

Social anxiety and disinhibition: An analysis of curiosity and social rank appraisals, approach–avoidance conflicts, and disruptive risk-taking behavior

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Abstract

We examined how social anxiety is related to appraisals for various disinhibited behaviors and sought to identify potential subgroups of socially anxious people. College students completed trait measures and appraised disinhibited behaviors on their potential for threat, opportunity to satisfy curiosity, and ability to enhance social status. Three months later, participants were asked to report on their frequency of disinhibited behaviors since the initial assessment. People with greater social anxiety demonstrated frequent approach–avoidance conflicts – co-existing recognition of threats and rewards – about social interactions and disinhibited behaviors. Even when asked about the activity most likely to be avoided, participants with greater social anxiety evaluated these as having potential to satisfy curiosity and advance their social status. Three qualitatively different groups of people were identified based on social anxiety tendencies and approach–avoidance appraisal patterns. Groups differed on the degree of approach–avoidance conflicts, measures of psychological and social well-being, and frequency of social interactions and disinhibited behaviors. Moderately socially anxious people who were approach oriented reported the most difficulties. Results suggest that social anxiety is associated with tension between competing desires to avoid anxiety and explore. However, there appears to be important variability in the regulatory orientation, behavior, and well-being of socially anxious people. Conclusions about the nature of social anxiety may be compromised by not attending to existing differences in self-regulatory orientation and strategies. © 2007 Elsevier Ltd. All rights reserved.

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One of the core components of social anxiety is an approach–avoidance conflict between wanting to make a good impression and form relationships with other

people yet wanting to avoid exposure to negative evaluation (Clark & Wells, 1995; Gilbert, 2001; Kashdan, 2007; Rapee & Heimberg, 1997). The motivation to avoid negative evaluation leads many socially anxious people to avoid or escape social situations. Most work on social anxiety has focused on over-regulated, risk-averse responses to perceived social-evaluative situations. However, there is reason to expect some heterogeneity in the self-regulatory strategies of socially anxious people. Preliminary

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research suggests that social anxiety is sometimes associated with strategies other than behavioral inhibition and passivity, with a subset of socially anxious people characterized by disinhibited, impulsive responses (Kachin, Newman, & Pincus, 2001; Kashdan & Hofmann, *in press*; Kashdan, Collins, & Elhai, 2006). The present study was an examination of how social anxiety relates to perceptions of and engagement in disinhibited, risk-taking behavior. Of particular interest was whether people can be meaningfully differentiated by social anxiety severity and risk-taking orientations.

1. Approach–avoidance framework

People have diverse reasons for engaging in potentially risky behaviors such as social and sexual activity, aggression, and substance use. The motives that shape behavior choices include the avoidance of negative thoughts and feelings, prevention of social risks, maintenance of safety, obtaining approval from others, developing and strengthening social bonds, enhancing positive experiences, and engaging in exploratory behavior (e.g., Cooper, Frone, Russell, & Mudar, 1995; Gilbert, 2001). There has been a recent surge of research using approach–avoidance frameworks to understand the ways people navigate threats and rewards in everyday life. An approach avoidance framework seems useful in understanding the nature of social anxiety and related self-regulatory processes.

There are several theoretical distinctions between approach and avoidance processes (Carver, Sutton, & Scheier, 2000; Gray, 1990; Higgins, 1997). Of these, regulatory focus theory (Higgins, 1997) suggests that people can be differentiated by their focus on promotion (approach) or prevention (avoidance). A promotion focus is concerned with ideals, growth, and more generally, the presence or absence of gains. People with a strong promotion focus are sensitive to advancing positive outcomes with little concern for errors made during goal pursuit. In contrast, a prevention focus is concerned with responsibilities, safety, and more generally, the presence or absence of losses. People with a strong prevention focus are sensitive to negative outcomes and are vigilant about making mistakes in order to avoid failure (at the expense of maximizing gains). Dominant cognitive-behavioral models emphasize socially anxious individuals' prevention focus in describing prototypical behaviors (e.g., safety behaviors that minimize the potential of social rejection). Although each regulatory focus is associated with preferred strategies to meet desired goals, there is inherent heterogeneity in how goals are pursued. A

strong prevention focus can be coupled with disinhibited rather than inhibited, vigilant strategies to avoid negative outcomes. For example, a person with excessive social anxiety becomes distressed when a friend tells an embarrassing story about them to a group of people and, rather than cowering in the corner, the person expresses their anger outwardly and acts in a hostile manner. This behavior is qualitatively different than the prototypical strategy of behavioral inhibition.

Although people with a prevention focus can use risk-averse or risk-prone goal strategies, there is evidence that compatibility between a person's habitual goal orientation (prevention vs. promotion) and the strategies employed lead to the most optimal outcomes. Prevention focused individuals do better on tasks when using a vigilant, conservative response pattern of ensuring non-losses. In addition, they do poorly when asked to focus on "hits" (gains), avoid errors of omission (non-gains), and be relatively risk-prone (Crowe & Higgins, 1997; Roney, Higgins, & Shah, 1995). As further evidence of risk aversion, people with a stronger prevention focus disengage more readily when an ongoing task becomes relatively difficult. Poor fit between a person's goal orientation and goal pursuit strategies leads to poorer behavioral performance, devaluation of potential incentives, and a greater likelihood of disengagement (e.g., Higgins, 2005; Higgins, Idson, Freitas, Spiegel, & Molden, 2003).

Poor regulatory fit may degrade performance and lead to problematic outcomes because effortful processing is required to alter habitual goal pursuit patterns. The process of working counter to one's natural tendencies requires effortful self-control. Human beings possess a limited supply of cognitive processing ability, physical stamina, and willpower at any given time point to engage in acts of self-control and executive functioning (e.g., persistence when confronting failure or frustration, disrupting impulses, and altering internal states). When this limited supply of resources is exhausted, rest is needed for them to be replenished (Baumeister, 2002). The exhaustion of these resources disrupts subsequent activity, even when unrelated to the initial act. A common consequence of exhaustion is less executive control of the self and an increase in automatic, reflexive, disinhibited behaviors (e.g., being unable to resist the sexual temptation of a close friend's romantic partner). To date, there are over 50 studies to support this sequence of events (Schmeichel & Baumeister, 2004). Baumeister and colleagues developed a two-task procedure beginning with participants' random assignment to a manipulation designed to weaken self-control processes (e.g., white bear suppression task, instructions

to constrain or exaggerate natural emotional expressions). Afterwards, they engage in a task requiring substantial effort, concentration, or physical stamina (e.g., cold pressor pain task, challenging intelligence test, persistence on unsolvable anagrams, resisting compelling temptations to eat or drink). Results consistently show that participants exerting substantial executive resources in the first task demonstrate failures in self-control in the second task. This depletion of limited resources has been quantified by the inability to effectively self-regulate behavior and self-reports of low vitality and stamina. People possessing weaker remnants of their initial self-control strength following exertion are less likely to prevent undesirable, self-defeating, and impulsive behaviors (Muraven and Baumeister, 2000).

Overall, the majority of prevention focused people use avoidance, inhibition, and passivity to cope with the presence or absence of threat cues. Yet, some people use alternative strategies that are more approach based in form such as impulsive and exploratory tendencies. The work on self-regulation provides a framework for why some socially anxious people may present with an impulsive, disinhibited, perceptual and behavioral response pattern.

1.1. Heterogeneity of social anxiety

At least some socially anxious people attempt to escape aversive states of self-awareness and unwanted anxious reactions by engaging in risk-taking behaviors such as substance abuse (e.g., Burke & Stephens, 1999). Socially anxious people with beliefs that alcohol can increase social assertiveness or alleviate anxiety symptoms exhibit the most problematic drinking patterns (e.g., Ham & Hope, 2005). However, only a few studies extended this line of inquiry to other risky behaviors such as aggression and unsafe sex (Erwin, Heimberg, Schneier, & Liebowitz, 2003; Kashdan et al., 2006).

Three independent studies provide evidence for a subset of people suffering from social anxiety reporting disinhibited behavior tendencies. In one study, cluster analytic techniques were used to determine whether the interpersonal behavior dimensions of dominance-submissiveness and nurturance-cold-heartedness provide a framework for classifying people with SAD (Kachin et al., 2001). There was support for two groups with the first characterized by prototypical avoidant and submissive behaviors and the second by dominant and hostile behaviors. In a second unpublished study, cluster analytic techniques were used to determine whether

people with social anxiety disorder (SAD) can be classified according to temperamental novelty-seeking (Kashdan & Hofmann, *in press*). Results supported the presence of two distinct subgroups with the first characterized by low novelty seeking and over-regulated and controlled behaviors and the second by high novelty seeking and exploratory tendencies in response to impulsive decision-making. In a third study, people with excessive social anxiety with positive expectancy beliefs for risky behaviors reported the greatest intentions to engage in aggressive acts and unsafe sexual practices over the next 6 months (even more than people with minimal social anxiety and positive expectancies; Kashdan et al., 2006).

These findings converge with work by Higgins et al. to suggest that attending to regulatory focus is not sufficient in the study of social anxiety. It may be overly broad to define people with excessive social anxiety as prevention focused and reliant on inhibited means to desired goals. People with excessive social anxiety are inclined toward behavioral inhibition but at least a subset of people engages in behavioral production strategies characterized as excitable, impulsive, quick-tempered, and unpredictable. Self-regulatory strength models provide additional insight into why social anxiety might be associated with behaviors such as excessive substance use and lack of sexual restraint. People with excessive social anxiety who strenuously resist their frequent anxious feelings and vigilant thought processes are likely to deplete limited self-regulatory resources that effectively prevent socially undesirable behaviors. This includes being aggressive, self-destructive, and hedonistic (e.g., Tice, Bratslavsky, & Baumeister, 2001; Vohs, Baumeister, & Ciarocco, 2005). People with excessive social anxiety vary in the amount of energy devoted to inhibiting and controlling their natural emotional reactions (Kashdan & Steger, 2006) and therefore, only a subset may regularly expend themselves to the point of being more impulsive, fickle, and quick-tempered than their more inhibited peers (Kashdan & Hofmann, *in press*). Since emotional well-being and self-regulation are significant contributors to success, being socially anxious and risk-prone is expected to characterize a particularly impaired subgroup of people.

Although the extant data are limited to date, existing theoretical models (Clark & Wells, 1995; Rapee & Heimberg, 1997) suggest conditions linking social anxiety to increased risk-prone activity. We present several speculations based on these theories. First, due to excessive self-presentation concerns, risk-taking may increase if these behaviors are associated with greater

social status and power (e.g., people will perceive them as “cool” for consuming copious amounts of alcohol). Second, as a result of hypersensitivity to criticism, risk-taking behaviors such as aggression may increase if attacking others in social situations is viewed as an effective tactic to minimize critical evaluation and regain some semblance of power and control. Third, due to a preoccupation with unmet feelings of belonging, risk-taking behaviors such as unsafe sex with a prostitute may increase if it is believed that feelings of safety and security can be temporarily restored. Fourth, when socially anxious people believe they have a lot to offer other people in terms of physical attractiveness, intelligence, wit, or other qualities, they may engage in dominant risk-taking behaviors. Fifth, socially anxious people who experience high levels of curiosity, or appraise certain events as having a high possibility to satisfy curiosity, may be more likely to engage in approach behavior amidst conflicting avoidance motivations. Exposure to novel and challenging situations such as risk-taking sports or meeting new people often evoke feelings of both anxiety and curiosity (Kashdan, 2004; Silvia, 2006; Spielberger & Starr, 1994). Although socially anxious people are defined by frequent, intense, enduring, and easily triggered anxious reactions, exploratory responses can derive from situations that evoke intense curiosity from potential incentives.

Engaging in risky behaviors may serve the function of avoiding unwanted anxious thoughts, feelings, and sensations or temporarily restoring a sense of personal control over personal fears. Risky behaviors may also serve as a potential source of reward or strategy to appear more socially attractive to other people (even if it is illusory; Baumeister & Tice, 1990; Gilbert, 2001). Yet, frequent and impulsive risk-taking is unlikely to have a healthy influence on psychological and social well-being. In general, higher frequencies of unsafe sexual practices, aggression, and substance use are associated with psychological and physical health problems (e.g., Centers for Disease Control and Prevention, 2003; Wilson & Joffe, 1995). Coupled with the morbidity of social anxiety, being risk-prone is proposed to seriously compromise psychological, social, and physical well-being.

1.2. Present research

We sought to understand how social anxiety is related to appraisals for, engagement in, and the consequences of risk-taking behaviors. Our first goal was to examine how individual differences in social anxiety were related to avoidance (threat/anxiety) and approach (curiosity,

novelty, social status enhancement) appraisals for social interactions and risk-taking behaviors (sex, substance use, and aggression). Social anxiety was expected to be associated with approach–avoidance conflicts or the dual recognition of threat and reward for various risk-taking behaviors. Although social anxiety was expected to be positively related to reward and social status enhancement appraisals for risk-taking behaviors, stronger relations were expected with anxiety appraisals. Our second goal was to examine the possible heterogeneity of people based on social anxiety severity and orientations toward social interactions and risk-taking behaviors. Using cluster analysis techniques, we examined whether avoidance and approach oriented subgroups emerge from individual differences in social anxiety and appraisal patterns for social interactions and risk-taking behaviors. These analyses were followed by tests of whether existing subgroups meaningfully differed in approach–avoidance conflicts, psychological and social well-being, and actual disinhibited behavior. We expected people with moderate social anxiety and risk-prone tendencies to report the most problems in terms of managing difficult emotions, being flexible to shifting situational demands, and the quality of social relationships. This group also was expected to report the most frequent disinhibited behaviors over the course of a 3-month period. Supportive findings would suggest that health problems can arise from social anxiety and over-regulated behavior (risk-aversion and behavioral inhibition) or under-regulated behavior (risk-prone and behavioral disinhibition).

2. Methods

2.1. Participants

Participants were undergraduate students enrolled in psychology courses at a medium-sized, public, Midwestern university. Students received research credit for completing an initial survey. They were asked to volunteer for a 3-month follow-up survey. A total of 280 people participated. There were 180 women (64.3%) and 100 men (35.7%) and the majority were Caucasian (93.5%). Ages ranged from 18 to 43 years, with a mean of 22.82 (S.D. = 2.86). Of these, 125 people volunteered to complete the 3-month follow-up survey.

2.2. Procedure

Participants completed a confidential, secure and encrypted Internet-based survey without providing any personally identifying information. The only exception

was participants' creation of research ID codes to allow the researchers to link their responses across time points. All participants completed several demographic, personality, and outcome expectancy measures. Three months later, participants were contacted via email and provided with a web link to access the follow-up survey.

2.3. Measures

2.3.1. Demographic information

We collected information relating to sex, ethnicity/race, and age.

2.3.2. Social anxiety

The 20-item Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998) assesses tendencies to be fearful and avoidant of social situations due to concerns about negative evaluation and rejection. Responses are provided using a 5-point Likert scale; rated from 0 (not at all) to 4 (extremely). The SIAS demonstrates excellent psychometric properties and has the ability to reliably differentiate individuals with and without social anxiety disorder (Brown et al., 1997). In the present study, $\alpha = .92$.

2.3.3. Depressive symptoms

The 21-item Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) assesses the severity of depressive symptoms. Responses are provided using a 4-point Likert scale with higher scores representing more severe depressive symptoms. The BDI-II demonstrates excellent psychometric properties and has been shown to reliably distinguish between clinical and general community samples. In the present study, $\alpha = .91$.

2.3.4. Emotion suppression

The 10-item Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) measures different ways that individuals tend to manage their emotions. In the present study, only the four-item emotion suppression subscale of the ERQ was used ($\alpha = .80$). The suppression subscale assesses tendencies to hold emotions inside rather than express them. Responses are provided using a 7-point Likert scale; rated from 1 (strongly disagree) to 7 (strongly agree). Adequate reliability and validity has been demonstrated in previous cross-sectional, prospective, and experimental studies (e.g., Gross & John, 2003).

2.3.5. Dispositional anger

The 38-item Multidimensional Anger Inventory (MAI; Siegel, 1986) measures the frequency, duration, magnitude, and mode of anger expression as well as the

range of anger-inducing situations reported by an individual. In the present study, the six-item Anger-In ($\alpha = .77$) and five-item Anger-Out ($\alpha = .75$) subscales were used to assess different modes of anger expression. Responses are provided using a 7-point Likert scale; rated from 1 (strongly disagree) to 7 (strongly agree). The MAI demonstrates adequate psychometric properties as well as discriminant and convergent validity (e.g., Riley & Treiber, 1989).

2.3.6. Psychological flexibility

The 21-item Langer Mindfulness Scale (LMS; Bodner & Langer, 2001) measures four aspects of mindful thinking and awareness including novelty seeking, engagement, novelty producing, and flexibility (e.g., "I have an open mind about everything, even things that challenge my core beliefs"; "I am always open to new ways of doing things"). Based on a series of exploratory and confirmatory factor analyses in three independent samples, the greatest empirical support was found for a single nine-item solution compared to Bodner and Langer's four-factor model and other alternative models (Haigh, Moore, Kashdan, & Fresco, submitted for publication). In the present study, the total score of these nine items was used as an index of psychological flexibility with higher scores indicating greater flexibility ($\alpha = .74$). Responses are provided using a 7-point Likert scale; rated from 1 (strongly disagree) to 7 (strongly agree). Adequate reliability and validity has been demonstrated in prior investigations (Haigh et al., submitted for publication).

2.3.7. Perceived social support

The 24-item Social Provisions Scale (Cutrona & Russell, 1987) assesses perceived social support. In the current study, the total score was used as an index of social resources, with higher scores reflecting greater social resources (e.g., "There are people I can depend on to help me if I need it"; "I have close relationships that provide me with a sense of emotional security and well-being"). Responses are provided using a 4-point Likert scale; rated from 1 (strongly disagree) to 4 (strongly agree). Previous studies demonstrate adequate reliability and construct validity for the measure (e.g., Cutrona, Russell, & Rose, 1986). In the present study, $\alpha = .93$.

2.3.8. Relatedness

The eight-item Relatedness Scale (Gagné, 2003) was used to assess the degree to which people derive satisfying and meaningful connections with others ("I consider the people I regularly interact with to be my friends"; "People in my life care about me"). This scale

is part of a “family of scales” assessing basic psychological needs in general and in specific domains such as at work and in relationships (e.g., Deci et al., 2001). These prior investigations have shown support for the construct validity of this scale. Responses are provided using a 7-point Likert scale; rated from 1 (not at all true) to 7 (very true). In the present study, $\alpha = .89$.

2.3.9. Risk-taking behaviors and appraisals

For this study, participants were asked to evaluate 51 social events and risk-taking behaviors. The list of approach behaviors were obtained from the (1) Cognitive Appraisal of Risky Events Questionnaire (Fromme, Katz, & Rivet, 1997)—risky behaviors reflecting heavy drinking, illicit drug use, risky sexual activities, aggressive behaviors, and high risk sports, (2) State-Trait Anger Expression Inventory (Spielberger, 1988) and Behavioral Anger Response Questionnaire (Linden et al., 2003)—activities reflecting outward expressions of anger and aggression, and (3) the Pleasant Events Schedule (MacPhillamy & Lewinsohn, 1982), and inventories related to sensation seeking. The set of 51 items were from four theoretically derived domains: social interactions (23 items), sexual activity (seven items), externalized anger and aggression (15 items), and substance use (six items). A series of factor analyses on these items provided empirical support for single factorial models for each domain. These data are available upon request. As a result, we aggregated items within each domain and used sum scores for subsequent analyses.

Using 5-point Likert scales from 1 (very slightly or not at all) to 5 (extremely), each item was evaluated on potential threat (“I would view this situation as anxiety provoking”), curiosity (“I would view this situation as an opportunity to satisfy my curiosity”), and novelty (“I would view this as a novel situation”). For ratings of potential social status enhancement, participants were given the following detailed instructions:

We all make judgments about other people as to the degree we want to invest our time and energy to talk to them, spend time with them, and potentially develop a relationship with them. We make similar judgments about ourselves in terms of our potential as someone other people would like to talk with, spend time with, and potentially develop a relationship with. These judgments about ourselves tend to change based on our mood, thoughts, behavior, and what we do on a day-to-day basis. For each situation, please rate the degree to which you agree with the following statement:

“Being in this situation would increase the likelihood others would see me as someone they

would like to talk with, spend time with, and potentially develop a relationship with”

The different appraisals were made independently to avoid contamination. Finally, participants were asked to select the single event that they are most likely to avoid in their everyday life. Using the other ratings, we derived appraisal ratings of potential threat, curiosity, novelty, and social status enhancement for the situation most likely to be avoided. The final items are in Appendix A.

At the 3-month follow-up, participants were asked to evaluate the same events in terms of how often they happened in their life in June, July, and August of 2005. They were told the list contains events that might happen to a wide variety of people and thus, they might find that many of the events did not occur in their lives. Participants were prompted to use a calendar to carefully generate an accurate estimate of how many times they engaged in each activity during June, July, and August (i.e., timeline follow-back method; TLFB). Each item was rated on a 5-point Likert scale [0 = none, 1 = one time, 2 = two times, 3 = a few times (3–10 times), 4 = often (11–20 times), and 5 = very often (21 or more)]. In addition to behavioral frequency, participants were asked for the degree that they engaged in self-evaluations during each activity. Participants were asked “to what degree did you evaluate whether your actions were right or wrong, or good or bad (as opposed to not judging yourself)?” They were informed that if a particular event occurred more than once, ratings were to be averaged. If an event did not happen, ratings were based on how much they believed they would have judged themselves.¹

¹ We examined the validity of combining reports of self-evaluations from people who took part in risk-taking behavior during the 3-month assessment period with people who did not during the 3-month window of our study. During the 3-month assessment period, 100% of the sample engaged in some level of social activity, 90.7% of the sample engaged in some level of sexual activity, 73.8% of the sample engaged in some level of substance use, and 100% of the sample engaged in some level of aggression. There were no significant differences in self-evaluations between people who did and did not engage in sexual activity or substance use. Overall, the vast majority of people engaged in risk-taking behavior at some level and can confidently provide appraisals of how they behave during them. We also tested whether the degree of self-evaluations was contingent on the frequency of risk-taking behaviors. The correlations between the frequency of risk-taking behavior and the amount of self-evaluations during them were small and non-significant for social interactions, $r = .21$, sexual activity, $r = .11$, substance use, $r = -.14$, and aggression, $r = -.12$. These findings suggest some independence between these two ratings.

3. Results

3.1. Preliminary analyses

Participants' average social anxiety scores ($M = 23.87$; $S.D. = 12.72$) were similar to other large non-clinical samples (Heimberg, Mueller, Holt, Hope, & Liebowitz, 1992; Mattick & Clarke, 1998) and scores at least one standard deviation above the mean were similar to clinical samples meeting diagnostic criteria for social anxiety disorder (Brown et al., 1997). The average BDI-II scores in our sample ($M = 11.60$; $S.D. = 10.24$) represent mild depression and scores at least one standard deviation above the mean represents moderate depressive symptoms (Beck, Steer, & Garbin, 1988).

Due to attrition at the follow-up, analyses were conducted to determine the generalizability of our findings. Using a series of t -tests, comparisons were made between people who completed only the first wave of data ($n = 155$) and those who completed both waves of data ($n = 125$). Groups did not differ in sex ($p = .44$), age ($p = .32$), or ethnicity ($p = .17$) or on the SIAS ($p = .57$), BDI-II ($p = .50$), ERQ-suppression ($p = .43$), MAI-Anger-In ($p = .45$), MAI-Anger-Out ($p = .79$), LMS ($p = .35$), Social Provisions Scale ($p = .12$), or Relatedness Scale ($p = .16$). All except one single group difference on appraisal ratings were non-significant. All p -values were two-tailed for these and subsequent analyses. Results suggest an absence of systematic differences in those that did and did not do the follow-up and suggest that findings can be generalized to the larger sample.

3.2. Data analytic procedure for primary analyses

Several research aims guided our analytic approach. First, we were interested in whether people with greater social anxiety exhibited an elevated rate of approach–avoidance conflicts, recognizing potential threats and rewards for engaging in social and risk-taking behaviors. We conducted a series of bivariate correlations between social anxiety and appraisals for four activity domains (social interactions, sex, aggression, substance use) and participants' most avoided event. Second, we examined the possible heterogeneity of socially anxious people in terms of approach and avoidance orientations to social interaction and risk-taking behaviors. We conducted an iterative series of cluster analyses to determine the optimal number of groups/clusters on the dependent variables and describe them (two-step cluster procedure using agglomerative

hierarchical clustering for producing cluster solutions, further confirmed by Hierarchical Cluster Analysis using Ward's method, and K -means cluster analysis for more precise iterative clustering to compensate for poor initial clustering steps). The dependent variables were: social anxiety scores and appraisals of threat, curiosity, novelty, and social status enhancement potential for each activity domain. All variables were transformed into z -scores prior to analyses. To evaluate the validity of subgroups, we tested group differences in measures of psychological and social well-being using chi-square analyses and multivariate analysis of variance (MANOVA). We also evaluated group differences in behavioral frequency reported during the 3-month follow-up assessment. Analyses were based on all available data.

3.3. Social anxiety and appraisals for risk-taking behaviors

For each of the four activity domains, we examined the appraisals related to social anxiety. Social anxiety severity was positively related to greater threat appraisals for social, $r = .46$, and sexual, $r = .19$, events ($ps < .05$), greater curiosity appraisals for social, $r = .35$, and substance use, $r = .16$, events ($ps < .05$), and greater social status enhancement appraisals for social, $r = .25$, and aggressive, $r = .17$, events ($ps < .05$). No other relations between social anxiety and appraisals were significant. For the activity that people selected as the most likely to be avoided, people with greater social anxiety chose activities that also elicited curiosity, $r = .13$, $p = .03$, and opportunities to enhance their social status, $r = .15$, $p = .01$.

3.4. Social anxiety and approach–avoidance conflicts

The prior results cannot conclude the existence of psychological conflicts between the potential threats and rewards of any particular event. We sought to examine the degree to which socially anxious people experience approach–avoidance conflicts. We operationalized approach–avoidance conflicts at the individual level by focusing on ratings of potential anxiety/threat and curiosity/reward for each activity (see Kashdan, 2004; Spielberger & Starr, 1994 for discussion of how curiosity and anxiety operate together in approach–avoidance conflicts). The presence of conflict was defined as ratings greater than or equal to 3, on 5-point scales, on anxiety and curiosity appraisals for the same activity. This index reflects higher than moderate

recognition of threat and reward. For each individual, we calculated conflict frequency for each domain and then examined correlations with social anxiety severity. A similar strategy was conducted for people’s most avoided event; conflict for this single self-selected event was defined by anxiety and curiosity ratings greater than or equal to 3.

Social anxiety severity was positively related to a greater frequency of approach–avoidance conflicts across events, $r = .34$, $p < .001$. As for specific domains, social anxiety was related to greater conflict for social, $r = .38$, sexual, $r = .21$, aggressive, $r = .24$, and substance use, $r = .13$, events ($ps < .05$). For the activity that people selected as the most likely to be avoided, people with greater social anxiety failed to exhibit statistically significant psychological conflict.

3.5. Presence and meaningfulness of social anxiety subgroups

3.5.1. Cluster analysis procedures

We predicted that a subgroup of socially anxious people would exhibit an approach orientation to risk-taking. Cluster analyses were conducted using the following variables: SIAS scores and appraisals of threat, curiosity, novelty, and social status enhancement potential for each activity domain. The SPSS’ two-step cluster procedure was used, with the Bayesian Information Criterion (BIC) as an objective stopping rule/algorithm to determine the optimal number of clusters. A three-cluster solution was found optimal based on a lower BIC (3029.29) than a two-cluster solution (evidencing a “jump” of 126.20 to a BIC value of 3155.48), and more optimal than four-cluster (3018.15) and five-cluster (3023.28) solutions with similar BIC values but less parsimonious explanations. Note that given the 120+ point difference in BICs

between the two- and three-cluster solutions, and with a 10-point difference indicating a 150:1 odds favoring the smaller BIC value, this translates to an 1800:1 odds supporting the two- over three-cluster solution (see Raftery, 1995). Further support was evidenced by results of Hierarchical Cluster Analysis, finding a substantial “jump” in the agglomeration coefficient values after the three-cluster solution (signifying that two relatively dissimilar clusters were combined). Combining clusters into a three-cluster solution led to a coefficient value increase of 269,897.76 compared to a prior increase of 66,058.16. Upon plotting these values on a graph, we found a notable “flattening” trend after the three-cluster solution (Aldenderfer & Blashfield, 1984). There was an 83.13% agreement of case classification between the two clustering algorithms. Finally, to further evaluate the three-cluster solution *K*-means cluster analysis (Hartigan, 1975) was used. Using SIAS scores and appraisal ratings as initial cluster centers, a three-cluster solution was specified and supported. Thus, several sources of data pointed to the suitability of a three-cluster solution. Note that we did not test for between-cluster differences on the dependent variables used to form clusters (i.e., social anxiety, appraisals of threat, curiosity, novelty, and social status enhancement). Such testing for differences is contraindicated in cluster analytic research, since differences are nearly always found; precisely because the dependent variables were used to form the clusters (see Blashfield, 1980).

3.5.2. Cluster group profiles: social anxiety and appraisals

Cluster assignment was based on the results of the Hierarchical Cluster Analysis. Our label for each group was based on the most appropriate characterization of social anxiety and dominant appraisals: (1) minimal

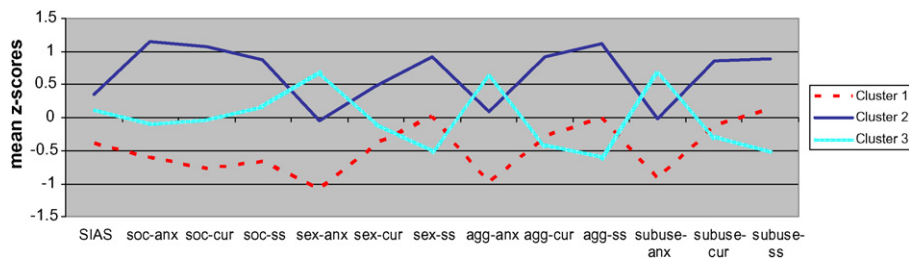


Fig. 1. Mean z-scores for Risk-Taking Behavior Appraisals for Each Cluster, Notes: $N_s = 79$ for Cluster 1 (minimal anxiety), 97 for Cluster 2 (approach oriented), and 104 for Cluster 3 (avoidance oriented). Soc-anx: anxiety appraisal for social activity; soc-cur: curiosity appraisal for social activity; soc-ss: social status enhancement appraisal for social activity; sex-anx: anxiety appraisal for sexual activity; sex-cur: curiosity appraisal for sexual activity; sex-ss: social status enhancement appraisal for sexual activity; agg-anx: anxiety appraisal for aggressive activity; agg-cur: curiosity appraisal for aggressive activity; agg-ss: social status enhancement appraisal for aggressive activity; subuse-anx: anxiety appraisal for substance use; subuse-cur: curiosity appraisal for substance use; subuse-ss: social status enhancement appraisal for substance use.

anxiety (Cluster 1; $n = 79$; 28.2% of sample), (2) approach oriented (Cluster 2; $n = 97$; 34.6% of sample), and (3) avoidance oriented (Cluster 3; $n = 104$; 37.1%). The average SIAS scores for the three clusters were 18.93 (S.D. = 11.36), 28.13 (S.D. = 13.04), and 23.99 (S.D. = 12.70), respectively. Fig. 1 shows the appraisal patterns of the three cluster groups (converted to z -scores to enhance comparisons).

Cluster 1, the minimal anxiety group, had consistently weak threat, curiosity, and social status enhancement appraisals for all four domains of risk-taking behaviors. Clusters 2 and 3 scored in the moderate range of social anxiety but distinct appraisal patterns differentiated them. Cluster 2, the approach oriented group, had strong threat, curiosity, and social status enhancement potential appraisals for social activities, and strong curiosity and social status enhancement potential appraisals for sexual, aggressive, and substance use behaviors. Cluster 3, the avoidance oriented group, had normative threat, curiosity, and social status enhancement potential appraisals for social activities. Cluster 3 also reported the strongest threat ratings and the weakest beliefs of social status enhancement potential for sexual, aggressive, and substance use

behaviors compared to other groups, and below average curiosity ratings for aggressive and substance use behaviors.

3.5.3. Group differences in individual difference traits and appraisals

The three groups were compared on various demographic and personality characteristics. No group differences were found for sex, romantic relationship status, or age. A one-way MANOVA revealed group differences in depressive symptoms, suppression tendencies, anger, psychological flexibility, social support, and feelings of relatedness, $F(14, 540) = 4.03$, $p < .001$, $\eta^2 = .10$. The raw means and standard deviations for the three groups are presented in Table 1. The approach oriented group was less healthy than the avoidance oriented group in terms of greater suppression tendencies, greater outward expression of anger, less psychological flexibility, and less social support and feelings of relatedness ($ps < .05$).

The three groups were compared on appraisals of their most avoided activity. A one-way MANOVA revealed group differences on appraisals, $F(8, 544) = 25.24$, $p < .001$, $\eta^2 = .27$. The results are shown in

Table 1
Comparison of clusters on personality characteristics, appraisals of most avoided activity, and approach–avoidance conflicts

	Minimal anxiety ^a		Approach oriented ^b		Avoidance oriented ^c		$F(2, 278)$
	M^d	S.D. ^d	M^d	S.D. ^d	M^d	S.D. ^d	
BDI-II	10.08	10.62	13.06	10.77	11.31	9.31	1.82
ERQ-suppression	14.45a	4.82	14.81b	4.90	12.30a, b	4.99	7.56**
MAI-Anger-In	14.07a,b	3.22	15.65a	3.35	15.41b	3.44	5.40**
MAI-Anger-Out	12.48a	3.44	13.88a,b	3.05	12.74b	2.78	5.36**
LMS-total score	38.54	6.78	37.67a	5.30	39.56a	13.13	3.28*
SPS-total score	60.68	6.40	60.02a	5.57	62.51a	4.28	5.72**
Relatedness	42.31	6.96	40.62a	7.08	43.55a	5.12	4.97**
<i>z</i> -Scores for most avoided event							
Threat	-.63a,b	1.01	-.17a,c	.97	.64b,c	.57	50.99***
Curiosity	-.20a	.76	.58a,b	1.12	-.40b	.77	32.67***
Novelty	-.14	.85	.17	.90	-.08	1.16	2.64
Social Status	.10a,b	.89	.58a,c	1.21	-.57b,c	.39	42.75***
Proportion of approach–avoidance conflicts							
Social interactions	.11a,b	.02	.42a,c	.02	.26b,c	.02	71.12***
Sex	.18a,b	.03	.52a,c	.03	.44b,c	.02	43.16***
Aggression	.11a,b	.02	.41a,c	.02	.19b,c	.02	66.96***
Substance use	.08a	.02	.36a,b	.02	.14b	.02	44.79***
Most avoided event	.13a	.05	.40a,b	.04	.14b	.04	14.60***

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. Means in a row sharing a subscript are significantly different from one another at $p < .05$. The subscript analyses were based on Tukey HSD pairwise comparisons. Approach–avoidance conflict scores reflect the proportion of scores greater than the midpoint of the scale range on anxiety and curiosity appraisals.

^a Cluster 1.

^b Cluster 2.

^c Cluster 3.

^d Raw scores.

Table 1. The approach oriented group reported significantly stronger curiosity and social status enhancement appraisals than the other groups ($ps < .005$). The avoidance oriented group reported the strongest anxiety and weakest social status potential appraisals of the three groups ($ps < .005$).

The three groups were also compared on approach–avoidance conflicts for various activities and their most avoided activity. A one-way MANOVA revealed group differences on appraisals, $F(10, 548) = 20.80, p < .001, \eta^2 = .28$. The results are shown in Table 1. The approach oriented group reported a greater proportion of approach–avoidance conflicts than the other groups in each domain ($ps < .005$); and the greatest conflict for their most avoided event. Thus, the less psychologically healthy approach oriented group reported significant psychological conflict about social interactions and risk-taking behaviors that distinguished them from the avoidance oriented and minimal anxiety groups.

3.5.4. Group differences in behavioral frequency

The three groups were compared on the frequency of risk-taking behaviors over the course of 3-months. A one-way MANOVA revealed group differences in the frequency of different types of behavior, $F(8, 194) = 4.33, p < .001, \eta^2 = .15$. Descriptive data are presented in Table 2. There were significant post hoc differences with the approach oriented group engaging in the most frequent social interactions, aggression, and substance use compared to the other two groups ($ps < .05$), and also more sexual activity than the avoidance oriented group. With more frequent social activity than the minimal anxiety group, we sought to better understand the nature of these relations. We tested whether the approach oriented group experienced less engagement as defined by excessive self-evaluations when socializing. Mindfulness, reflecting an

optimal level of engagement, is defined as suspending evaluative judgments of good or bad and how one is performing and instead, experience events as they are in the present moment (e.g., Orsillo & Roemer, 2005). Engaging in self-evaluations indicates a disruption in this process and diminishes engagement in activities. A one-way MANOVA revealed group differences on the degree of self-evaluations while risk-taking, $F(8, 182) = 2.24, p = .03, \eta^2 = .09$. Follow-up tests showed that the approach oriented group reported significantly more self-evaluations during social events than the other groups ($p = .04$); this reflects proportions and not absolute self-evaluations and thus, is not affected by the frequency of social events. Although not significant, this group also reported more self-evaluations during sexual and aggressive activities. Thus, the group with the most behavioral disinhibition also reported the most self-evaluative mental activity.

3.5.5. Specificity of social anxiety effects

Due to the shared features and high comorbidity of social anxiety and depression, we examined whether the prior social anxiety findings were a function of shared variance with depressive symptoms. The specificity of social anxiety effects was examined by repeating prior analyses while statistically controlling for the BDI-II as a covariate. Relations between social anxiety and appraisals for approach behaviors, including general ratings and those for the most avoided activity, were not mediated by depressive symptoms. In fact, the magnitude of several relations increased after controlling for variance attributable to depressive symptoms.

4. Discussion

In this study, we had two primary goals. First, we sought to examine how social anxiety is associated with

Table 2
Comparison of clusters on 3-month frequency of social activity and disinhibited behavior

Raw scores	Minimal anxiety ^a		Approach oriented ^b		Avoidance oriented ^c		$F(2, 125)$
	M^d	S.D. ^d	M^d	S.D. ^d	M^d	S.D. ^d	
Social activity	57.50a	16.55	69.32a,b	12.81	60.28b	12.97	6.26**
Sexual activity	7.42	4.85	8.84a	6.45	6.03a	4.72	3.16*
Substance use	5.67a	5.82	8.62a,b	7.59	2.89b	3.77	9.54***
Aggression	14.01a	7.74	22.30a,b	8.64	16.37b	8.73	7.00***

Notes: * $p < .05$. ** $p < .01$. *** $p < .001$. Means in a row sharing a subscript are significantly different from one another at $p < .05$. The subscript analyses were based on Tukey HSD pairwise comparisons.

^a Cluster 1.

^b Cluster 2.

^c Cluster 3.

^d Raw scores.

different appraisals for various social interaction and risk-taking behaviors. Many of the results fit with dominant cognitive-behavioral models (Clark & Wells, 1995; Rapee & Heimberg, 1997); social anxiety was associated with greater threat appraisals for each domain of social and risk-taking behaviors. However, appraisals were not solely focused on threat, as socially anxious people reported frequent approach–avoidance conflicts. Socially anxious people viewed social activities and aggression as opportunities to satisfy their curiosity, and participation in social, sexual, and aggressive behaviors as opportunities to enhance their social status and appear more socially attractive to others. As further evidence of these internal conflicts, when asked about the activity most likely to be avoided, people with greater social anxiety evaluated them as also having potential to satisfy curiosity and advance their social status. These results suggest that people with greater social anxiety do not necessarily exhibit anhedonia or diminished recognition, interest, and pleasure in objectively pleasant activities (Kashdan, 2007). Instead, concerns about being in contact with unwanted anxious reactions co-exist with the recognition of reward incentives. However, concerns about threat appeared to be more intense and preempt potential reward opportunities. For activities that are likely to be avoided, residual, unsatisfied rewards exist that likely lead to regret and accompanying negative consequences (Gilovich, Medvec, & Kahneman, 1998).

The current findings add merit to the dual operation of anxiety and curiosity processes to understand how people respond to novel and challenging stimuli and whether people decide to withdraw or explore in response to approach–avoidance conflicts (Kashdan, 2004; Spielberger & Starr, 1994). Our findings also provide evidence to the importance of social rank and status in how people cope with situational demands and execute behavioral decisions (Gilbert, 2001; Trower & Gilbert, 1989). Approach-related motivation such as curiosity and social status enhancement has been relatively ignored in the scientific study of social anxiety and other basic clinical research and are rarely addressed in intervention (cf., Miller & Rollnick, 2002). It is only recently that attention has been given to the inverse relation of social anxiety with positive affect, curiosity, and other appetitive processes (Kashdan, 2007). This study takes this work a step further to show that approach–avoidance conflicts are relatively common in social anxiety and particularly relevant to socially anxious individuals who are approach compared to their more prototypical, avoidance oriented peers. How people respond to approach contingencies

in their natural environment serves as a crucial ingredient of functional impairment and compromised quality of life. Thus, the work on the nature and consequence of approach–avoidance conflicts in social anxiety requires further scrutiny with more sophisticated methodologies in basic research and clinical settings.

Our second goal was to examine an alternative approach to examining the heterogeneity of social anxiety and whether it was possible to empirically identify subtypes of people based on social anxiety and appraisal patterns for social interactions and risk-taking behaviors. Based on various cluster analysis techniques, results revealed three statistically reliable and distinct groups. We found support for a minimal anxiety group characterized by weak threat appraisals and below average approach-related appraisals for social, sexual, aggressive, and substance use behaviors. Of greater interest was the presence of two groups characterized by divergent patterns of social anxiety, and anxiety and reward appraisals for specific activities. Whereas the approach oriented group was characterized by strong curiosity and social status enhancement appraisals for social and risk-taking behaviors, the avoidance oriented group was characterized by the strongest threat appraisals and weak approach appraisals (curiosity, social status potential) for sexual, aggressive, and substance use behaviors. When these groups were compared on indices of psychological and social well-being, the approach oriented group reported greater difficulties managing difficult emotions and hostile impulses, fewer social resources (e.g., support, connections with others), and less psychological flexibility (e.g., mindfulness, adaptability to varying situational demands) than the other groups. The approach oriented group also reported a greater degree of psychological conflict in terms of recognizing substantial threat and rewards for the same activity; this can translate into indecision, uncertainty, and regret for unsatisfied rewards in the aftermath of avoidance behavior. Interestingly, these internal conflicts were greater in the approach oriented group irrespective of whether the focus was on social interactions or more general risk-taking behavior relating to sex, aggression, or substance use. In terms of actual behavior over 3 months, the approach oriented group reported greater social activity and risk-taking behavior than the other groups.

The nature of our two moderately anxious groups converges with a small body of work attempting to map the heterogeneity of anxious individuals. One study found that people with moderate/excessive social anxiety vary in their dominant interpersonal behaviors

with one subtype emphasizing submissive, defensive behaviors and the other emphasizing dominant, hostile behaviors (Kachin et al., 2001). Other work has found support for a high novelty and reward seeking group of people with generalized SAD that is easily excitable and impulsive (Kashdan & Hofmann, in press). Complementing theories on regulatory fit (Higgins, 2005) and limited self-regulatory resource models (Baumeister, 2002), the presence of moderate social anxiety and a risk-prone orientation appears to be a toxic combination leading to particularly compromised social and psychological well-being. These studies offer a more dynamic categorization of social anxiety and intriguing, testable hypotheses compared to the more widely examined differentiation between generalized and non-generalized social fears (American Psychiatric Association, 2000). Prior work shows that the distinction between socially anxious people with approach and avoidance orientations to self-regulation cannot be attributed to DSM symptom-based subtypes (Kachin et al., 2001) or the severity of social anxiety symptoms (Kashdan & Hofmann, in press).

Our findings suggest a viable strategy for subgrouping anxious people. Fitting with a social rank/self-presentation model (Gilbert, 2001; Leary, 2001), both groups engaged in certain activities to influence and enhance their social status. Yet, the ways in which these two groups pursued this goal were different. Each group acted in ways congruent with methods perceived to be advantageous, whether it was being risk-averse or engaging in frequent social and risk-taking behaviors. Beliefs about methods to potentially enhance social status were a strong determinant of how people devoted their time and efforts. Stronger beliefs that aggressive behaviors can strategically enhance one's social status were associated with more frequent disinhibited behaviors. Yet, people with greater disinhibited behaviors derived minimal psychological and social benefits (e.g., less social support and feelings of connectedness with others compared to people with weaker social status enhancement expectancies). Although we cannot address causal processes with the current research design, perhaps the presence of satisfying and meaningful relationships disarm rank focused concerns and the influence of the excitable, striving-based approach system (Panksepp, 1998). Instead of feeling a compelling need to be daring, impressive, and interesting there is a sense of general satisfaction with life as well as comfort in the social sphere.

As an intriguing finding, the approach oriented group reported greater social activity than the other groups. However, their high frequency of social activity was

coupled with the highest frequency of self-judgments (and potentially criticisms) during these activities and the fewest social benefits (e.g., social support, feelings of belonging) compared to the other groups. Apparently, the actions of this group reflected states of judgment and critical evaluation rather than experiential acceptance during social activity, resulting in minimal social benefits and resources. Of course, additional laboratory and field research needs to further examine the validity of this model to target causal processes and temporal sequences. Other work shows that the quality and quantity of non-social life events have a lesser influence on health than social events and feelings of social inclusion (Reis, Collins, & Berscheid, 2000). Future work should continue to explore the relative costs and benefits of participating in different types of activities with the hopes of finding the most satisfying and meaningful routes of living for particular people.

In tandem with prior results using clinical samples (Kachin et al., 2001; Kashdan & Hofmann, in press), the presence of subgroups based on social anxiety, risk-prone vs. risk-averse orientations, and inhibited vs. disinhibited behavior has a solid initial foundation. The next stage is to begin exploring mechanisms that account for these individual differences and the presence of this intriguing set of risk-prone individuals with elevated social anxiety. Theoretical models suggest that feelings of value and intense engagement in the present moment of activities are derived from more than positive or negative feelings (Higgins, 1997). Greater congruence between a person's dominant regulatory focus and the strategies relied on to obtain goals is an additional contributor to satisfaction, engagement, and meaning in a given activity. Some people with excessive social anxiety may be at a disadvantage in reaching these positive outcomes as a result of exhausting one's finite self-regulatory resources to cope with frequent, undesired anxious reactions and devoting considerable attention to impression management concerns (Clark & Wells, 1995; Leary, 2001). Those socially anxious people exerting the greatest self-control resources to alter internal reactions and behaviors observable to others can be expected to deplete limited self-regulatory resources more regularly (Baumeister, 2002). Any interference with the capacity to self-regulate leads to poorer executive functioning. Consequences include disinhibited and self-destructive behaviors in response to impulsive decision-making (Vohs et al., 2005) and disruptions in pleasant events and positive experiences (Kashdan & Steger, 2006). Future studies on social anxiety can draw from the work on regulatory focus and self-regulatory strength models to better understand factors that predict the perceptions, decision-

making, and behaviors that contribute to impairment and (diminished) quality of life.

There are several interpretative caveats that require consideration beyond our use of a non-clinical sample. First, our method was limited to self-report methodologies. Although appraisals of events serve as antecedents to behaviors and emotional experiences, a person's social learning history also affects appraisals (Lazarus, 1991). Despite the benefits of examining these processes in the real-world, experimental designs are needed to address causality. Second, our cluster analysis results were dependent on the variables selected for inclusion. Yet, the nature of our subgroups converged with other cluster analytic findings on interpersonal behavior patterns (Kachin et al., 2001) and temperamental traits (Kashdan & Hofmann, *in press*) in people diagnosed with SAD; thus, similar findings have been found in clinical and non-clinical samples as evidence of the stability and generalizability of effects. Third, our 3-month assessment of behavioral activity suffers from the limitations inherent to retrospective reporting. Fourth, the attrition from the initial to follow-up assessment was significant; yet, there were few differences between completers and non-completers. Fifth, our measure of appraisals would benefit from more refined assessments of why people feel situations would be anxiety-provoking or curiosity-inducing. For example, people could be anxious about aggressive acts because they may get physically hurt, be morally conflicted, or fear looking foolish. Sixth, many of the social anxiety relations under study were relatively small in magnitude. That being said, we believe small relations showing that people with excessive social anxiety recognize the benefits of activities that they avoid are important in initiating future work on the nature and consequences of approach–avoidance conflicts. For example, if curiosity motivates exploration, learning, and personal growth, what are the long-term consequences of unsatisfied, residual curiosity? Finally, the current findings may not generalize to older adults in life phases outside of college. However, a college aged population is ideal to examine perceptual processes for and participation in risk-taking behaviors.

In summary, findings reported here suggest that understanding the psychological functioning and behavior patterns of socially anxious people requires attention to approach and avoidance processes within the same study. Extending the few studies on social anxiety and under-regulated behavior problems, we found social anxiety to be positively related to threat, curiosity, and social status enhancement appraisals of

various social and risk-taking behaviors. People with greater social anxiety showed co-existing recognition of threats and reward incentives and thus, approach–avoidance conflicts about whether to participate. These approach–avoidance conflicts were more intense for social interactions but there also was evidence of effects for non-social risk-taking behaviors. Most importantly, we extended a small body of work showing evidence for the heterogeneity of social anxiety based on self-regulatory orientations to risk-taking behaviors. These distinct groups differed on health-related outcomes and behavioral patterns with evidence that moderate social anxiety and an approach orientation to risky behaviors is a toxic combination.

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Appendix A. Items for avoidance and approach appraisals for risk-taking behaviors

Social activities

- Telling people what to do
- Spending time with people who are sharp and witty
- Giving a speech
- Attending “wild uninhibited” parties
- Laughing without reservation
- Voicing strong personal values and opinions in a group of people
- Initiating a conversation
- Confessing or apologizing
- Getting a massage or backrub
- Outwitting a “superior”
- Telling a joke
- Criticizing someone
- Giving and receiving physical affection
- Expressing love to someone
- Asking for help or advice
- Meeting someone new
- Getting together with friends
- Expressing appreciation or gratitude to someone
- Borrowing something
- Teasing someone
- Talking about sex
- Defending or protecting someone
- Complimenting or praising someone

Appendix A (Continued)

Sexual activities

- Leaving a social event with someone you just met
- Sex without protection
- Sex with multiple partners
- Kissing someone for the first time
- Sex with someone you just met or do not know very well
- Being naked
- Telling a romantic partner you want to try a new sexual act with them

Externalized anger and aggression

- Grabbing, pushing, or shoving someone
- Getting into a fight or argument with someone
- Raising your voice to express anger
- Hitting or pushing a person who angers you
- Swear, use foul language, or curse at a person who annoys you
- Making a sarcastic or critical remark to a person who annoys you
- Taking revenge on someone
- If someone is annoying, telling them how you feel
- When angry, striking out at whatever infuriates you
- Shocking people, swearing, making obscene gestures, etc.
- When angry, damaging/destroying someone's property
- Slapping someone
- Seeing a fight
- When angry, arguing with others
- Hitting someone with an object or weapon

Substance abuse

- Smoking marijuana
- Playing drinking games
- Drinking more than five alcoholic beverages in one place
- Having a drink or smoking marijuana by yourself
- Trying/using drugs other than alcohol or marijuana
- Mixing drugs and alcohol

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