Every Cloud Has a Silver Lining: Interpersonal and Individual Differences Determinants of Anger-Related Behaviors

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Two studies examined the effect of status and liking of the anger target on anger behavior and individual differences in anger-related behavior. Participants recalled anger instances in which the anger target was of higher/equal/lower status and/or liked/unfamiliar/disliked; subsequently, they indicated which behaviors they had displayed. In both studies, anger behaviors could be grouped into behaviors that imply approaching the target (anger-out, assertion, reconciliation) and behaviors that reflect avoidance/anger-in or social sharing. The results demonstrated that approach behaviors more likely occur toward lower status or liked targets; avoidance behaviors and social sharing more likely occur when the target is of higher status or disliked. On an individual differences level, an approach and an avoid/social sharing person class were identified. The findings suggest that anger may motivate prosocial behavior or social sharing, depending on the individual and type of relation with the target. Only few gender differences were found.

Keywords: *anger behavior; status; liking; approach-avoidance*

It has been stated that much of the current interest in emotion research and theory is derived from the assumption that emotion plays a significant role in shaping social behavior (Smith & Pope, 1992). However, the relationship between emotion and behavior has received surprisingly little systematic empirical and theoretical attention (Gross, 1999; Smith & Pope, 1992). Instead, the larger part of research efforts has been focused on examining the structure, antecedents, and components of emotion. With the present study, we wish to contribute to filling this gap by focusing on behavior that can follow from the experience of anger. In particular, two studies will be reported in which it is examined how different factors play a role in determining which anger behavior is displayed in a concrete situation by a given individual. In particular, interpersonal variables—the status and liking of the target of one's anger—will be considered as possible determinants of a broad range of anger behaviors, and individual differences in anger behavior will be identified and related to personality characteristics.

In the remainder of this section, first, an overview will be given of behaviors that previously have been related to anger. Second, the interpersonal characteristics that we want to examine in relation to anger behavior will be addressed. Third, personality characteristics that may possibly be relevant for individual differences in anger behavior will be discussed.

TYPES OF ANGER-RELATED BEHAVIOR

Predominantly, aggression and its inhibition have been studied extensively as a behavioral consequence of anger (Baron & Richardson, 1994; Berkowitz, 1993; Huesmann, 1994). However, previous research has demonstrated that overt aggressive behavior only occurs in a rather small proportion of anger incidents (Averill, 1983; Kassinove, Sukhodolsky, Tsytsarev, & Solovyova,

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1997): The more innate, aggressive impulse is often suppressed and replaced by other, more socially adapted actions (Berkowitz, 1993; Dodge, 1993; Harris, 1976; Lemerise & Dodge, 2000). In comparison to other emotions, the overt expression of anger indeed seems to be highly controlled (Fitness & Fletcher, 1993; Scherer, 1986), and this can already be observed quite early in infancy (Malatesta & Haviland, 1982). As a result, as Averill (1983) has stated, "it is not possible to describe a 'typical' angry response" (p. 1147) (also see Russell, 2003). Still, it has been argued that prior research on anger behavior has been focused on a too narrow variety of behaviors (Linden et al., 2003).

Therefore, an as broad as possible range of behaviors that can follow from the experience of anger will be included in the present study. In doing so, it was decided to include overt as well as covert behaviors. Also, we did not restrict our selection to responses that may immediately follow the anger experience but also included behavior that is more cognitively mediated or can be considered as a means of coping with anger. In the following section, previous research that has related specific types of behavior to the experience of anger will be briefly reviewed.

First, a well-known conceptual distinction is that between anger-in and anger-out reactions (Funkenstein, King, & Drolette, 1954; Spielberger et al., 1985; Spielberger, Krasner, & Solomon, 1988; Spielberger & Sydeman, 1994). Anger-in generally refers to feeling angry but suppressing its overt expression, whereas anger-out refers to the overt display of angry or aggressive behavior that is motivated by the experienced anger. This distinction has consistently been found throughout various studies of behavioral manifestations of experienced anger (e.g., Fuqua et al., 1991; Knight, Chisholm, Paulin, & Waal-Manning, 1988; Siegel, 1986).

Second, the above-mentioned distinction has recently been extended by O'Connor, Archer, and Wu (2001) with other behavioral alternatives that can follow anger, based on earlier work by van Goozen, Frijda, Kindt, and van de Poll (1994). In particular, O'Connor et al. (2001) outlined five different behaviors as alternative responses to a provocative situation: Next to aggression (linking up with the above-mentioned anger-out) and anger-in, they mentioned avoidance (of the target of anger), distant or indirect anger behavior (e.g., pouting or sulking, which means showing that one is upset without overt verbal or physical aggressive behavior), and assertive behavior (confronting the person at whom one is angry without overt verbal or physical aggressive behavior; see also Davidson, MacGregor, Stuhr, Dixon, & MacLean, 2000; Deffenbacher, Oetting, Lynch, & Morris, 1996; Siegel, 1986). O'Connor et al. (2001) considered these five different behaviors as mutually exclusive anger responses.

Third, there is increasing evidence that social sharing of emotions is a prevalent consequence of emotional experiences, including anger (Averill, 1983; Rimé, 1995; Rimé & Christophe, 1997; Rimé, Mesquita, Philippot, & Boca, 1991). Social sharing refers to initiating interpersonal behaviors in which one discusses an experienced emotional event and reactions. In a broader perspective, the notion of social sharing corresponds with a recent extension that has been made to the classical characterization of the stress response as "fight-or-flight" (first described by Cannon, 1932): After an extensive literature review, Taylor et al. (2000) proposed a third behavioral pattern next to fight-or-flight, namely, "tend-and-befriend." The latter consists of nurturing activities to protect the self and the offspring, on one hand, and creating and maintaining social networks, on the other hand. The above-mentioned stress reactions can be translated to the anger domain, in that anger reactions also may be characterized by fight (corresponding to anger-out), flight (corresponding to avoidance or anger-in), or tending-befriending (which in part corresponds to social sharing) (for a more detailed account, see Goethals, Bosmans, & De Boeck, 2004).

Finally, Averill (1983) described still another possible behavior that may follow from a situation in which someone is angry at someone else, namely, to reconcile with the person at whom one is angry (see also Fehr, Baldwin, Collins, Patterson, & Benditt, 1999). Note that the latter (and assertive behavior to a lesser extent) is somewhat different from the other included behaviors because of its prosocial nature. Prosocial anger behavior has only seldom been included in studies on anger behavior (see, however, recent research by Davidson et al., 2000; Linden et al., 2003) but may provide an interesting addition in characterizing alternative anger responses (Deffenbacher et al., 1996).

To summarize, we will consider seven different types of behavior that can follow anger: anger-out, anger-in, avoidance, indirect anger behavior, assertive behavior, social sharing, and reconciliation. Note that our list overlaps to a high degree with behaviors used in a script analysis of anger by Fehr et al. (1999), as well as with the recent broadening of anger expression styles provided by Linden et al. (2003).

INTERPERSONAL DETERMINANTS OF ANGER BEHAVIOR

A first aim of the present study is to examine how situational characteristics affect the occurrence of the different types of anger behavior. Previous research has

studied a wide variety of situational influences on anger-related behaviors, although the latter again predominantly consisted of aggressive responses (e.g., Berkowitz, 1993; Carlson, Marcus-Newhall, & Miller, 1990; Harris, 1976; Huesmann, 1994; Lindsay & Anderson, 2000; Renfrew, 1997). Because anger is generally viewed as an interpersonal emotion (Averill, 1983; Fehr et al., 1999; Kuppens, in press; Siegel, 1986; Smith & Lazarus, 1993), we chose to focus on situational characteristics that refer to the relation between the person who is angry and the target of anger (the person one is angry at). In search for such interpersonal characteristics, we adopted findings from research regarding the interpersonal circumplex (Moskowitz, 1994; Wiggins, 1979). The latter was originally conceived to provide a comprehensive characterization of interpersonal personality traits using two dimensions—dominant-submissive and agreeable-quarrelsome. Starting from this framework, one can apply similar dimensions to characterize the way in which an individual judges its relation with someone else, namely, perceived status and liking of the other person. Based on previous research, we expect that both characteristics may influence anger behavior.

Status

It has been found that a higher status of the target of anger often inhibits an overt anger or aggressive response (Berkowitz, 1989; Fitness, 2000; Harris, 1974; Karniol & Heiman, 1987). Conversely, it has been argued that a target of lower status is more likely to elicit overt angry behavior (Carlson et al., 1990). In general, previous findings suggest that the status of the target of anger may modulate the expression of anger, such that anger is overtly expressed downward the hierarchical ladder and suppressed upward (Allan & Gilbert, 2002). In addition, anger is generally seen as a power or high-status emotion: Prior findings suggest that individuals in high power or status positions more frequently experience and express anger and that persons in such positions are also more anticipated to display anger (Tiedens, 2000, 2001; Tiedens, Ellsworth, & Mesquita, 2000). Thus, we hypothesize that anger will be more likely overtly expressed toward a lower status target, and vice versa.

On a more general level, recent research and theorizing has suggested that having power increases the tendency to approach and decreases the tendency to inhibit behavior, and vice versa (Anderson & Berdahl, 2002; Keltner, Gruenfeld, & Anderson, 2003). In the present context, this could be translated in a higher tendency for approaching (anger-out, but also assertion and reconciliation) a target of lower status and higher levels of anger-in and avoidance toward a target of higher status—assertions that generalize our predictions for anger-out and anger-in behavior.

Liking

It has been found that the experience and overt expression of anger occurs more frequently (or is less inhibited) in close relationships (Brody & Hall, 2000; Fitness & Fletcher, 1993) or toward familiar persons (Babad & Wallbott, 1986) and that people are more aggressive when they are hurt by someone they like (Ahmed & Lee, 1985). In line with this, Wallbott and Scherer (1986) found that anger is a social emotion in which (existing) personal relationships with others play a major role (although these authors also reported anger instances toward strangers). Similarly, Averill (1983) reported that in the majority of the cases, one expresses anger toward loved ones or friends rather than disliked or unfamiliar persons. Thus, we expect that anger-out is more likely to be displayed toward a target that is liked as compared to unfamiliar or disliked.

INDIVIDUAL DIFFERENCES IN ANGER BEHAVIOR

A second aim of the present study is to examine individual differences in anger behavior. Traditionally, individual differences in anger-related behavior are qualified in terms of anger-out and anger-in (and optionally, anger-control). However, it may be useful to examine the structure of individual differences with respect to a broader set of anger-related behaviors. For instance, an interesting question is whether the dimensions of anger-out and anger-in can be maintained, should be broadened, or even replaced. For this purpose, individual differences in the above-mentioned expanded set of anger behaviors will be identified and related to broad as well as more narrow known personality traits.

With respect to broad traits, we will consider the Big Five personality dimensions, of which, predominantly, extraversion, neuroticism, and agreeableness have been related to anger and anger behavior. More specifically, extraversion has been found to be directly related to overt anger-out and neuroticism to anger suppression or anger-in, whereas agreeableness has been found to be inversely related to anger-out (Böddeker & Stemmler, 2000; Martin et al., 1999; Martin, Watson, & Wan, 2000). With respect to more narrow traits, we will include the habitual anger expression styles of anger-in, anger-out, and anger control (Spielberger et al., 1988; Spielberger & Sydeman, 1994; Van Elderen, Maes, Komproe, & van der Kamp, 1997) to examine how the obtained individual differences structure of anger behaviors relates to these classical dimensions.

TABLE 1: Items Used to Assess Situational Anger Behaviors and Corresponding Average Probabilities to Display Each Behavior as Obtained From the Latent Class Analysis in Study 1 and Study 2

Anger Behavior	*Item Wording*	*Average Probability*	
		Study 1	*Study 2*
Anger-out			
Item a	You flew off the handle	.38	.40
Item b	You started a fight	.29	.34
Anger-in			
Item a	You suppressed your anger	.53	—
Item b	You bottled up your anger	.36	—
Avoidance			
Item a	You avoided a confrontation	.32	.33
Item b	You went out of the other's way	.39	.38
Indirect behavior			
Item a	You showed something was bothering you without saying anything	.45	—
Item b	You started to sulk	.22	—
Assertive behavior			
Item a	You said what was bothering you in a direct and sober way	.50	—
Item b	You calmly explained what was bothering you	.46	—
Social sharing			
Item a	You unburdened your heart to others	.53	.53
Item b	You told others what had happened	.60	.62
Reconciliation			
Item a	You reconciled	.51	.44
Item b	You talked things out	.46	.40

OVERVIEW

Two studies were performed to address the current research questions. Both studies relied on self-reported behavior in various types of recalled anger instances that systematically varied with respect to the status and liking of the anger target. The first and main study included all anger behavior types and also included scales assessing the above-mentioned personality dimensions. The second study was designed mainly to assess possible gender differences and to replicate findings from the first study.

STUDY 1

Method

PARTICIPANTS

Participants were 114 university students enrolled in the first year of the psychology educational program. Participation was a partial fulfillment of course credits. The mean age of the participants was 18.4 years; 19 of them were men, 95 were women.

MATERIALS AND PROCEDURE

Assessment of situational anger-behavior. The participants were asked to recall recently experienced anger instances in which they had been angry at someone else. The instructions (in Dutch) to recall each situation asked for specific types of anger targets: In each situation, the target of anger had to be characterized by a different combination of either higher, equal, or lower status and either someone liked, unfamiliar, or disliked (we considered it to be difficult for the participants to think of a neutrally liked person and therefore replaced this category by someone unfamiliar), yielding nine situations to be recalled in total. After having recalled a situation, each participant was asked to note the time (in days) that had elapsed since the occurrence of the anger instance. This was done to ensure that the participants recalled an actual instance they had experienced themselves instead of thinking how they would hypothetically behave toward a particular type of target.[1] Subsequently, the participants were asked to indicate which of a list of anger behaviors they had displayed. Each of the above-mentioned anger behaviors was assessed by means of two items, resulting in a list of 14 anger behavior items, which is listed in Table 1. This had to be done in turn for each of the nine situation types.

NEO–Five Factor Inventory (NEO-FFI) personality questionnaire. The NEO-FFI personality questionnaire was originally developed by Costa and McCrae (1992). It was adapted to Dutch by Hoekstra, Ormel, and De Fruyt (1996), the Dutch version being an exact translation of the original English version. The questionnaire consists of 60 items, with 12 items measuring each of the Big Five personality dimensions extraversion, neuroticism, openness, agreeableness, and conscientiousness. Respondents are asked to indicate the degree to which they

agree or disagree with each of the statements using a 5-point Likert-type scale (ranging from 0 = *strongly disagree* to 4 = *strongly agree*).

Self-Expression and Control Scale (SECS). Starting from the Anger-Expression Scale developed by Spielberger et al. (1988), measuring anger-out, anger-in, and anger-control, Van Elderen et al. (1997) constructed the SECS, a Dutch questionnaire consisting of four subscales, each measuring one of four possible habitual anger expression styles: anger-out, anger-in, control of anger-out, and control of anger-in. Each scale consists of 10 items. Respondents are asked to indicate the degree to which they generally experience each of the items using a 4-point Likert-type scale (ranging from 1 = *almost never* to 4 = *almost always*).

Participants filled out the questionnaires in two separate sessions. In the first session, the situational anger-behavior questionnaire was administered; in the second session, the NEO-FFI and SECS were administered.

ANALYSES

The data analysis was performed in three consecutive steps: First, we wanted to identify individual differences in anger behavior toward the different types of target. To this end, a *latent class analysis* (Goodman, 1974; Haberman, 1979; Lazarsfeld, 1950) was performed on the responses from the situational anger-behavior questionnaire (using Latent Gold; Vermunt & Magidson, 2000).

Latent class analysis has been used extensively in various research areas of the social sciences (for recent overviews, see Bollen, 2002; Rost & Langeheine, 1997). It is a technique that is constructed for empirically deriving person classes with different response patterns when observed responses are categorical in nature. Latent class analysis is especially suited for use in the present study for two reasons: First, the data in our study are categorical data because we examined whether a particular behavior was displayed or not. Second, latent class analysis perfectly meets our aim to reveal yet unknown individual differences in anger behavior because the technique allows to extract person classes that differ with respect to the variables under study. Besides the allocation of individuals into person classes, the latent class analysis yields estimates of the probabilities to display each anger behavior toward the different types of target for each of the person classes. As such, a clear picture emerges of how individuals differ with respect to anger behavior, and it can easily be derived how the status and liking of the target affect such behavior, immediately linking up with our primary research questions.

In fact, different separate latent class analyses were performed assuming different numbers of person classes (one to four). The solution that provided the best compromise between fit and parsimoniousness (as indicated by a comparison of the corresponding Akaike Information Criterion [AIC] and Bayesian Information Criterion [BIC] indices; Akaike, 1973; Raftery, 1986; Schwarz, 1978) was finally retained.

TABLE 2: AIC and BIC Values for Latent Class Models Assuming 1 to 4 Person Classes (Study 1)

	AIC	*BIC*
1 person class	17988	18333
2 person classes	17565	18257
3 person classes	17312	18352
4 person classes	17245	18632

NOTE: AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion.

Second, an ANOVA was performed to obtain a precise picture of the contributions of the different sources of variance in the probabilities stemming from the latent class analysis. For this ANOVA, the (logit of the) probabilities from the latent class analysis were taken as a dependent variable and the status of the target of anger in the situation (higher, equal, or lower), the liking of the target (liked, unfamiliar, or disliked), the anger behavior item (14 in total), and person class were taken as independent variables.[2] Subsequently, the relative contribution of each variance component was calculated. Within the ANOVA, planned contrasts (Bonferroni) were performed to test the predictions derived from literature regarding the influence of status and liking on anger-out (and anger-in, where suited). Pairwise post hoc comparisons (Tukey) were used to assess the remaining effects.[3]

Third, the average scores of each person class on the NEO-FFI and SECS scales were calculated and compared by means of independent samples *t* tests. This was done to additionally characterize the person classes with respect to the included personality variables.

Results

LATENT CLASS ANALYSIS

The AIC and BIC values of the latent class models assuming one to four person classes can be found in Table 2. The AIC values decrease with increasing person classes, whereas the BIC shows the lowest value for a model with two person classes (with lower values reflecting better fit). Optimally balancing complexity and fit, a latent class model with two person classes was thus selected. According to this model, 67 of the participants (59%; 6 men and 61 women) were assigned to Person Class 1 and 47 (41%; 13 men and 34 women) to Person Class 2. In general, Person Class 1 was characterized by

TABLE 3: Average Probability to Display Each Anger Behavior Item Toward a Target of Lower, Equal, and Higher Status; a Liked, Unfamiliar, and Disliked Target; and for Each Person Type (Study 1)

	Anger Target Feature							
	Status			*Liking*			*Person Class*	
Anger Behavior	*Lower*	*Equal*	*Higher*	*Liked*	*Unfamiliar*	*Disliked*	*Avoid*	*Approach*
Anger-out								
Item a	$.52_{a}$	$.38_{b}$	$.24_{c}$	$.45_{a}$	$.31_{b}$	$.38_{a, b}$	$.30_{a}$	$.46_{b}$
Item b	$.31_{a}$	$.34_{a}$	$.20_{b}$	$.41_{a}$	$.15_{b}$	$.31_{a}$	$.22_{a}$	$.36_{b}$
Anger-in								
Item a	$.44_{a}$	$.49_{a}$	$.66_{b}$	$.52_{a}$	$.58_{a}$	$.49_{a}$	$.61_{a}$	$.44_{b}$
Item b	$.24_{a}$	$.34_{a}$	$.49_{b}$	$.39_{a}$	$.35_{a}$	$.34_{a}$	$.46_{a}$	$.26_{b}$
Avoidance								
Item a	$.22_{a}$	$.38_{b}$	$.35_{b}$	$.30_{a}$	$.30_{a}$	$.35_{a}$	$.40_{a}$	$.24_{b}$
Item b	$.31_{a}$	$.45_{b}$	$.40_{a, b}$	$.32_{a}$	$.39_{a,b}$	$.46_{b}$	$.45_{a}$	$.33_{b}$
Indirect behavior								
Item a	$.38_{a}$	$.49_{a}$	$.48_{a}$	$.39_{a}$	$.48_{a}$	$.49_{a}$	$.54_{a}$	$.37_{b}$
Item b	$.17_{a}$	$.22_{a, b}$	$.28_{b}$	$.26_{a}$	$.17_{b}$	$.24_{a, b}$	$.23_{a}$	$.21_{a}$
Assertive								
Item a	$.63_{a}$	$.49_{b}$	$.40_{b}$	$.61_{a}$	$.43_{b}$	$.48_{b}$	$.36_{a}$	$.65_{b}$
Item b	$.55_{a}$	$.38_{b}$	$.46_{a, b}$	$.58_{a}$	$.43_{b}$	$.38_{b}$	$.31_{a}$	$.62_{b}$
Social sharing								
Item a	$.42_{a}$	$.57_{b}$	$.60_{b}$	$.54_{a}$	$.46_{a}$	$.61_{b}$	$.62_{a}$	$.45_{b}$
Item b	$.53_{a}$	$.61_{a, b}$	$.67_{b}$	$.55_{a}$	$.55_{a}$	$.71_{b}$	$.65_{a}$	$.56_{a}$
Reconcile								
Item a	$.63_{a}$	$.48_{b}$	$.42_{b}$	$.79_{a}$	$.32_{b}$	$.42_{b}$	$.37_{a}$	$.65_{b}$
Item b	$.57_{a}$	$.42_{b}$	$.38_{b}$	$.71_{a}$	$.30_{b}$	$.36_{b}$	$.32_{a}$	$.59_{b}$

NOTE: Within the columns pertaining to status, liking, and person class, means in the same row that do not share subscripts differ at $p < .05$ in the Tukey post hoc comparisons.

higher probabilities to display avoidance behaviors (anger-in, indirect behavior, avoidance) and social sharing, whereas Person Class 2 was characterized by higher probabilities to display approach behaviors (anger-out, assertive behavior, and reconciliation). A more detailed discussion of the person classes will follow below.

ANALYSIS OF VARIANCE ON PROBABILITIES FROM LATENT CLASS ANALYSIS

The ANOVA revealed several sources that contributed significantly to the variance of the probabilities stemming from the latent class analysis. For reasons of parsimony, we will further concentrate on significant ($p < .0001$) sources that accounted for more than 10% of the variance; these included the behavior item main effect (16%), the Status × Behavior Item interaction (14%), the Liking × Behavior Item interaction (17%), and the Person Class × Behavior Item interaction (33%). Each of these effects will now be discussed in more detail.

Behavior main effect. To portray the behavior main effect, the probability for each anger behavior item was calculated by averaging the probabilities stemming from the latent class analysis across all nine situation types and person classes. The obtained values are presented in Table 1 for each behavior item separately. The results showed that, on average, social sharing has the highest probability to be displayed, whereas anger-out and avoidance are generally less likely to be displayed.

Status × Behavior interaction. This interaction signifies that status differentially affects the various anger behaviors. First, as expected on the basis of previous research, planned contrasts (Bonferroni) revealed that anger-out was significantly less likely to be displayed toward a higher status target and most likely toward a lower status target (lower vs. equal target: $F = 9.92$, $p = .003$; equal vs. higher target: $F = 41.93$, $p < .0001$). Conversely, anger-in was significantly more likely when the target was of higher status and least likely when the target was of lower status (lower vs. equal status: $F = 11.01$, $p = .0017$; equal vs. higher status: $F = 114.01$, $p < .0001$). Second, regarding the remaining behaviors, the results of post hoc comparison tests (Tukey) are summarized in Table 3. As can be derived from this table, assertive behavior and reconciliation were more likely to be displayed toward a target of lower status as compared to a target of equal or higher status. Conversely, most items assessing avoidance, indirect anger behavior, and social sharing had significantly higher probabilities when the target was of higher or equal status.

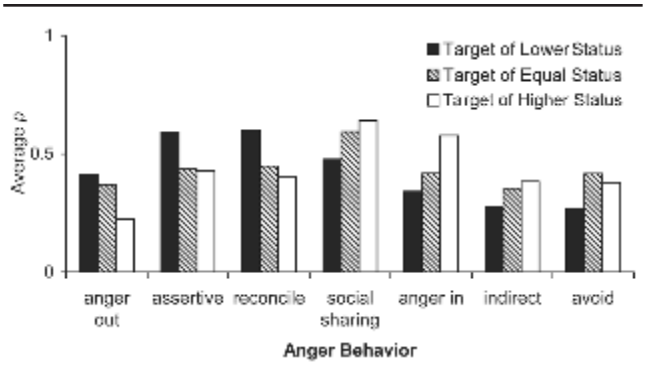

Figure 1 Average probability of displaying each anger behavior when the target of anger is of higher, equal, and lower status (Status × Behavior interaction effect; Study 1).

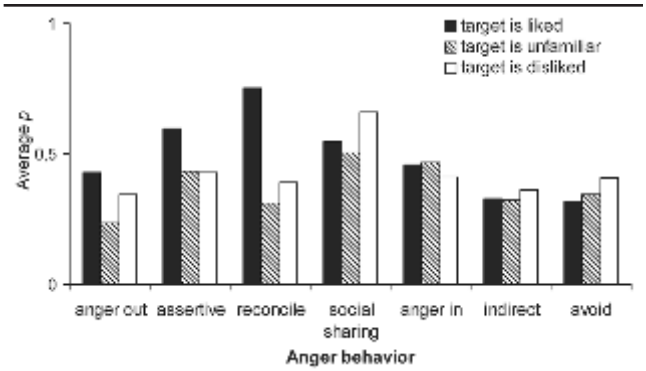

Figure 2 Average probability of displaying each anger behavior when the target of anger is liked, unfamiliar, and disliked (Liking × Behavior interaction effect; Study 1).

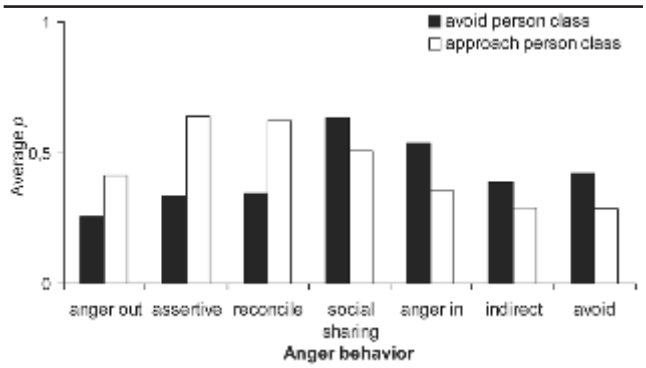

Figure 3 Average probability of displaying each anger behavior for each person class (Person Class × Behavior interaction effect; Study 1).

Summarizing, the results suggest that the different anger behaviors can roughly be divided into two groups: A first group consists of behaviors that are characterized by approaching or confronting the target of anger, either in an aggressive (anger-out) or more prosocial (assertive, reconciliation) manner—these approach behaviors were generally more likely to be displayed toward a target of lower status. A second group consists of behaviors that reflect anger-in/avoidance (anger-in, indirect anger behavior, and avoidance) or social sharing, which were generally more likely to be displayed when the target had a higher or equal status. As a concise graphical presentation of the Status × Behavior interaction, Figure 1 depicts the probabilities to display each behavior, averaged across the respective items, toward a target of higher, equal, and lower status. In this figure, the approach behaviors and avoid/anger-in behaviors are grouped together.

Liking × Behavior interaction. Planned contrasts (Bonferroni) (across the two items pertaining to anger-out) confirmed the prediction that anger-out would significantly more likely be expressed toward a liked target, as compared to toward an unfamiliar or disliked target (liked vs. unfamiliar target, $F = 122.35$, $p < .0001$; liked vs. disliked target, $F = 19.28$, $p < .0001$). Furthermore, anger-out was more likely to be displayed toward someone disliked as compared to someone unfamiliar ($F = 44.49$, $p < .0001$).

As reported in Table 3, post hoc tests (Tukey) showed that the remaining above-mentioned approach behaviors (assertive behavior and reconciliation) were consistently more likely to be displayed toward a liked target, especially reconciliation. Conversely, the items assessing social sharing had significantly higher probabilities when the target was disliked, as compared to when the target was liked or unfamiliar. No consistent differences were found in the display of anger-in, avoidance, and indirect behavior when the target was liked, unfamiliar, or disliked (see Table 3). Figure 2 provides a more succinct overview of the Liking × Behavior interaction, averaged across the two items pertaining to each anger behavior.

Person Class × Behavior interaction. Results of post hoc comparisons (Tukey) between the probabilities to display the different behavior items by both person classes can be read from Table 3; Figure 3 displays the latter probabilities averaged across the two items referring to each behavior. As mentioned above, Person Class 1 was characterized by a higher tendency to display avoidance/anger-in behaviors and social sharing (of which item *b* yielded only a marginally significant result, $F = 13.73$, $p = .09$, however)—it will therefore be referred to as the "avoidance person class"; Person Class 2 was characterized by a higher tendency to display the approach behaviors—therefore, this class will be referred to as the "approach person class."

TABLE 4: Means and Standard Deviations of NEO-FFI and SECS Scale Scores for Each Person Class (Study 1)

	Mean Score (SD)			
Questionnaire Scales	*Approach Person Class*	*Avoidance Person Class*	t	p
NEO-FFI				
Neuroticism	2.92 (.60)	3.29 (.60)	3.18	.002
Extraversion	3.60 (.51)	3.49 (.51)	–1.10	.27
Openness	3.56 (.51)	3.61 (.45)	.56	.57
Agreeableness	3.54 (.50)	3.62 (.38)	.91	.36
Conscientiousness	3.42 (.56)	3.36 (.41)	–.64	.52
SECS				
Anger-out	2.33 (.57)	2.26 (.56)	–.64	.52
Anger-in	2.16 (.62)	2.43 (.63)	2.19	.03
Control anger-out	2.39 (.58)	2.61 (.60)	1.66	.10
Control anger-in	2.38 (.67)	2.59 (.63)	1.89	.06

NOTE: NEO-FFI = NEO–Five Factor Inventory, SECS = Self-Expression and Control Scale.

CHARACTERIZATION OF PERSON CLASSES BY MEANS OF PERSONALITY VARIABLES

The two person classes could further be characterized by means of their average scores on the trait questionnaires (NEO-FFI and SECS) scales. Means and standard deviations for each scale and each person type (as well as the corresponding *t* and *p* values obtained from the independent samples *t* tests) are given in Table 4. The results indicated that the participants from the avoidance person class were characterized by significant higher scores on the neuroticism, anger-in, and both anger control scales (both the latter being only marginally significant, however).

Discussion

STRUCTURE OF ANGER BEHAVIOR

Social sharing appeared to be a relatively prevalent consequence of experiencing anger, whereas anger-out was among the least likely displayed anger behaviors, both results being consistent with previous findings (e.g., Averill, 1983; Rimé et al., 1991). More important, the results indicated that the included anger behaviors can be differentiated into two types, based on both their occurrence toward specific anger targets and individual differences structure: One type involves confronting or approaching the target of anger, both in an aggressive (anger-out) as well as a more prosocial way (reconciliation and assertive behavior), whereas the other type more or less reflects the concept of anger-in and includes anger-in, avoidance, and indirect anger behavior. Moreover, it was found that the occurrence of the latter behaviors is associated with higher probabilities to engage in social sharing, suggesting that social sharing more likely occurs when the angry person has not approached the target of anger.

INTERPERSONAL DETERMINANTS OF ANGER BEHAVIOR

Because anger is largely seen as an interpersonal emotion, we hypothesized that characteristics of the relationship between the angry person and the target of anger would influence the behavioral consequences of anger. With respect to status, our results corroborated findings from previous research (Allan & Gilbert, 2002; Berkowitz, 1989; Harris, 1974; Karniol & Heiman, 1987) that anger-out behavior is most likely to be displayed toward a target of lower status and least likely toward a target of higher status—the opposite holds for anger-in. Moreover, our results show that these earlier findings can be extended to other approach behaviors, as well as to social sharing: A lower status target is more likely to be approached (be it aggressive or more prosocial), whereas anger is more likely to be suppressed and socially shared in case of a higher status target.

With respect to liking, it was found that anger-out is more likely to be displayed toward a liked person at whom one is angry as compared to an unfamiliar or disliked person, in line with previous research (Ahmed & Lee, 1985; Averill, 1983). Again, this finding extends to other approach behavior: Next to anger-out and assertive behavior, particularly reconciliation is displayed toward someone that is liked, as compared to someone disliked or unfamiliar. It is not unlikely that one wants to maintain a good relationship with someone liked, and reconciliation is a viable mean for this goal. Also, it has been argued that one of the sources of inhibition of social behavior is the unfamiliarity of the interaction partner (Asendorpf, 1993), which is consistent with the present results.

INDIVIDUAL DIFFERENCES IN ANGER BEHAVIOR

The found individual differences in anger-related behaviors can be formulated in terms of approach versus avoidance/anger-in and social sharing as well: Individuals that are more likely to overtly express their anger toward the target of their anger (anger-out) are also more likely to approach the person they are angry at in nonaggressive ways. Conversely, others are more prone to suppress their anger and avoid the person they are angry at. Of interest, the latter individuals also more likely engage in socially sharing their anger experiences with others.

The avoidance person class was characterized by higher levels of neuroticism compared with the approach person class. This finding is in line with recent research (Martin et al., 1999; Martin & Watson, 1997)

that relates anger-in to the experience of various types of negative emotions, leading the authors to assert that anger-in measures considerably overlap with measures of neuroticism. The person classes did not significantly differ with respect to extraversion (which in previous research appeared to be directly related to anger-out and inversely related to anger-in) and with respect to agreeableness (which has been documented to be inversely related to anger-out). The lack of significant differences between the two person classes in these respects may be explained by the prosocial behaviors that are included in the behavioral signature of the approach person class (which may act against a possible lower agreeableness score for this class) and by the social sharing behaviors that are included in the signature of the avoidance person class (which may act against a possible lower extraversion score for this class). Finally, the results for the habitual anger expression style scales validate the characterization of the person types in terms of an avoidance/anger-in person class (see the higher anger-in score characterizing this person class) and an approach person class, which may be seen as broader than merely anger-out, given its higher probability of reconciliation (and assertive behavior); the latter also may account for the absence of higher scores for this person class on the anger-out measure.

LIMITATION

A limitation of the first study is that the sample of participants was highly overrepresented by women. Gender differences may be assumed to play a role in anger behavior: For instance, men tend to be more physically aggressive (Fischer & Rodriguez Mosquera, 2001), although it also has been found that women are more likely to report to express their anger (Fehr et al., 1999; Kring, 2000). Also, anger is typically seen as a "male" emotion (Kring, 2000), which may influence display rules for anger behavior. Furthermore, there is, for instance, evidence showing that women may not react emotionally in the same way as men in power situations (e.g., smiling; see Lafrance, 1997) or that men are more likely to be angered by the actions of strangers (Fehr et al., 1999; Kring, 2000). However, the unbalanced gender ratio in the sample of our first study did not allow for a reliable check of gender differences or to evaluate whether the found individual differences in anger behavior generalize across gender. Therefore, a second study was performed.

STUDY 2

The aim of the second study was to replicate findings from Study 1 and to examine possible gender differences in anger behavior. Although the design of Study 2 was similar to that of Study 1, it had a more modest setup: First, given that Study 1 revealed no substantial Status × Liking interaction, the features of the anger target were not crossed but manipulated separately in the instructions to recall anger situations (yielding less complicated recall instructions as well as a lower number of situations to be recalled). Second, given that Study 1 revealed two broad behavior categories, only a subset of the behaviors that were used in Study 1 were now included; these included anger-out, reconciliation, avoidance, and social sharing, allowing us to replicate the most important findings of the first study. Third, personality measures were not included (for a similar design, see Meulders, De Boeck, Kuppens, & Van Mechelen, 2002).

Method

PARTICIPANTS

Participants were 100 university students, of which 50 were women and 50 were men. Their mean age was 25.6 years. They were paid €3 (about $3) for participation.

MATERIALS AND PROCEDURE

Assessment of situational anger-behavior. As in Study 1, the participants were asked to recall recently experienced situations in which they had been angry at someone else. In each situation, the target of anger had to be of higher, equal, or lower status or someone liked, unfamiliar, or disliked, yielding six situations to be recalled. After having recalled a situation, each participant was asked to note the time (in days) that had elapsed since the occurrence of the anger instance.[4] Subsequently, for each instance, they were asked to indicate which of a list of anger behaviors they had displayed. The list consisted of the items referring to anger-out, reconciliation, avoidance, and social sharing (two items each, see Table 1 for a formulation of the items).

ANALYSES

First, gender differences were examined by comparing the scores of men and women to display the different anger behaviors (summed across the two items referring to each behavior) toward the different types of targets. For significant ($\alpha = .05$) differences, effect sizes (point-biserial correlations) also were calculated. Second, as in Study 1, the data from the situational anger-behavior questionnaire were analyzed by means of latent class analysis. Subsequently, the obtained probabilities were subjected to two separate ANOVA analyses (including planned contrasts), one for the status and one for the liking situations (with behavior type and person class as additional factors).

TABLE 5: AIC and BIC Values for Latent Class Models Assuming 1 to 4 Person Classes (Study 2)

	AIC	*BIC*
1 person class	5775	5900
2 person classes	5648	5901
3 person classes	5597	5977
4 person classes	5558	6066

NOTE: AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion.

Results

GENDER DIFFERENCES

Only a few gender differences emerged: Women generally reported more to engage in social sharing as compared with men (the differences being significant in the case of a lower status target, $t = 2.41$, $p < .05$, $r_{pb} = .24$, and an equal status target, $t = 2.02$, $p < .05$, $r_{pb} = .20$, and marginally significant in the case of an unfamiliar target, $t = 1.79$, $p = .08$, $r_{pb} = .18$). Further gender differences were observed in two anger behaviors toward a target of lower status: Toward such a target, women were more likely than men to display anger-out behavior ($t = 3.99$, $p < .001$, $r_{pb} = .37$), whereas men were more likely to avoid such a target ($t = -2.23$, $p < .05$, $r_{pb} = -.22$).

LATENT CLASS ANALYSIS

The AIC and BIC values of the latent class models assuming one to four person classes can be found in Table 5. The AIC values decrease with increasing person classes, whereas the lowest BIC values are obtained for the models with one or two person classes. Combining both criteria, a latent class model with two person classes was selected. Person Class 1 contained 57 participants (30 women, 27 men), Person Class 2 contained 43 participants (20 women, 23 men). The gender ratios of both person classes did not differ ($\chi^2_1 = .37$, $p > .5$).

ANALYSES OF VARIANCE ON PROBABILITIES FROM LATENT CLASS ANALYSIS

The main results of the ANOVAs will be succinctly discussed. The two ANOVAs again revealed a significant behavior main effect (accounting for 14% and 8% of the variance, respectively, in the ANOVAs including status and liking), Status × Behavior (32%) and Liking × Behavior (55%) interaction, as well as a Person Class × Behavior interaction (30% and 9%, respectively, in the ANOVAs including status and liking; all were significant, $p < .001$). Regarding the behavior main effect, the average probabilities to display the different behaviors (for each item) are reported in Table 1; they clearly mimic those obtained in Study 1.

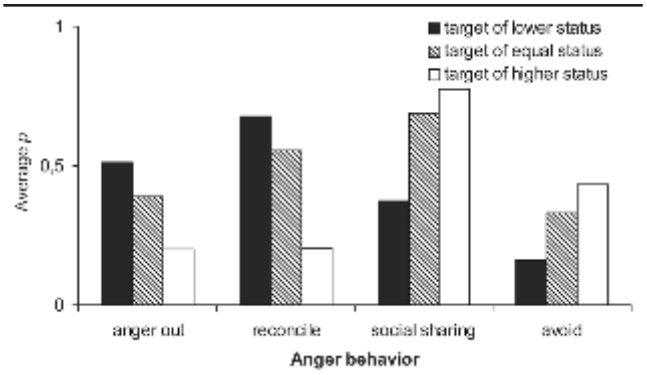

Figure 4 Average probability of displaying each anger behavior when the target of anger is of higher, equal, and lower status (Status × Behavior interaction effect; Study 2).

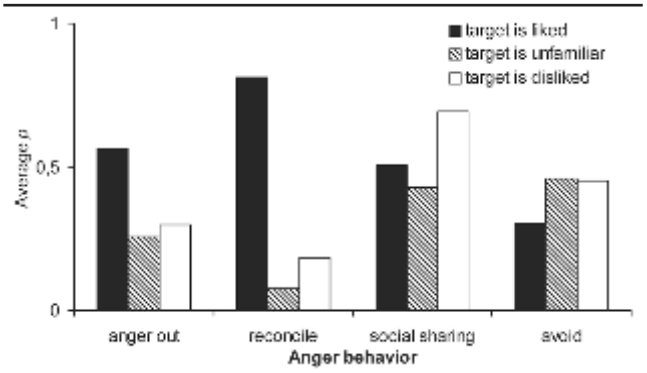

Figure 5 Average probability of displaying each anger behavior when the target of anger is liked, unfamiliar, and disliked (Liking × Behavior interaction effect; Study 2).

The Status × Behavior interaction is graphically displayed in Figure 4, which depicts the average probabilities to display the included anger behaviors toward a target of higher, equal, and lower status. The results show that approach behaviors (anger-out and reconciliation) again were most likely to be displayed toward a target of lower status and least likely toward a target of higher status (anger-out: lower vs. equal target, $F = 12.57$, $p = .001$, equal vs. higher target, $F = 7.86$, $p = .009$; reconciliation: lower vs. equal target, $F = 3.04$, $p = .09$, equal vs. higher target, $F = 59.38$, $p < .001$); avoidance and social sharing were most likely when the target was of higher, and least likely when the target was of lower status (avoidance: lower vs. equal target, $F = 13.34$, $p = .001$, equal vs. higher target, $F = 7.90$, $p = .009$; social sharing: lower vs. equal target, $F = 32.40$, $p < .001$, equal vs. higher target, $F = 4.63$, $p = .04$).

Similar to Figure 4, Figure 5 depicts the Liking × Behavior interaction. As in Study 1, approach behaviors were most likely to be displayed toward a liked target (anger-out: liked vs. disliked target, $F = 29.16$, $p < .001$; reconciliation: liked vs. disliked target, $F = 158.33$, $p <$

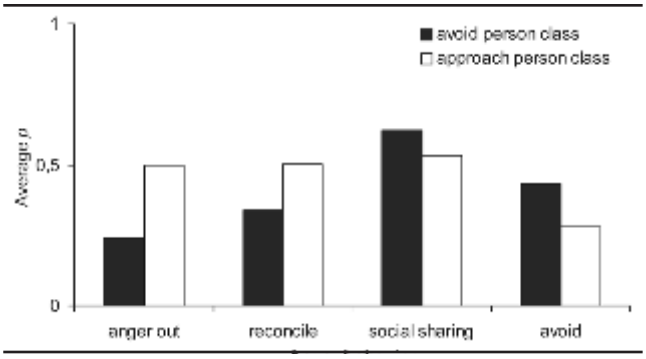

Figure 6 Average probability of displaying each anger behavior for each person class (Person Class × Behavior interaction effect; Study 2).

.001); social sharing was more likely when the target of anger was disliked as compared to when the target was liked or unfamiliar (disliked vs. liked: $F = 11.51$, $p = .002$; disliked vs. unfamiliar: $F = 22.41$, $p < .001$).

Figure 6 represents the Person Class × Behavior interaction. It is clear that again one person class (Person Class 1) was characterized by higher levels of avoidance and social sharing, whereas the other person class was characterized by higher levels of approaching the target of anger (the differences being significant in all cases, except for reconciliation in the ANOVA performed on situations).

Finally, it should be noted that a substantial liking main effect also was observed (accounting for 17% of the variance, $p < .001$), as well as three-way interactions (respectively, 20% and 11%, for the analyses including status and liking; both ps $< .001$); the latter mainly reflect higher tendencies of the approach person class to approach an equal and disliked target as well.

Discussion

It is clear that the present study replicates the findings from Study 1: The anger behaviors again fall apart into an approach behavior group (consisting of anger out and reconciliation) and a group consisting of avoidance behavior and social sharing. The effects of status and liking of the target of anger on these behavior types were highly similar as those observed in Study 1: In short, approach behaviors were more likely to be displayed toward a lower status or liked target, whereas avoidance was more likely toward a higher status target and social sharing more likely in the case of a higher status or disliked target. Finally, two person types were again identified that could be characterized as an approach person class and an avoid/social sharing person class.

Gender differences were found to play only a minor role: Only few significant differences were found, and in the latent class analysis, the person classes contained equal gender ratios. The latter implies that the major individual differences that showed up regarding anger behavior do not correspond to gender differences but reflect differences between persons that cut across gender. As an exception, it was found that women reported more social sharing following anger, which has been found in previous studies as well (e.g., see Taylor et al., 2000; Thomas, 1989; such a difference may not hold for all emotions, however, see Rimé et al., 1991). Also, women reported more anger-out, and men more avoiding, toward a lower status target. Prior research also has documented gender differences in expressive versus avoidant anger behavior, but with inconsistent results (Fehr et al., 1999). Our results hint that taking into account contextual characteristics may help to resolve such inconsistencies (see also Kring, 2000). Apart from these exceptions, however, our findings were found to be general and appear to hold for both men and women.

GENERAL DISCUSSION

Determinants of Anger-Related Behavior

The presented research examined the role of interpersonal and individual differences factors in the occurrence of behaviors that are related to the experience of anger. In doing so, our aim was to provide a systematic investigation of the link between emotion and behavior. Our results indeed show that the display of a wide variety of behaviors could meaningfully be related to the status and liking of the target of anger, as well as to personality variables.

Regarding the obtained structure of anger behavior, the interesting aspect of our findings is that, on one hand, they corroborate classical distinctions such as anger-out/anger-in or fight/flight, whereas, on the other hand, they conceptually broaden such distinctions. In particular, the results seem to suggest that anger-out is part of a broader approach category of anger behavior that includes nonaggressive behaviors as well. The classic concept of anger-in seems to be reflected in various avoidance/inhibition behaviors (see also the higher anger-in score of the avoidance person class in Study 1) and its occurrence is accompanied by higher probabilities to engage in social sharing. As such, the findings correspond with the anger-in/anger-out framework and fit in a framework that outlines a behavioral activation system (BAS) and a behavioral inhibition system (BIS) as organizing principles of behavior, as proposed by Gray (1987, 1991, 1994). Also, it lines up with recent voices reclaiming approach and avoidance as fundamental motivations that underlie affect, behavior, and cognition (Elliot & Thrash, 2002).

It is also interesting to point out that regarding the influence of status on anger behavior, our results are

directly in line with recent theorizing that relates the notion of power to approach/inhibition (Keltner et al., 2003) in that the tendency to approach is higher toward a lower status target and the tendency to inhibit is higher toward a higher status target, and vice versa. An explanation for these findings, as also previously proposed by others (Anderson & Berdahl, 2002; Anderson & Bushman, 2002; Guerra, Nucci, & Huesmann, 1994; Huesmann & Guerra, 1997; Zelli, Dodge, Lochman, & Laird, 1999), may be that the occurrence of anger behavior is dependent on an evaluation of its outcome. A decision to confront someone of a higher status with one's feelings of anger or dissatisfaction may yield disadvantages for the self, making it less likely for such behavior to be displayed. Alternatively, in case of a target of lower status, the risk for such disadvantages decreases (comparable to the notions of approach when there is access to reward and avoidance in the possibility of punishment).

RECONCILIATION AND SOCIAL SHARING FOLLOWING ANGER: IN PURSUIT OF PERSONAL REAFFIRMATION?

In general, our results seem to suggest the existence of a particular dynamic underlying anger-related behavior: The core aspect of anger is often denoted as other-blame or perceived injustice (e.g., Smith & Lazarus, 1993); as a result, the experience of anger can be considered to imply a breach in the interpersonal relations that one maintains with others or a felt injustice or lack of support for one's convictions or values (regardless of whether the anger is overtly expressed). The latter may, in turn, evoke a need for personal reaffirmation. Our results then suggest that this can be accomplished in several alternative ways, depending on what is beneficial, or allowed for in the context of the type of relation one has with the target of his or her anger. In particular, reaffirmation is more likely to be accomplished through reconciliation when the target is of lower status, or a liked person. When the target is of a higher status or someone disliked, however, this behavioral alternative may be less probable due to relational constraints or display rules. In this case, one rather turns to social sharing to pursue reaffirmation. It has indeed been argued that social sharing may serve a function of reinstating bonds with others after the idiosyncratic experience of an emotional event (Rimé et al., 1991) or of gaining support for one's views (e.g., in the context of anger, one may seek affirmation of the unjust character of the actions of others; the observed higher probability to engage in social sharing in case of a disliked target seems to support such a hypothesis). Our hypothesis also may account for the obtained low probabilities for both reconciliation and social sharing when the target is unfamiliar: In such a case, anger may not evoke a need for reaffirmation because meaningful relations with the blamed target are non- or only little existing.

Moreover, this hypothetical dynamic of anger behavior in pursuit of reaffirmation may be relevant for the findings on the individual differences level as well: The findings indeed seem to indicate that persons with a low threshold for approach behavior may be more prone to seek reaffirmation through reconciliation, whereas persons with a higher threshold for approach behavior more likely pursue this goal by means of social sharing.

Summarizing, the hypothesized dynamic would imply that anger may not only motivate anger-out or anger-in, or fight or flight (on which most research efforts have been focused), but also more prosocial, constructive behavior and social sharing, out of a need for reaffirmation produced by the anger incident. This hypothesis may account for the earlier finding of Averill (1983) that angry episodes can help to strengthen relationships more often than not. As an aside, it is likely that whereas the link between aggressive behavior and anger may be a more direct, innate one, the link between prosocial behavior and anger may be more indirect and cognitively mediated, although the current results do not allow specific claims in this respect.

LIMITATIONS AND CONCLUSIONS

The findings from the present research are limited in a sense that they rely on self-reports of behavior in recalled anger instances. Such self-reports may be sensitive to self-representational concerns and memory biases or implicit theories (Harvey, Christensen, & McClintock, 1983; Owens, Bower, & Black, 1979). Nevertheless, our results generally correspond with findings from prior, observational studies on anger behavior (e.g., Ahmed & Lee, 1985; Harris, 1974), adding to the validity of the current methodology (for previous discussions of this issue, see, e.g., Fehr et al., 1999; Fitness & Fletcher, 1993).

The main conclusions of the present study can be summarized as follows: A broad range of anger behaviors can be parsimoniously organized in terms of approach (referring to aggressive as well as more prosocial behavior) versus anger-in/avoidance and social sharing. Interpersonal effects of status and liking as well as individual differences in the anger behaviors are qualified in these terms: In general, approach behavior is more likely to be displayed toward targets of lower status or targets that are liked, whereas avoid/anger-in behaviors and social sharing are more likely to be displayed when the target is of a higher status or disliked. As such, the results suggest the existence of a particular dynamic of anger behavior in that anger may motivate a striving for reaffirmation, which can be pursued either in terms of reconciliation with the target of anger, if beneficial or allowed for in the context of the type of relation one has with the target of

anger, or in terms of social sharing, when relational context impairs or obstructs approach behavior. This dynamic also may play on an individual differences level, where an approach and an avoidance/social sharing person class were identified. Gender differences were found to play only a minor role in anger behavior.

NOTES

1. Inspection of these data showed that recalled anger instances dated back between 1 day to 2 years, with a median elapsed time ranging from 3 weeks (in the case of a lower status/liked, equal status/liked, and equal status/unfamiliar target) to 3 months (in the case of a higher status/disliked target). The data further suggested that instances involving a higher status or disliked target generally dated back longer, whereas instances involving a liked target had occurred more recently. These data reflect a realistic distribution of experiencing anger toward the different types of target.

2. The design implies for the present data that there is no within-cell (or error) variance when using a full factorial model because each observation (or in the present case, logit of probability value) corresponds to a unique combination of situational, behavior, and person-class characteristics. Therefore, we chose to omit the four-way interaction term from the analysis, resulting in a non-zero error variance estimate (which is then confounded with a possible four-way interaction effect).

3. Note that selective contrasts (Bonferroni) to evaluate predictions may have more power as compared to post hoc comparisons (Tukey), explaining why the latter sometimes do not yield significant results as compared to the former.

4. Recalled anger instances dated back between 0 days to 3 years, with a median elapsed time ranging from 2 weeks (in the case of a liked and unfamiliar target) to 1 month (in the case of a higher status target). Comparable to Study 1, these data further showed that instances involving a higher status target generally dated back longer and instances involving a liked target occurred more recently.

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