisals as dependent variables. A multivariate main effect was found for sex, $F(2,21) = 9.91, p < .0001, \eta^2 = .14$. Univariate analyses showed that women reported more positive social appraisals than men did, $F(1,121) = 7.16, p < .01, \eta^2 = .06$, and also reported more negative social appraisals than men did, $F(1,121) = 13.10, p < .0001, \eta^2 = .10$. This replicates the finding of Study 2.2 that social implications of anger expressions were in general more salient to women than to men. Further, a multivariate main effect emerged for social approval, $F(2,121) = 3.18, p < .05, \eta^2 = .05$. Univariate analyses showed that participants reported more
positive social appraisals in the supportive condition than in the rejecting condition, $F(1,121) = 5.19, p < .02$, $\eta^2 = .05$ (see Table 2.3 for the means). The multivariate interaction effect was not significant ($p > .30$).²

<table>
<thead>
<tr>
<th>Table 2.3</th>
<th>Means (standard deviations in parentheses) for Positive and Negative Social Appraisal for Sex vs. Social Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social appraisal</td>
<td>Sex</td>
</tr>
<tr>
<td>Positive</td>
<td>Men</td>
</tr>
<tr>
<td>Negative</td>
<td>Women</td>
</tr>
</tbody>
</table>

Note. Means in the same rows that do not share subscripts differ at $p < .02$

Mediation analyses

Given the assumption that social appraisals mediate the relationship between sex and anger expression, the observed sex differences in the powerless anger expressions should have been mediated by social appraisals. Mediation was tested as in the previous study. For the powerless anger expression, the first two analysis steps showed that women expressed more powerlessness than men did ($\beta = 1.187, p < .0001$), and that women reported stronger negative social appraisals than men did ($\beta = .609, p < .0001$). Step 3 showed that reporting stronger negative social appraisals resulted in more powerless anger expressions ($\beta = .390, p < .0001$). Step 4 showed

² In order to rule out the possibility that sex differences in responses to social approval were solely a function of the different intensities of men’s and women’s anger experiences, MANCOVAs were performed using intensity of anger as a covariate, on all measures of primary and secondary appraisals, social appraisals, and anger expressions. For primary and secondary appraisal, intensity of anger was a significant covariate, $F(2,120) = 58.74, p < .0001$. However, no sex effects were found for primary and secondary appraisal, and using intensity of anger as a covariate did not change this. The intensity of anger experience was also a significant covariate for anger expression, $F(2,120) = 4.74, p < .01$, and for social appraisal, $F(2,120) = 9.55, p < .0001$. However, for both anger expression as social appraisal the previously found main effects for sex and/or social approval remained significant and highly similar. Therefore, it was concluded that the effects on anger expression and social appraisal were unrelated to sex differences in anger intensity.
that the relationship between sex and powerless expression was not completely mediated by negative social appraisal ($\beta = .949, p < .0001$). To establish whether there was partial mediation, a Sobel test was performed, which showed that the reduction in the explanatory power of sex when social appraisal was controlled for was significant ($Sobel's Z = 2.54, p < .01$). Additional analyses showed that the relation between sex and powerless expression was not mediated by positive social appraisal, or by primary or secondary appraisal.

Discussion

Study 2.3 further explored the role of status in shaping social appraisals, which in turn would explain sex differences in anger expressions. Status was manipulated by varying social approval for anger. As expected, women reported more powerless expressions than men did. However, this effect was not moderated by the manipulation of social approval: Women expressed the same amount of powerlessness in the social supportive and social rejecting conditions. No sex or interaction effects were found for direct anger expression, either. Apparently, the presence or absence of social approval is not especially relevant in the context of close friendships. It seems likely, then, that women would expect the same negative or positive social implications of their anger expression in this context.

Indeed, no interaction effect was found for social appraisal. Although women generally reported stronger negative and positive social implications of their anger expressions than men did, their social appraisals did not vary as a function of social support. Different explanations are possible for the finding that social support did not exert any influence on men’s and women’s social appraisals and anger expressions. Both men and women may feel able to appraise the potential impact of their anger expression on intimates, regardless of whether others support them or not. Moreover, in addition to subjective status, objective status might play a role. Social support may exert more influence when the object of anger is a person with higher status, rather than someone of equal status, as in the present study. Indeed, it has been found that people with less power and status pay more attention to other people and to social cues, and are more inclined to attend to the other person’s emotions, than their high status counterparts (Fiske & Dépret, 1996).

As predicted, the negative social appraisals partly accounted for the sex differences in powerless anger expressions. Thus the more that women reported
negative social appraisals, the more they expressed anger in a powerless way. Positive social appraisal again played a negligible role in explaining sex differences in anger expression, supporting my assumption that negative social appraisals are more important in determining how individuals express their anger. Further, the finding that social appraisal is a valuable addition to standard appraisal dimensions was again supported by the fact that primary and secondary appraisals did not mediate (in whole or in part) the relation between sex and anger expression.

Social support may exert more influence when the object of anger is a person with higher status, rather than someone of equal status, as in this study. The question that remains is whether social support would be more important in non-intimate settings like work-related contexts, where also the objective status is manipulated. This question is examined in Study 2.4.

**Study 2.4**

Study 2.3 showed that social approval or rejection had little influence on the way in which people express their anger in intimate relations. In the present study status is varied in two ways: by varying subjective status, in the form of receiving social support or not; and by varying the objective status relation with the provoker. The participant and provoker (a fellow-colleague) were of equal status in the ‘equal status condition’ or the participant was of lower status than the provoker (the boss) in the ‘lower status condition’.

Social approval was assumed to play an especially important role when participants had a lower status than the provoker. This is based on the idea that people in a lower status position should be more anxious about the negative impact of their anger, and more sensitive to the presence or absence of social support (Fiske & Dépret, 1996). In the equal status condition, social support should be less important. Thus women were expected to express anger more directly than men when receiving social approval, but only when they are in the lower status position. Moreover, women in the lower-status condition should be more likely to express anger in a powerless way than men when they feel socially rejected. These sex-by-status interactions should also be reflected in social appraisals, with women in the lower

---

3 A lower status provoker was not included, because (a) literature on anger and sex only mentions status effects in situations with higher status provokers (e.g., Keltner et al., 1998; Strachan & Dutton, 1992), and (b) the participants – first year students in their early twenties – might face serious problems if asked to imagine anger situations with lower status provokers.
status condition reporting stronger positive or weaker negative social appraisals than men when receiving social approval. Further, it was again predicted that sex differences in social appraisal would mediate the sex differences in anger expressions, whereas primary and secondary appraisal would not have this mediating role.

**Method**

**Participants**

One hundred and forty-one Dutch students (average age 22.5 years, 76 males and 65 females) participated in this study. Participants received course credit for participation and were randomly assigned to one of the four conditions of the study.

**Design and procedure**

Participants read a vignette describing a situation in which they were attending a work meeting in which all colleagues would be evaluated. One person treats the protagonist unfairly by telling everyone that the protagonist is lazy, and accusing him/her of stealing money. The study employed a 2 (sex of participant) x 2 (social approval: fellow-students supportive vs. rejecting) x 2 (status: equal vs. lower) design. Objective status was manipulated by varying the identity of the person who treated them unfairly. In the equal status condition this person was a colleague, a student like the participants themselves; and in the lower status condition, this person was the boss. Subjective status (degree of social support of colleagues present) was varied by having them agree with the protagonist that this person was behaving unfairly in the supportive condition; and disagree with the protagonist in the rejecting condition. Questions about the anger process were posed after the vignette.

**Dependent variables**

Questions were answered on 7-point rating scales ranging from 1 *(not at all)* to 7 *(very much)*. The same item as in the previous studies was used to measure *anger experience*. *Primary appraisal* was assessed using the two unfairness items (*r* = .47, *p* < .0001); *secondary appraisal* was assessed with the two control items (*r* = .65, *p* < .0001). *Anger expression* was also measured in the same way as in the previous studies (direct anger expression: α = .89, and powerless anger expression: α = .82). *Social appraisals* were assessed using the positive (α = .76) and negative (α = .72) social appraisal items from the previous studies, adjusted for the content of the vignette (i.e., focused on the colleague in the equal status condition and on the boss in the lower status condition).
Results

Anger experience

A 2 (sex) x 2 (social approval) x 2 (status) ANOVA was performed with experienced emotions as dependent variables. Women ($M = 6.12, SD = 1.11$) reported experiencing more anger than men did ($M = 5.75, SD = 1.15$), $F(1,133) = 4.04, p < .05$, $\eta^2 = .03$ No other main or interaction effects were found ($ps > .10$).

Primary and secondary appraisal

A 2 (sex) x 2 (social approval) x 2 (status) MANOVA was performed with primary and secondary appraisal (fairness and control appraisals, respectively) as dependent variables. A marginally multivariate main effect emerged for sex, $F(2,132) = 2.78, p < .06, \eta^2 = .04$. Univariate analyses showed that men ($M = 4.38, SD = 1.26$) reported stronger secondary appraisals than women did ($M = 3.88, SD = 1.50$), $F(1,133) = 5.14, p < .03, \eta^2 = .04$. Further, the multivariate main effect for status was significant, $F(2,132) = 4.07, p < .02, \eta^2 = .06$. Univariate analyses showed that participants in the equal status condition experienced more control ($M = 4.45, SD = 1.25$) than did participants in the lower status ($M = 3.82, SD = 1.48$), $F(1,133) = 8.20, p < .01, \eta^2 = .06$.

Table 2.4  Means (standard deviations in parentheses) for The Interaction Effects of Sex by Social Approval for Primary Appraisal

<table>
<thead>
<tr>
<th>Social approval</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive</td>
<td>1.99 (.101)</td>
<td>1.56 (.68)</td>
</tr>
<tr>
<td>Rejective</td>
<td>1.38 (.53)</td>
<td>1.60 (.99)</td>
</tr>
</tbody>
</table>

*Note.* Means in the same row or column that do not share subscripts differ at $p < .03$.

Lower scores indicate less fairness.

The multivariate interaction effect between sex and social approval was also significant, $F(1,132) = 3.60, p < .03, \eta^2 = .05$. Univariate analyses showed that this effect was significant for primary appraisal, $F(1,133) = 5.89, p < .02, \eta^2 = .04$. Simple main effects showed that in the supportive condition, women assessed the situation as less fair than men did, $F(1,138) = 4.98, p < .03, d = .63$. Moreover, men assessed the situation as less fair in the rejecting condition than in the supportive condition (see
Table 2.4 for the means), $F(1,138) = 10.16$, $p < .001$, $d = .59$. No other main or interaction effects were significant ($ps > .10$).

**Anger expression**

A 2 (sex) x 2 (social approval) x 2 (status) MANOVA was performed with direct and powerless anger expressions as dependent variables. A multivariate main effect emerged for sex, $F(2,132) = 42.32$, $p < .0001$, $\eta^2 = .40$. Univariate analyses showed that women reported more powerless anger expressions ($M = 4.39$, $SD = 1.44$) than men did ($M = 2.62$, $SD = 1.05$), $F(1,133) = 74.69$, $p < .0001$, $\eta^2 = .36$. Further, a multivariate effect emerged for status, $F(2,132) = 3.25$, $p < .04$, $\eta^2 = .05$. Univariate analyses showed that participants in the lower status condition reported more powerless anger expressions ($M = 3.68$, $SD = 1.49$) than did participants in the equal status condition ($M = 3.23$, $SD = 1.54$), $F(1,133) = 6.13$, $p < .02$, $\eta^2 = .04$.

The multivariate interaction effect between status and social approval was also significant, $F(2,132) = 4.35$, $p < .02$, $\eta^2 = .06$. Univariate analyses showed that this interaction was marginally significant for powerless anger expression, $F(1,133) = 3.20$, $p < .07$, $\eta^2 = .02$. Simple main effects showed that in the supportive condition, participants in the lower status condition reported more powerless anger expressions ($M = 3.87$, $SD = 1.43$) than did participants in the equal status condition ($M = 3.09$, $SD = 1.54$), $F(1,138) = 4.56$, $p < .04$, $d = .55$. No other main or interaction effects were significant ($p > .50$).

**Social appraisals**

A 2 (sex) x 2 (social approval) x 2 (status) MANOVA was performed with negative and positive social appraisals as dependent variables. A multivariate main effect was found for sex, $F(2,132) = 10.98$, $p < .0001$, $\eta^2 = .14$. Univariate analyses showed that women reported stronger negative social appraisals ($M = 3.92$, $SD = 1.08$) than men did ($M = 3.11$, $SD = .91$), $F(1,133) = 20.22$, $p < .0001$, $\eta^2 = .13$. Another multivariate main effect was found for status, $F(2,132) = 5.01$, $p < .01$, $\eta^2 = .07$. Univariate analyses showed that participants in the lower status condition reported stronger negative social appraisals ($M = 3.75$, $SD = 1.25$) than did participants in the equal status condition ($M = 3.25$, $SD = 1.08$), $F(1,133) = 8.14$, $p < .01$, $\eta^2 = .06$. Further, the three-way interaction was marginally significant, $F(2,132) = 2.63$, $p < .07$, $\eta^2 = .04$. Univariate analyses showed that this three-way interaction was significant for positive social appraisal, $F(1,133) = 3.46$, $p < .06$, $\eta^2 = .03$. Simple
main effects showed that women in the lower status condition with supportive colleagues reported stronger positive social appraisals ($M = 4.85, SD = 1.02$) than men did ($M = 3.96, SD = 1.41$), $F(1,136) = 4.20, p < .04, d = .87$. No other main or interaction effects were significant ($ps > .40$).

Mediation analyses

Given the assumption that social appraisals mediate the relationship between sex and anger expression, the observed sex differences in powerless anger expression should have been mediated by sex differences in social appraisals. Mediation was tested as in the previous studies. The first two analysis steps showed that women reported more powerless anger expression than men did ($\beta = 1.772, p < .0001$), and that women reported stronger negative social appraisals than men did ($\beta = .815, p < .0001$). Step 3 showed that reporting stronger negative social appraisals resulted in more powerless anger expressions ($\beta = .464, p < .0001$). Step 4 showed that the relationship between sex and powerless expression was not completely mediated by negative social appraisals ($\beta = 1.394, p < .0001$). To establish whether there was partial mediation a Sobel test was performed, which showed that the reduction in the explanatory power of sex when social appraisal was controlled for was significant (Sobel’s $Z = 3.36, p < .001$). Additional analyses showed that the relationship between sex and powerless expression was not mediated by positive social appraisals, or by primary and secondary appraisal.

Discussion

In Study 2.4 both social support and the objective status relationship with the provocateur were manipulated. As in Studies 2.2 and 2.3, the results showed that women reported more powerless anger expressions than men did. However, this sex effect was not moderated by the manipulations of social approval and status. Both men and women showed more powerless anger expressions in the supportive and lower status condition. This implies that men and women are equally sensitive to status issues.

---

4 In order to rule out the possibility that sex differences in responses to social approval and status were solely a function of the different intensities of men’s and women’s anger experiences, MANCOVAs were performed using intensity of anger as a covariate on all measures of primary and secondary appraisal, social appraisal, and anger expression. For primary, secondary, and social appraisal the intensity of anger was not a significant covariate. Intensity of anger experience was a significant covariate for anger expression, $F(2,131) = 4.83, p < .01$. However, the sex and status effects remained significant, as well as the interaction between status and social approval. Therefore, it was concluded that the effects on all appraisals and expressions were independent of sex differences in anger intensity.
regardless of whether status is operationalized as receiving social support or as actually having a different status than the provocer.

With regard to social appraisals, the results indicated once more that women were in general more focused on the negative social implications of their anger expressions than men were. This sex difference in negative social appraisal was not moderated by the manipulation of social approval or status. However, the manipulations of social approval or status did have an influence on positive social appraisals: Women in the lower status condition reported stronger positive social appraisals than their male counterparts when they received social support. However, this increase in positive social appraisal did not result in stronger direct expressions, or in weaker powerless expressions.

As predicted, negative social appraisals partly accounted for the sex differences in powerless anger expression. Primary and secondary appraisals did not have this mediating effect. Thus the more that women reported negative social appraisals, the more they expressed anger in a powerless way. Positive social appraisal again played a negligible role in explaining the sex differences in anger expression, supporting the assumption that negative social appraisals are more important than positive social appraisals in determining how individuals express their anger.

**General discussion**

The essence of appraisal models is that a stimulus situation has a particular meaning for a particular person, and this meaning drives emotion elicitation and a set of emotional outputs, including expressions. The new conceptual framework proposed here is that the anticipated effect of one’s own emotional behavior is important in the appraisal process. We appraise the interpersonal consequences (positive or negative) of our emotional expression. As a consequence, these social appraisals can influence the regulation of emotion expressions. The purpose of the research reported in this paper was to show that social appraisal is a valuable addition to current appraisal dimensions and that social appraisals can explain sex differences in the regulation of anger expressions. Four studies were conducted in which men’s and women’s social appraisals were assessed (1) when they freely imagined autobiographical anger events in which anger had been either suppressed or expressed; (2) in situations where the object of anger was a romantic partner, friend or colleague; (3) in situations where the
object of anger was a friend and others were either supportive or rejecting, and (4) in situations where others were either supportive or rejecting and the object of anger was either a higher status or equal status person.

Study 2.1 showed that men and women report different social appraisals in real-life anger events. In general this study showed that when people fear that their anger will result in negative consequences, they suppress their anger; and that when positive consequences are expected, they express anger. Women, however, reported weaker negative social appraisals than men did in anger situations in which anger had been expressed, and stronger negative social appraisals than men when they had suppressed their anger. This provides a first indication that there are sex differences in social appraisals, and that women are more sensitive to the negative social implications of their unregulated anger response than men are.

The next three studies provided further support for this finding. In addition to stronger negative social appraisals, women also reported stronger positive social appraisals than men did in two of the three vignette studies. This indicates that the social implications of anger expressions are generally more salient to women than to men. Moreover, the present studies showed that social appraisals are partly responsible for sex differences in anger expressions. Women were more likely to express their anger in a powerless way than men as a result of their stronger negative social appraisals. Together, these studies provide the first empirical evidence that social appraisal is related to the regulation of anger expression, which supports my plea for a more detailed study of the social aspects of appraisal.

The social contexts depicted in the vignettes clearly triggered social appraisals. However, it was the negative social appraisals that were responsible for sex differences in anger expression. Where social context triggered positive social appraisals, these were not responsible for different anger expressions. For example, when an intimate friend was the provoker of anger, women reported more positive social appraisals than men. However, this did not lead to more direct anger expressions in women than in men. Women did express their anger more directly than men when the provoker was a romantic partner, but this was not related to sex differences in social appraisal. Another example is the finding that women reported more positive social appraisals if the provoker had a higher status and women received social support. Here too, the sex difference in positive social appraisal did
not result in a sex difference in anger expression. An explanation for these findings is considered below.

The occurrence of anger behavior may be dependent on the evaluation of its outcome. It is not only the results of these studies that indicate that people are more focused on the negative consequences of anger expression; anger experience and expression are also typically associated with negativity in everyday life. For example, sayings about anger mainly focus on the negative aspects of expressing anger: “Anger is a momentary madness, so control your passion or it will control you” (Horace). Also, successful control of negative emotions is widely regarded as crucial for psychological and social functioning (see e.g., Baumeister & Exline, 2000; Mayer & Salovey, 1995). Therefore, the relative absence or presence of especially negative social appraisals rather than positive social appraisals seems to play a role in anger. Moreover, men and women learn different display rules for the expression of negative emotions (see Brody, 1985 for a review). In general, girls are socialized to control hostile emotions more than boys are. Specifically the expression of anger and aggression are generally regarded as acceptable for men but not for women (e.g., Crick, 1997; Hart, De Wolf, & Burts, 1993). These sexed emotional expression norms seem to be linked to stronger expectations that anger expression will have negative social implications and seem to be especially salient in women’s anger expressions.

Besides the result that negative social appraisal and not positive social appraisal is related to the regulation of anger expression, the results showed that social appraisal plays an important role in the anger process over and above conventional appraisals of the situation.

A question that follows is why men and women reported largely similar social appraisals and anger expressions in the manipulated contexts with higher or equal status provokers and socially supportive or rejecting others. Different explanations are possible. One possibility is that both men and women have trouble expressing anger to high status individuals (Keltner et al., 1998; Strachan & Dutton, 1992), and that men and women are equally sensitive to social support: For example, Linden et al. (1997) did not find differential sex effects for their manipulation of social support. Also Kuppens and colleagues (2004) studied status, amongst other factors, in male and female anger behavior. Although the display of a wide variety of anger behaviors
was meaningfully related to the status and the liking of the anger target, no sex differences were found.

Another explanation why men and women reported similar social appraisals in the manipulated contexts might be associated with the methodology. The situations were hypothetical and participants had to imagine themselves as the character described in the vignette. The reactions they reported are what they thought they would do, and this may differ from what they would do in practice. Further research is needed to identify the types of situation in which men and women differ, and do not differ, in their social appraisals and anger expressions (for a further discussion of the context-specific nature of sex differences, see Deaux & Major, 1987).

A point related to the possibility that in vivo situations might lead to different appraisals and expressions than in situations as described in vignettes (as used in Studies 2.2 to 2.4), is that using vignettes and self-reports might be an unreliable method of determining the role of social appraisal in emotion. For example, self-reports have been called “shackles” (Cacioppo, 2002; cited in Feldman Barrett, 2004) in order to illustrate the point that they are limiting in studying affective reactions. Moreover, it has been argued that self-reports tell us more about emotion language than about the properties of the affect that is reported (e.g., Frijda, Markham, Sako, & Wiers, 1995; Ortony, Clore, & Collins, 1988). Alternatively, it can be argued that verbal reports are reports of people’s beliefs about what they feel and are not a window on the feelings per se (Dennett, 1991). Feldman Barrett (2004) showed, however, that self-reports of emotional states are driven by the properties of the feelings that are being reported, and thus tell us more than simply how a person understands emotion-related words.

I acknowledge that using vignettes to induce emotional states has obvious shortcomings. However, these shortcomings are to some extent offset by the fact that the findings of the present studies were broadly consistent, despite the use of different social contexts and different persons as the object of anger. Further, the situations depicted in the vignettes were carefully chosen; they were close to real life events for the student participants, so that they could easily imagine themselves in the described situations. Moreover, without the use of vignettes it would have been impossible to create such a wide variety of comparable social contexts in which anger processes could have been studied. Observing patterns of relations in what people say about
their feelings, expressions, and social appraisals provides us with an empirical basis for starting to understand the process of how social appraisal helps to account for differences in the regulation of emotional expressions. It is nevertheless clear that the present findings need to be complemented by research that is less reliant on self-reports.