

Anger suppression after imagined rejection among individuals with social anxiety

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ABSTRACT

Individuals experiencing high levels of social anxiety report frequent and intense anger. Yet, little is known about how they manage this emotion. Despite general tendencies towards anger suppression, subsets of individuals with social anxiety regulate anger through outward expression. In this study, we investigated rejection as an antecedent to anger, examined how and when individuals with high social anxiety suppress anger, and evaluated experiential avoidance (EA) as a moderator of the relationship between social anxiety and anger suppression. 170 undergraduate students described their responses to everyday social situations that were designed to elicit anger; several situations reflected instances of social rejection. Our results suggest that rejection was a potent source of anger for most people and that social anxiety predicted both anger and EA in response to imagined rejection. In addition, as evidence of a moderation model, individuals with low social anxiety and low EA reported the least anger suppression; no significant differences were found for individuals with high social anxiety. We discuss the implications for understanding the interface of social anxiety and anger.

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Mounting evidence suggests that individuals with social anxiety vary on meaningful dimensions that influence frequency and intensity of distress and impact socio-emotional functioning (Hofmann, Heinrichs, & Moscovitch, 2004). One dimension appears to be how people experience and express anger. Anger is worthy of clinical attention due to its deleterious effects on health (Diamond, 1982; Rein, Atkinson, & McCraty, 1995; Siegman, 1993) and social functioning (Deffenbacher, Oetting, Lynch, & Morris, 1996; Hazaleus & Deffenbacher, 1986; Tafrate, Kassinove, & Dunedin, 2002). Yet, few studies have examined whether, why, and when social anxiety is related to anger. We sought to better understand anger experiences in individuals with social anxiety by experimentally inducing anger and examining how and when anger is over-regulated or suppressed.

1. Social anxiety and anger

Social anxiety refers to a fear of being scrutinized or rejected in social or performance situations (American Psychiatric Association, 2000). Cognitive-behavioral theories explain that individuals with social anxiety engage in safety behaviors to minimize anxiety and limit information shared with others to reduce the likelihood of negative evaluation (Clark & Wells, 1995; Rapee & Heimberg, 1997).

Expressing strong emotions is a powerful way to convey information (Keltner & Haidt, 1999) while expressing anger also has the potential to generate conflict (Averill, 1983). Conflict increases the likelihood of scrutiny and rejection. As a result, individuals with social anxiety may experience anger as problematic and expend effort and energy to manage it (Kashdan, Breen, Terhar, & Afram, 2010).

The seminal study of social anxiety and anger examined 234 people who met diagnostic criteria for Social Anxiety Disorder (SAD) (American Psychiatric Association, 2000) compared with people who did not meet criteria for any psychiatric diagnoses (Erwin, Heimberg, Schneier, & Leibowitz, 2003). Results suggest that people diagnosed with SAD reported more frequent and intense anger, greater anger in response to negative evaluation, poorer anger expression skills, and greater tendencies to suppress anger compared to those without SAD. The largest correlation ($r = .49$) occurred between social anxiety and anger suppression (Erwin et al., 2003). In sum, people with excessive and impairing social anxiety experienced greater levels of anger, reported greater difficulty managing anger, and were more likely to suppress anger than people with less social anxiety.

More recent studies extend these findings. One study examined anger among individuals diagnosed with different anxiety disorders and found that people diagnosed with SAD were less likely to express anger than people diagnosed with other anxiety disorders or no diagnosis (Moscovitch, McCabe, Antony, Rocca, & Swinson, 2007). In another study, experience sampling techniques were used to collect data on social anxiety and anger episodes from college students across 14 days (Kashdan & Collins, 2010). Results sug-

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gest that individuals with high social anxiety spent more time each day feeling angry and reported more anger episodes in both social and non-social situations compared to individuals with low social anxiety. Thus, there appears to be a strong relation between social anxiety and anger.

Despite a tendency to do so, not all individuals with social anxiety habitually suppress emotions. One study presented evidence for differences in emotion and behavior management after examining interpersonal difficulties in people diagnosed with SAD (Kachin, Newman, & Pincus, 2001). The authors assessed differences in social problems in people with SAD and identified two distinct subsets of people with varying behavioral reactions to social threat. One group reported theoretically expected avoidant, unassertive, and submissive response styles while the other group reported less characteristic angry, hostile, and mistrusting interpersonal styles. After controlling for co-morbid psychopathology, the authors inferred that people with SAD do not uniformly respond to social situations and demonstrate greater variation in their behavior than theoretically assumed. These data offered preliminary evidence for a subgroup of individuals with social anxiety who exhibit aggressive, externalized behavior when confronted with threatening social situations and tend to express rather than suppress anger.

Additional evidence was found in two studies that examined differences in appraisal patterns and novelty-seeking tendencies for risky social situations (Kashdan, Elhai, & Breen, 2008; Kashdan & Hofmann, 2008). These studies used cluster-analytic techniques to identify subgroups of individuals with social anxiety characterized by distinct patterns of approach/avoidance appraisals for social activities and risk-taking behaviors. In these studies, individuals with social anxiety seemed torn between a desire to avoid threats and minimize rejection versus pursuing activities believed to be enjoyable or useful. For example, a subgroup of individuals with moderate social anxiety differed in appraisals of risk-taking behavior, reported more approach-oriented appraisals (e.g., aggression seen as an opportunity to increase social status, etc.), and greater anger expression over a three-month assessment period. Similar evidence for subgroups of people diagnosed with SAD emerged from the National Comorbidity Study-Replication data (Kashdan, McKnight, Richey, & Hofmann, 2009). Thus, there appears to be heterogeneity in how individuals with social anxiety respond to social threat and manage anger.

2. Social anxiety, anger, and rejection

Despite increasing research, no study has examined anger antecedents and responses among individuals with social anxiety. In this section, we suggest that perceived rejection may provide a link between social anxiety and anger. Anger is a common human emotion that occurs most frequently in social situations (Averill, 1983). Social situations are replete with possibilities for interpersonal rewards (e.g., attention, intimacy) or unpleasant consequences (e.g., hurt feelings, rejection). Many anger researchers agree that frustration, or interference with important goals, and painful or unpleasant events (e.g., rejection) are common anger antecedents (Berkowitz, 1989; Berkowitz & Harmon-Jones, 2004; Buss, 1961; Izard, 1977).

Rejection might provoke anger in individuals with social anxiety to the extent that it is perceived as an aversive social event or an obstacle to satisfy the need to belong (Leary, Twenge, & Quinlivan, 2006). The need to belong is a strong human motivation to affiliate with and be accepted by others (Baumeister & Leary, 1995). Failure to meet this fundamental need is associated with emotional distress and poor social outcomes (Baumeister, Brewer, Tice, & Twenge, 2007). Rejection interferes with the need to belong

by impeding the creation and maintenance of meaningful relationships. In addition, rejection is painful (Eisenberger, Lieberman, & Williams, 2003; Leary, Springer, Negel, Ansell, & Evans, 1998; MacDonald & Leary, 2005) and is associated with an increase in aversive emotions including anxiety, loneliness, and depression (Ayduk, Downey, & Kim, 2001; Baumeister & Tice, 1990; Gardner, Pickett, & Brewer, 2000; Gilbert & Miles, 2000; Leary, 1990).

The relation between rejection and anger may be particularly strong for individuals experiencing chronic and intense social anxiety. These individuals tend to report fewer social connections including friendships and romantic partners as well as diminished life satisfaction (Schneier et al., 1994). They also tend to interpret ambiguous social information as negative and would be more likely to perceive innocuous or ambiguous events as threatening (Amir, Foa, & Coles, 1998; Stopa & Clark, 2000). As such, individuals with social anxiety are more vulnerable to fluctuating perceptions of belongingness and may be more likely to experience anger in daily life. Due to the challenges posed by anger, individuals with social anxiety would be expected to expend personal resources to alter or avoid anger experiences.

3. Experiential avoidance as moderator

Undoubtedly, individuals with social anxiety experience rejection as unpleasant. However, important variability may exist in how individuals experience and respond to rejection. Experiential avoidance (EA) refers to an unwillingness to experience negatively evaluated thoughts, emotions, physical sensations, and environmental events as well as attempts to alter these experiences even when doing so is counterproductive (Hayes, Strosahl, & Wilson, 1999). Differences in the willingness to experience aversive events or effort exerted to avoid those events may influence how and when individuals with social anxiety suppress anger after rejection.

Cognitive-behavioral theories state that individuals experiencing social anxiety expend significant personal resources engaging in avoidance-based strategies (i.e., safety behaviors) to minimize the occurrence of unwanted social outcomes and aversive emotions (Clark & Wells, 1995; Rapee & Heimberg, 1997). Emotion suppression is a common strategy used to hide, conceal, or control feelings of anxiety and anger (Gross & John, 2003). Thus, suppression is behavioral evidence of EA (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Although individuals with social anxiety tend to suppress emotions, those who exhibit greater EA would be expected to engage in greater anger suppression compared to those less inclined to avoid unwanted emotions. Therefore, EA is hypothesized to moderate the relation between social anxiety and anger suppression by altering the strength of the relation for individuals experiencing different degrees of social anxiety.

Yet, hiding and concealing emotions can be beneficial at time (e.g., suppressing anger at work rather than cursing at the boss). On the other hand, chronic and rigid suppression is harmful because it has paradoxical consequences (Feldner, Zvolensky, Eifert, & Spira, 2003; Wegner, Schneider, Carter, & White, 1987), depletes finite personal resources (Muraven & Baumeister, 2000), damages relationship rapport (Butler et al., 2003), impairs cognitive functioning (Richards & Gross, 1999), inhibits movement towards valued goals (e.g., expressing feelings to deepen a romantic relationship) and may produce more severe functional impairment (Eifert & Forsyth, 2005; Hayes et al., 1999).

Despite theoretical links, little is known about relations between social anxiety and EA. One cross-sectional study presented evidence of a positive correlation between social anxiety and EA in a university sample (Kashdan & Breen, 2007). Two daily diary studies found that EA accounts for how and when daily distress and positive experiences were associated with social anxiety (Kashdan

& Steger, 2006) better than cognitive reappraisal (Kashdan, Barrios, Forsyth, & Steger, 2006). Albeit promising, more research is needed to understand relations between social anxiety, EA, and anger.

4. Current study

We sought to examine relations between social anxiety and anger and to investigate how and when individuals with social anxiety suppress anger in response to rejection. To do so, we elicited anger in a controlled laboratory setting to test whether EA influences the way that individuals with social anxiety manage anger in response to aversive social events. Although we acknowledge the debate as to whether rejection leads to intense emotional pain or numbing (Baumeister, DeWall, & Vohs, 2009), our literature review identified rejection as a potent anger provocation. Furthermore, we hypothesized rejection to be particularly salient for individuals with social anxiety. Thus, we designed a series of vignettes to portray everyday social situations which ended in either rejection or more amiable outcomes. Our goal was to experimentally induce anger and provide contextual resolutions to investigate how and when individuals with social anxiety suppress anger.

We hypothesized that social anxiety would correlate positively with trait measures of anger, anger suppression, and EA. We expected similar relations to emerge between trait social anxiety and anger, anger suppression, and EA after imagined rejection (Hypothesis 1). We also expected that social anxiety would significantly predict anger and EA after imagined rejection (Hypothesis 2). Most importantly, we hypothesized that state EA would moderate the relation between social anxiety and anger suppression after imagined rejection such that individuals with high social anxiety engaging in more EA would be more likely to suppress anger than those who engaged in less EA after imagined rejection (Hypothesis 3).

5. Method

5.1. Participants

Participants included 170 undergraduate students enrolled in introductory psychology courses at a large, public Mid-Atlantic university. The sample was comprised of 128 females (75.3%) and 42 males. Participants reported ethnicity as follows: 85 (50.0%) Caucasian, 43 (25.3%) Asian, 12 (7.1%) Hispanic/Hispanic-American, 11 (6.5%) African/African-American, 10 (5.9%) Middle Eastern, and 9 (5.3%) self identified “Other.” Sample mean age was 21.29 years ($SD = 5.19$).

5.2. Materials

5.2.1. Trait measures

5.2.1.1. Demographic questionnaire. Items included questions on age, sex, and ethnicity.

5.2.1.2. Social anxiety. Severity of social anxiety symptoms was assessed using the 20-item *Social Interaction Anxiety Scale* (SIAS; Mattick & Clarke, 1998). The SIAS measures anxiety associated with social contact and interactions. Responses are provided using a 5-point Likert scale; rated from 0 (not at all) to 4 (extremely). In prior studies, the SIAS reliably distinguished between clinical and non-clinical samples (Brown et al., 1997; Heimberg, Mueller, Holt, Hope, & Liebowitz, 1992). Alpha reliabilities for all measures for the current sample are reported in Table 1.

5.2.1.3. Anger. The 57-item *State-Trait Anger Expression Inventory* (STAXI-II; Spielberger, 1999) measured the experience and expres-

sion of anger. The STAXI-II includes subscales designed to assess state and trait anger as well as different ways to manage anger (e.g., Anger-In, Anger-Out, and Anger-Control). Responses are provided using a 4-point Likert scale; rated from 1 (not at all) to 4 (very much so). The STAXI-II demonstrates excellent psychometric properties ($rs < .90$) and is the most widely used measure for anger assessment (Eckhardt, Norlander, & Deffenbacher, 2004).

5.2.1.4. Depressive symptoms. Severity of depressive symptoms was assessed using the 21-item *Beck Depression Inventory-II* (BDI-II; Beck, Steer, & Brown, 1996). Responses are provided using a 4-point Likert scale with higher scores representing more severe depressive symptoms. In previous research, the BDI-II demonstrated excellent internal validity ($\alpha = .93$ for university sample) and one week test-retest reliability ($r = .93$; Beck et al., 1996). The BDI-II is also sensitive to clinical intervention and reliably distinguishes between clinical and non-clinical samples (Sprinkle et al., 2002).

5.2.1.5. Experiential avoidance. The 10-item *Acceptance and Action Questionnaire-2* (AAQ-2; Bond et al., in press) measured individual differences in experiential avoidance. Responses are provided using a 5-point Likert scale; rated from 1 (never true) to 5 (always true). The original AAQ (Hayes et al., 2004) was designed such that higher scores reflected greater experiential avoidance. The AAQ-2 was changed such that lower scores reflected experiential avoidance. To ease the interpretation of results, AAQ-2 scores were reversed to provide a total score measuring experiential avoidance with greater scores indicating higher levels of experiential avoidance. The AAQ-2 has fewer items than the previous version and unpublished psychometric analyses suggest that it also demonstrates greater reliability and construct validity.

5.2.2. Vignette measures

In the following descriptions and analyses, variables rated during the experimental procedure (compared to trait measures) are referred to as “vignette” variables for parsimony. For example, anger suppression reported after imagined rejection is referred to as “vignette anger suppression.”

5.2.2.1. Vignette anger. Two items were used to assess anger during hypothetical vignettes. Anger was rated after part one (e.g., “How angry would you feel in this situation?”) and part two (e.g., “How angry would you feel in this situation now?”) of all three vignettes. Responses were provided using a 7-point Likert scale; rated from 1 (not at all) to 7 (very). Scores for vignette anger ratings were added for all three vignettes and then divided by six (2 items \times 3 vignettes) to create more reliable composite scores.

5.2.2.2. Vignette anger expression and suppression. Two items measured anger expression and one item measured anger suppression during hypothetical vignettes. Participants rated their likelihood to express anger outwardly (e.g., “How likely would you be to express your anger verbally in this situation?” and “How likely would you be to express your anger physically (e.g., slam the door, etc.)?”) and to suppress anger (“How likely would you be to hold your anger inside or keep it to yourself?”). Responses were provided using a 7-point Likert scale; rated from 1 (not at all likely) to 7 (very likely). Items were rated after part two of each vignette, added, and divided to create separate average vignette anger expression and suppression scores.

5.2.2.3. Vignette experiential avoidance. There are no published measures of state EA. Thus, we developed a short state measure consisting of 4 items adapted from trait measures of EA and emotion regulation (Kashdan & Breen, 2008a). Items include the following: “To what degree would you have difficulty managing or controlling

Table 1
Means, standard deviations, and internal consistency coefficients for, and zero-order relations between, variables.

	1	2	3	4	5	6	7	8	9	10	11
1. SIAS	–	.25**	.16*	.59**	–.02	.67**	.18*	–.05	.25**	.13	.50**
2. STAXI-State	–	–	.35**	.35**	.23**	.41**	.19*	.14	.01	.15	.43**
3. STAXI-Trait	–	–	–	.32**	.68**	.37**	.33**	.22*	–.09	.15	.31**
4. STAXI-In	–	–	–	–	.11	.57**	.24**	.00	.28**	.17*	.64**
5. STAXI-Out	–	–	–	–	–	.15	.29**	.23**	–.27*	.09	.20*
6. AAQ-II	–	–	–	–	–	–	.19*	–.03	.12	.18*	.68**
7. Vignette Anger	–	–	–	–	–	–	–	.78**	–.24*	.49**	.17*
8. Vignette Express	–	–	–	–	–	–	–	–	–.33*	.37**	–.02
9. Vignette Suppress	–	–	–	–	–	–	–	–	–	.11	.07
10. Vignette EA	–	–	–	–	–	–	–	–	–	–	.16
11. BDI-II	–	–	–	–	–	–	–	–	–	–	–
<i>M</i>	19.69	17.97	18.97	16.70	15.84	28.62	3.61	2.63	3.83	3.49	10.47
<i>SD</i>	11.87	5.71	5.76	4.79	3.86	7.18	1.31	1.26	1.54	1.03	8.66
α	.91	.88	.92	.79	.72	.85	.78	.66	.80	.82	.92

Notes: All *p*-values were two-tailed. SIAS – Social Interaction Anxiety Scale. STAXI – State-Trait Anger Expression Inventory. AAQ-II – Acceptance and Action Questionnaire-II. Vignette Anger, Vignette Express, Vignette Suppress, and Vignette EA refer to self report scores for anger, anger expression, anger suppression, and experiential avoidance, respectively, obtained during the experimental procedure. BDI-II – Beck Depression Inventory-2nd Edition.

* *p* < .05.

** *p* < .01.

your anger/anxiety related thoughts and emotions?"; "How much effort would you put into making anger/anxiety related feelings or thoughts go away?"; "To what degree would you give up saying or doing something that you like (or that mattered to you) as a result of trying to manage or control your emotions?"; and "To what extent do you believe that experiencing anxiety or anger in this situation is bad?". Participants rated vignette EA items after part two. Responses were provided using a 7-point Likert scale; rated from 1 (not at all) to 7 (very much). As with previous scores, vignette EA items were averaged across all vignettes. Higher scores reflected greater vignette EA.

5.3. Procedure

Participants arrived at the research laboratory for scheduled appointments. After providing informed consent, participants completed a web-based Internet survey that included demographic and trait questionnaires. Next, participants were randomly assigned to an anger evocation condition or a calm comparison condition to complete an emotion priming exercise. In the anger condition (i.e., Anger Prime), participants wrote an open-ended narrative about an episode in their life when they felt *very angry*. In the comparison condition (i.e., No Anger Prime), participants wrote about an episode when they felt *very calm*. Instructions encouraged participants to take time to think about an event and then write a detailed description of that event. The priming exercise was intended to maximize experimental effects and prior evidence suggests it is an effective strategy for eliciting anger (Moons & Mackie, 2007).

After the priming exercise, research assistants (RAs) guided the participant through the experimental manipulation. Participants used headphones and listened to a series of three hypothetical vignettes and were asked to imagine themselves in each situation. Each vignette consisted of two parts. After listening to each part, participants answered questions related to their imagined experience. Vignettes were recorded on audio CDs to standardize the listening experience and provide a reading with identical tone, emphasis, and inflection. RAs operated the audio equipment (i.e., stopping and starting, etc.) to further control the experimental procedure.

Vignettes were designed to reflect everyday social situations that had the potential to elicit a range of responses. The experiment was structured so that participants listened to an identical opening description of a social situation with an ambiguous ending (part one). Then, participants were randomly assigned to listen to one of two alternate endings that ended in rejection or no rejection

(part two). After part one, participants rated their anger. After part two, participants again rated their anger and answered questions about how they would manage emotions and attempt to control or avoid negatively evaluated experiences (EA). The experimental procedure began with an RA providing a brief overview and reading instructions aloud ("Please *listen carefully, concentrate, and try your best* to imagine yourself in each scene *as if it is happening to you.*"). After the instructions, the RA played an audio recording consisting of part one of the first vignette. When the track ended, the participant was given time to answer questions. When the participant finished, the RA played part two and then provided time to answer additional questions. The same procedure occurred for all three vignettes. Please see Appendix A for an example vignette.

After completing the experiment, each participant underwent an individual debriefing session. Debriefing sessions included discussing the purpose of the experiment, gathering information for the manipulation check, assessing participant mood, and providing clinical referrals if necessary.

The study design created four conditions which are described here to aid in results interpretation. To review, participants were assigned to one of two priming conditions (Anger Prime vs. No Anger Prime) and one of two vignette conditions (No Rejection vs. Rejection). This produced the following conditions: (1) Anger Prime No Rejection condition (*n* = 42), (2) Anger Prime Rejection condition (*n* = 43), (3) No Anger Prime No Rejection condition (*n* = 42), and (4) No Anger Prime Rejection condition (*n* = 43). In subsequent sections, conditions will be referred to using the above descriptions.

6. Results

6.1. Preliminary analyses

Means, standard deviations, zero correlations, and alpha reliability coefficients for all measures are presented in Table 1.

6.2. Manipulation check

Manipulation checks were used to test preliminary assumptions. Participants rated each vignette using a 7-point Likert scales that checked the realistic qualities of the hypothetical situation [e.g., "How realistic does this situation seem?", rated 1 (not at all realistic) to 7 (very realistic); and "How easy is it to imagine this situation happening in life?", rated 1 (very difficulty) to 7 (very easy)]. Participants reported that the vignettes seemed realistic (Vignette 1: *M* = 5.51, *SD* = 1.83; Vignette 2: *M* = 5.15, *SD* = 1.95;

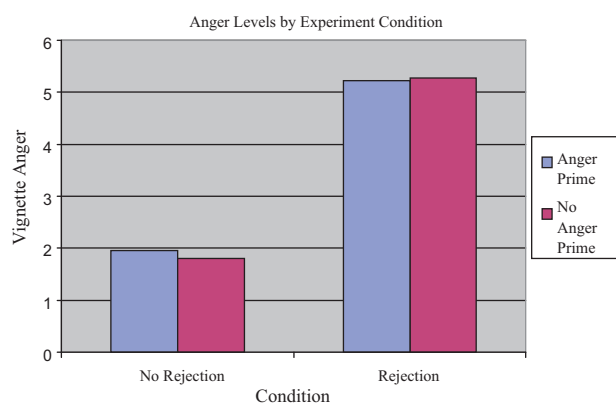


Fig. 1. Self reported mean anger levels by experiment condition.

Vignette 3: $M=5.44$, $SD=1.83$) and that it was easy to imagine the situations happening in life (Vignette 1: $M=5.27$, $SD=1.88$; Vignette 2: $M=4.93$, $SD=1.97$; Vignette 3: $M=5.12$, $SD=1.97$). Participants were also questioned during the debriefing and provided information on the ease with which they were able to imagine each situation (rated on a Likert scale from 0=very difficult to 10=very easy). This question was critical to check whether participants were able to imagine **themselves** in the situations. Results indicated that participants easily imagined themselves in each vignette (Vignette 1: $M=7.93$, $SD=2.51$; Vignette 2: $M=7.66$, $SD=2.55$; Vignette 3: $M=7.75$, $SD=2.51$).

In addition, vignettes were designed so that imagined rejection would elicit anger. We used a one-way analysis of variance to test this assumption while accounting for different conditions. Results provided evidence that rejection is significantly related to anger, $F(3, 166)=129.70$, $p<.001$. Contrast coding indicated that participants in the Anger Prime Rejection condition reported significantly more anger ($M=5.23$, $SD=1.34$) than participants in the Anger Prime No Rejection condition ($M=1.96$, $SD=.97$), $t(166)=13.53$, $p<.001$. Similarly, participants in the No Prime Rejection condition reported significantly more anger ($M=5.27$, $SD=1.18$) than participants in the No Prime No Rejection condition ($M=1.80$, $SD=.91$), $t(166)=12.93$, $p<.001$. Thus, participants who imagined rejection episodes reported greater anger compared to those who did not. No significant differences were detected between Anger Prime and No Prime conditions. Data for mean self reported anger by experimental condition are shown in Fig. 1.

6.3. Primary analyses

6.3.1. Hypothesis 1

As predicted, SIAS scores correlated positively with STAXI state anger ($r=.25$, $p=.001$), trait anger ($r=.16$, $p=.03$), and anger-in scores ($r=.59$, $p<.001$). Similar relations were evidenced during the experimental procedure. Social anxiety (SIAS) scores positively correlated with vignette anger ($r=.18$, $p=.02$) and anger suppression scores ($r=.25$, $p=.001$). SIAS scores also correlated positively with trait EA ($r=.67$, $p<.001$) but not vignette EA ($r=.13$). See Table 1.

6.3.2. Hypothesis 2

We conducted two separate hierarchical regression analyses to test whether or not social anxiety was a significant predictor of vignette anger and EA after imagined rejection. Only data from rejection conditions were used to minimize error and maximize experimental effect. In both analyses, BDI-II scores were entered in Step 1 to control for variance associated with depressive symptoms. Trait social anxiety scores (SIAS) were entered in Step 2 as the IV. Vignette anger and EA after rejection were the dependent

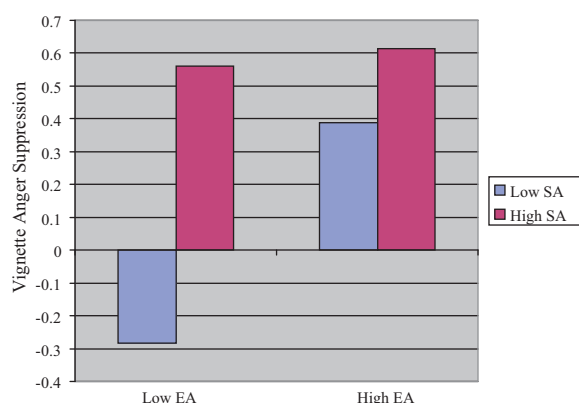


Fig. 2. Relation between social anxiety and experiential avoidance on anger suppression, controlling for depressive symptoms.

Notes: SA – social anxiety and EA – experiential avoidance. “Low” and “High” refer to -1 and $+1$ standard deviations on variables, respectively.

variables. Results suggest that social anxiety significantly predicted vignette anger ($F(2, 83)=4.45$, $R^2\Delta=.10$, $p=.02$) and vignette EA ($F(2, 83)=7.36$, $R^2\Delta=.15$, $p>.01$) after imagined rejection and after conservatively controlling for variance due to depressive symptoms. See Table 2.

6.3.3. Hypothesis 3

We used hierarchical regression analyses to test whether EA moderated the relation between social anxiety and anger suppression after imagined rejection. First, all four conditions were dummy coded as follows: Anger Prime No Rejection and No Prime No Rejection conditions = 0; Anger Prime Rejection and No Prime Rejection conditions = 1. The dummy coded Condition variable was entered in Step 1. BDI-II scores were also entered in Step 1 to control for variance associated with depressive symptoms. Next, social anxiety and vignette EA scores were entered as predictor variables in Step 2. Then, an interaction term comprised of Social Anxiety \times EA was entered in Step 3. All predictor and outcome variables were standardized as z-scores prior to being entered in regression steps (Aiken & West, 1991).

We found support for a Social Anxiety \times EA interaction effect on Vignette Anger Suppression, $F(5, 164)=7.93$, $p<.001$, $R^2=.20$. In Step 3, the interaction term was added to the regression equation and the overall model was significant, $F\Delta(1, 164)=4.43$, $p=.04$, $\Delta R^2=.02$. The interaction effect was explored using simple slope analyses (Aiken & West, 1991) and conditioned at 1 standard deviation above and below the mean on EA (see Fig. 2). When conditioned at one standard deviation below the mean on EA, low social anxiety was significantly related to less vignette anger suppression, $B=.42$, $SEB=.11$, $t(169)=3.96$, $p<.001$. When conditioned at one standard deviation above the mean on EA, low social anxiety had a non-significant relation to vignette anger suppression, $t(169)=1.01$, $p=.32$. See Table 3. Due to sample characteristics, we tested whether or not sex and ethnicity were significant moderator variables; results were non-significant ($ps=.23$ and $.31$, respectively). In addition, a regression model predicting vignette anger expression was tested and found to be non-significant, $p=.19$. Data for significant moderator effects are shown in Fig. 2.

7. Discussion

This study achieved several goals. First, we presented strong evidence that rejection is a potent anger antecedent and describe an effective anger induction technique for future experiments. We extended prior evidence that social anxiety is related to anger suppression at the trait level (Erwin et al., 2003) and demon-

Table 2
Hierarchical regression models of social anxiety predicting anger and experiential avoidance after imagined rejection.

Step		<i>B</i>	<i>SE_B</i>	<i>Pr</i>	<i>T</i>	ΔR^2	ΔF
Dependent variable: Vignette Anger							
1	BDI-II	.11	.16	.07	.65		
2	SIAS	.35	.16	.23	2.19 [†]	.10	4.45 [*]
Dependent variable: Vignette EA							
1	BDI-II	.10	.12	.09	.83		
2	SIAS	.31	.11	.30	2.82 ^{**}	.15	7.36 ^{**}

Notes: All *p*-values were two-tailed. BDI-II – Beck Depression Inventory-2nd Edition. SIAS – Social Interaction Anxiety Scale. Vignette anger refers to self reported total anger scores during the experimental procedure. Vignette EA refers to self reported experiential avoidance during the experimental procedure.

[†] *p* < .05.

^{**} *p* < .01.

strated that this relation exists at the state level after experimental manipulation. Social anxiety significantly influenced participants' experience of anger and EA after experimental manipulation suggesting that rejection is a particularly aversive event for individuals with social anxiety. Extending the previous discussion, we sought to examine how and when social anxiety is related to anger suppression. We found evidence for a significant interaction between social anxiety and EA. Contrary to expectations, individuals with social anxiety engaged in high anger suppression regardless of their level of EA. Imagined rejection may have been salient for individuals with high social anxiety such that it produced automatic and reflexive behavioral outcomes (e.g., anger suppression). Another possible explanation is that individuals with high social anxiety demonstrated less variability in response to threatening social events and constituted a particularly homogeneous group at the high end of the social anxiety continuum.

Our findings are notable because rejection in everyday life may evoke even stronger reactions than those found in the laboratory due to real world costs and consequences (e.g., emotional pain, relationship damage, etc.). Social situations occur frequently in everyday life and tend to involve complex, novel, and ambiguous interactions that are open to interpretation. It is well documented that individuals with high social anxiety are more likely to interpret ambiguous social circumstances negatively and perceive neutral events as threatening (Amir et al., 1998; Stopa & Clark, 2000). Clearly, rejection is a salient threat for individuals experiencing social anxiety. As perceptions of rejection and estimated consequences increase, angry episodes would increase in frequency for vulnerable individuals (Kashdan & Collins, 2010).

Our finding that social anxiety predicted level of anger and EA after imagined rejection elucidates a potential source of aversive emotion along with significant efforts to alter this emotional experience. As such, the challenges associated with anger may be manifold for individuals with social anxiety. Along with conveying information and increasing the potential for conflict, anger places demands on individuals with social anxiety to exert time, energy, and effort to manage this unwanted emotion. Effort expenditure to

regulate emotions (or behaviors) drain finite resources that could be used for more productive endeavors such as strengthening relationships and deepening intimacy (Hayes et al., 1999; Kashdan, Breen, & Julian, 2010).

Our primary hypothesis involved examining EA as a moderator of the relation between social anxiety and anger suppression after imagined rejection. Our results were significant but not in the direction expected. The significant interaction occurred among individuals with low social anxiety in that those who engaged in low EA reported less anger suppression after imagined rejection whereas those who engaged in high EA reported greater anger suppression. Thus, low social anxiety was not uniformly related to anger regulation after rejection. Individuals who resist reflexive suppression might experience benefits associated with expressing emotions outwardly including communicating information about their thoughts and feelings with others and strengthening relationship bonds (Keltner & Haidt, 1999). As a result of learned benefits, people who are willing to express (or suppress) anger depending on situational demands may be more likely to respond flexibly to aversive and threatening situations and employ a range of adaptive strategies. The assertive employee who is able to refuse unreasonable requests may feel more job satisfaction across time than someone who buries resentment towards the boss. Likewise, a romantic partner who can express anger constructively to emphasize severity of a partner's transgression may facilitate a discussion of the event and move more rapidly towards forgiveness. Thus, there may be important benefits for people who experience low social anxiety and flexible anger regulation.

The interaction between low social anxiety and adaptive emotion regulation presented in this study converges with prior evidence for a joint resilience model (Kashdan & Breen, 2008b; Kashdan & Steger, 2006). A joint resilience model predicts that the absence of emotional disturbances is insufficient to produce beneficial outcomes. Instead, relatively low emotional disturbances in combination with adaptive psychological processes (e.g., low EA) generate maximal psychological well-being. Evidence for this model has been demonstrated across a variety of methodologies

Table 3
Hierarchical regression model of social anxiety scores predicting anger suppression after imagined rejection with experiential avoidance as moderator.

Moderator: Vignette EA							
Dependent variable: Vignette Anger Suppression							
Step		<i>B</i>	<i>SE_B</i>	<i>Pr</i>	<i>T</i>	ΔR^2	ΔF
1	Manipulation (condition)	-.55	.15	-.28	-3.68 ^{**}	.08	7.23 ^{**}
	BDI-II	.06	.08	.06	.43		
2	SIAS	.28	.08	.25	3.37 ^{**}	.09	9.30 ^{**}
	Vignette EA	.19	.08	.19	2.52 [*]		
3	SIAS × Vignette EA	-.15	.08	-.16	-2.10 [†]	.02	4.43 [*]

Notes: *N* = 170. All *p*-values were two-tailed. BDI-II – Beck Depression Inventory-2nd Edition. SIAS – Social Interaction Anxiety Scale. Vignette EA refers to self report scores of EA obtained during the experimental procedure.

[†] *p* < .05.

^{**} *p* < .01.

(e.g., experience sampling, prospective designs) as well as a cross-sectional study of Kosovo war survivors (Kashdan, Morina, & Priebe, 2009).

Current results diverge from prior research in several ways. First, we found smaller correlations between trait social anxiety and measures of anger than previous studies (Erwin et al., 2003). This discrepancy may be due to the use of a clinical sample in prior work and our emphasis on examining social anxiety on a continuum. We believe the current approach fits existing data (Ruscio, 2010) and allows for investigating social anxiety in a way that is applicable to a range of individuals. Another difference may be noted in the failure of anger priming exercises to produce significant differences between experimental conditions. Nonetheless, this outcome did not appear to interfere with our ability to test primary hypotheses.

This study also diverged from prior work by striving to limit labels attached to anger and emotion regulation strategies. For example, most literature devoted to anger describes it as a “negative emotion.” Although anger tends to be associated with aversive outcomes (e.g., aggression, hypertension, etc.), anger is neither “good” or “bad” and cannot be described as “positive” or “negative” by itself. We agree with previous researchers (Averill, 1983; Novaco, 1976) that it is more useful to identify situations in which anger may be more or less adaptive rather than evaluate the emotion itself. As an emotion, anger is associated with a unique action tendency that motivates behavior directed at eliminating obstacles or gaining control (Frijda, 1986). Harnessing this action tendency may be beneficial at times. For example, anger inductions are effective and useful tools for reciprocal inhibition in exposure therapy (Wolpe, 1968). In addition, learning adaptive ways to manage anger may increase assertiveness and improve psychotherapy outcomes (Erwin et al., 2003).

Likewise, emotion regulation strategies are neither adaptive nor maladaptive in isolation. For example, it is useful and wise to suppress anger in many settings (e.g., classroom). However, anger may have significant benefits in other situations (e.g., leadership) by fostering group cohesion and motivation or by conferring increased social status (Tiedens, 2001). In line with recent work on mindfulness, acceptance, and values, mental health may best understood as psychological flexibility or the ability to approach a variety of situations openly and to respond with reflective (rather than *reflexive*) behavior strategies (Hayes et al., 1996; Kashdan & Rottenberg, 2010). There is ample evidence that habitual, reflexive, emotion suppression is detrimental. Yet, uninhibited, impulsive, and tactless emotion expression may be equally damaging. The core issue may be the ability to openly and flexibly approach situations and adapt behavior accordingly.

Finally, we present an alternative methodology for examining anger, social anxiety, and EA. The vignette design was a significant strength and allowed for the examination of specific contextual factors. It was also useful to introduce a state measure of EA to augment available trait measures. Yet, there are several limitations to the study. We used a university sample that limits generalizability. Furthermore, the number of emotions assessed in response to rejection was limited. Thus, we were unable to examine a broader range of emotional responses to anger (e.g., sadness, emotional numbing, etc.). Finally, it is difficult to know the degree to which participant ratings of how one *might* respond during an experimental manipulation relate to how one would *actually* respond in an experiment – or in life. Although there is good evidence that perceptions of events exert a stronger influence on subsequent behavior than actual momentary experiences (Kahneman, 1999, 2000).

Two other aspects of the sample warrant discussion. Most of our participants were women and there is reason to believe that gender differences may exist in emotion expression. Women are more likely than men to express emotions in general (Kring & Gordon, 1998). Yet, men report feeling more comfortable and com-

petent experiencing and expressing anger than women (Simon & Nath, 2004). The sample also contained a large percentage (25%) of Asians and Asian-Americans who are believed to be less emotionally expressive than individuals of other ethnic origins (Gross & John, 1995, 1998; Scherer, Wallbott, Matsumoto, & Kudoh, 1988). However, mounting evidence suggests that there may be more similarities than differences between Asians and Westerners in emotional responsiveness and expressivity (Tsai, Chentsova-Dutton, Freire-Bubeau, & Przymus, 2002). We found neither sex nor ethnicity to have a significant moderating effect in the current sample. Nonetheless, future researchers may wish to explore questions related to attribute variables using other samples or designs. Future studies might also examine variables that influence willingness to express anger in individuals with social anxiety as these variables may differ from those related to anger suppression. Daily diary and experience sampling techniques that disentangle the temporal order of social anxiety, emotion generation, emotion regulation, and subsequent psychological and social outcomes may also prove fruitful in future investigations.

Examining complex relations between emotion vulnerabilities and emotion regulation strategies broadens our understanding of human functioning and has important implications for clinical work. This study and others suggest that a focus on symptom reduction is not sufficient to address psychological health. A combination of minimal distress and maximal psychological flexibility may be critical to promote human flourishing.

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Appendix A. Vignette example

Instructions (read aloud by Research Assistant)

The purpose of this task is to understand the ways in which different people respond to hypothetical events. Please *listen carefully*, *concentrate*, and *try your best* to imagine yourself in each scene *as if it is happening to you*. After each scene, you will be asked to answer a few questions related to your experience.

Vignette I (recorded on audio CD)

Part I.

You are walking across campus waiting for your next class to begin when you decide to go into the Johnson Center and get something to drink. Inside the JC, you stop at the vending machine and buy a bottle of water. As you are getting ready to leave, you notice a group of your friends standing together and talking. You go over to the group and get involved in the conversation. After a few minutes one of your friends suggests that tonight would be a good night for everyone to get together and go to the movies. You listen to the group as each one of your friends suggests a different movie to watch. It seems as if no one can decide which movie would be the best choice for that night. Finally, the group agrees on which movie to see and you are pleased that the movie is the one you are most interested in watching. Some minutes have passed and you look at the clock to find the time. There is only a few minutes left before your next class begins. You explain to your friends that you have to stop talking and get to class. The group leaves it that one of your friends will call you later that night and give you the details about

the time and place of the movie. After class you go home and wait all night to hear from the group but your phone never rings.

Part II. A. (No Rejection)

The next day you are walking across campus and see several of your friends from the group the day before. You say hello and begin talking with the group. Soon, everyone starts discussing what they did last night. You quickly realize that all of your friends decided to stay in rather than go to the movies so that they could study for final exams. After talking with the group, it seems clear that yesterday's plan had been a good idea but that it had been the wrong weekend to get together.

Part II. B. (Rejection)

The next day you are walking across campus and see several of your friends from the group the day before. You say hello and begin talking with the group. Soon, everyone starts discussing what they did last night. You quickly realize that all of your friends got together and went to the movies without you. You listen as your friends talk and laugh about last night and discuss all their favorite scenes from the movie even giving away the surprise ending. While listening to your friends, you think about how you spent last night home alone waiting for the phone to ring.

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