

1 Running Head: SOCIAL ANXIETY AND ANHEDONIA

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6 When the Need to Belong Goes Wrong: The Expression of
7 Social Anhedonia and Social Anxiety in Daily Life

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1 Abstract

2 Baumeister and Leary (1995) proposed that people possess an innate “need to belong” that drives
3 social interactions. Aberrations in the need to belong, such as social anhedonia and anxiety,
4 provide a point of entry for examining this need. The current study employed experience
5 sampling methodology to explore deviations in the belongingness need in the daily lives of 245
6 undergraduates. PDAs signaled participants eight times daily for a week to complete
7 questionnaires regarding affect, thoughts, and behaviors. As predicted, social anhedonia was
8 associated with increased time alone, a preference for solitude, and lower positive affect. Social
9 anxiety, on the other hand, was associated with higher negative affect and unassociated with time
10 alone. Furthermore, social anxiety was associated with greater self-consciousness and preference
11 to be alone while interacting with unfamiliar people. Thus, deviations in the belongingness need
12 affect social functioning differently depending on whether the belongingness need is absent or
13 thwarted.

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1 When the Need to Belong Goes Wrong: The Expression of
2 Social Anhedonia and Social Anxiety in Daily Life

3 Humans are fundamentally social organisms, and human development and functioning
4 occur within a social context. Baumeister and Leary (1995) proposed that people possess an
5 innate “need to belong” that compels them to pursue frequent and meaningful social encounters.
6 According to this theory, people experience a sense of well-being and enhanced functioning
7 when the need to belong is fulfilled. For example, people with a strong drive for social intimacy
8 experience greater subjective well-being (McAdams & Bryant, 1987), and social interactions
9 increase positive affect (e.g., Fleeson et al., 2002; Watson, 2000). Conversely, disruptions in
10 social needs and connectedness result in negative affect and impairment in functioning.

11 One way to examine the influence of the belongingness need on social functioning is to
12 study deviations in this need; for example, social anxiety and social anhedonia. Social anxiety
13 occurs when belongingness needs are present but thwarted. Socially anxious people desire
14 interactions, but are less likely to pursue them (and to be successful) due to fears of humiliation
15 or rejection (Beidel & Turner, 1998). Social anhedonia is characterized by social disinterest,
16 withdrawal, and a lack of pleasure from social contact, indicating a deficit in the need to belong.
17 Social anhedonia has primarily been studied as part of schizotypy and schizophrenia. Kwapil
18 (1998) reported that 24% of socially anhedonic participants developed schizophrenia-spectrum
19 illnesses compared to 1% of controls in a ten-year longitudinal study. Socially anhedonic
20 participants reported marked disinterest in social contact, preference to be alone, and decreased
21 rates of marriage and dating. In addition to the clinical implications, social anhedonia appears to
22 be an identifiable personality trait in the general population that characterizes many people
23 without diagnosable psychological disorders. Social anhedonia overlaps with introversion—

1 especially with facets of introversion that indicate decreased desire to be with others and
2 diminished positive affect (Ross et al, 2002). Nevertheless, introversion is often characterized by
3 the need to belong (Baumeister and Leary, 1995), whereas social anhedonia is characterized by
4 disinterest in relationships and a lack of reward from social contact (low need to belong).

5 Both social anxiety and social anhedonia involve disruptions in the need to belong and
6 result in impairment in social functioning. Social anxiety can be understood as a conflict between
7 competing motives to approach and avoid social situations (Asendorpf, 1990), whereas social
8 anhedonia is characterized by a diminished approach drive. A study examining the relationship
9 between social anxiety and anhedonia in 364 young adults found a modest association between
10 these constructs, suggesting that social anhedonia and anxiety are separate, albeit related,
11 constructs (Brown, Silvia, Myin-Germeys, Lewandowski, & Kwapil, 2006). However, no studies
12 have simultaneously examined their impact on functioning. The present study employed
13 experience sampling methodology (ESM) to examine the expression of social anhedonia and
14 anxiety in daily life.

15 ESM is a within-day, self-assessment technique in which participants are prompted at
16 random intervals to report about their current experiences. Researchers in clinical, social, and
17 health psychology have increasingly employed ESM to examine the expression of psychological
18 phenomena in daily life (e.g., Scollon, Kim-Prieto, & Diener, 2003). ESM offers several
19 advantages over traditional data collection procedures (e.g., Csikszentmihalyi & Larson, 1987;
20 Reis & Gable, 2000). Specifically, ESM (1) repeatedly assesses participants in their normal daily
21 environment, thereby enhancing ecological validity, (2) assesses participants' experiences in the
22 moment, thereby minimizing retrospective bias, (3) allows for an examination of the context of
23 experiences, and (4) allows the use of sophisticated multilevel analyses.

1 Unlike previous investigations, the present study simultaneously examined the expression
2 of social anhedonia and social anxiety in daily life. Given that socially anxious people often
3 experience social situations as distressing and socially anhedonic people have a low interest in
4 socializing, we expected that both characteristics would be associated with less time spent with
5 others. We predicted that social anhedonia, but not social anxiety, would be associated with a
6 greater preference for being alone when with others and a reduced desire to be with others when
7 alone. We also predicted that social anhedonia would be associated with greater social distance
8 during social interactions. We hypothesized that social anxiety, but not anhedonia, would be
9 associated with greater negative affect. We also predicted that both belongingness deviations
10 would be associated with lower positive affect (Kashdan & Steger, 2006; Kwapil, 2006). Lastly,
11 we predicted that the closeness of social contacts will moderate the relationships of social
12 anxiety with measures of distress. Consistent with Vittengl and Holt (1998), we predicted that
13 social anxiety would be associated with distress when participants are with people with whom
14 they do not feel close.

15 Method

16 *Participants*

17 The sample included 245 college undergraduates (184 females and 61 males) enrolled in
18 psychology courses at UNC-Greensboro. The sample was 73% Caucasian and 27% African-
19 American, and the mean age was 19.5 ($SD = 2.6$), consistent with university demographics.
20 The results did not differ by sex or ethnicity; therefore, findings are presented for the total
21 sample.

22 *Materials and Procedures*

23 Participants completed a brief demographic questionnaire, the Social Phobia Scale (SPS;

1 Mattick & Clark, 1998) and the Revised Social Anhedonia Scale (RSAS; Chapman, Chapman, &
2 Raulin, 1976) as part of group testing. The 20-item SPS assesses socially anxious concerns of
3 being scrutinized or judged during routine activities. Coefficient alpha was .95 for the SPS in the
4 present sample. The RSAS contains 40 items that tap asociality and disinterest in social contact.
5 Recent studies (e.g., Lewandowski et al., 2006) suggest that some of the RSAS items tap aspects
6 of affective dysregulation. Therefore, a subset of 15 homogenous items was selected that
7 specifically taps social disinterest based upon an *a priori* analysis of item content. The
8 abbreviated scale correlated .86 with the original scale in the present sample and .85 in a sample
9 of 7,651 college students, indicating that most of the replicable variance in the scales is shared in
10 common. The abbreviated scale had a coefficient alpha of .79, consistent with the reliability of
11 the original scale (despite shortening the scale considerably). The abbreviated RSAS was
12 modestly correlated with the SPS, $r = .12$ (in contrast to the correlation of .30 between the full
13 RSAS and SPS).

14 ESM data were collected on Personal Digital Assistants (PDAs; Palm Pilot Zire model)
15 using iESP software (Intel, 2004). The 36-item ESM questionnaire inquired about affect, social
16 contact, cognitions, and activities at the time of the signal. Sample items include, “I feel happy
17 right now” (positive affect), “I feel guilty right now” (negative affect), and “Right now I would
18 prefer to be alone.”(social distance).¹

19 Participants attended an information session in which experimenters provided PDAs and
20 described the procedures. The PDAs signaled the participants, administered the questionnaires,
21 and time-stamped and recorded responses. Participants were signaled to complete the ESM
22 questionnaire eight times between noon and midnight for seven days. Participants had five

¹ The complete ESM protocol and administration manual can be obtained by emailing the first author at lehorton@uncg.edu

1 minutes to initiate their responses following the signal and three minutes to complete each
2 subsequent question. The ESM questionnaires required about two minutes to complete.
3 Participants met with experimenters twice to download their data. This minimized data loss and
4 facilitated completion of the protocols. Participants completed an average of 41 questionnaires
5 ($SD = 11$).

6 Results

7 ESM data have a hierarchical structure in which ratings made in daily life are nested
8 within participants. Two types of analyses were computed. First, the direct relationship of social
9 anxiety and anhedonia with experiences reported in daily life were assessed. Second, cross-level
10 interactions (Nezlek, 2001) examined the extent to which relationships among ESM variables
11 (e.g., social contact and positive affect) varied across levels of social anhedonia and anxiety. The
12 multilevel data were analyzed with HLM 6 (Raudenbush, Bryk, & Congdon, 2004). For all
13 analyses, social anxiety and social anhedonia were entered simultaneously into the multilevel
14 equations, followed by their interaction term at the second step. Consistent with the
15 recommendations of Cohen et al. (2003) and Luke (2004), social anhedonia and anxiety scores
16 were grand mean centered. ESM predictors were group mean (within-person) centered. The data
17 departed from normality, so parameter estimates were calculated using robust standard errors
18 (Hox, 2002).

19 The first analyses examined the relationship of social anxiety and anhedonia with social
20 functioning in daily life (Tables 1 & 2). Social anhedonia—but not social anxiety—was
21 associated with more time spent alone. As hypothesized, social anhedonia was positively
22 associated with preference to be alone when with others, and was negatively associated with the
23 preference to be with others when alone. In other words, social anhedonia was associated with a

1 desire to be alone and to remain alone. Contrary to predictions, social anxiety was also
2 associated with preference to be alone when with others; however it was not associated with a
3 lower desire to be with others when alone. As expected, social anhedonia, but not social anxiety,
4 was positively associated with reports of disengagement during interactions. In other words,
5 social anhedonia was associated with a lack of interest and engagement in social situations.
6 Furthermore, there was a marginal association between social anxiety and participants'
7 attribution that they were alone because others do not want to be with them, indicative of
8 feelings of rejection not associated with anhedonia.

9 We examined whether social interest changed based on the closeness of interactions. As
10 expected, there was a negative relationship between closeness and preference to be alone, and
11 social anxiety—but not social anhedonia—moderated the relationship. In other words, social
12 anxiety was associated with a greater preference to be alone when with others with whom they
13 were not close.

14 We next examined whether anxiety and anhedonia were associated with affect in daily
15 life. As predicted, social anhedonia was associated with lower positive affect, but not higher
16 negative affect. In contrast, social anxiety was associated with lower positive affect and higher
17 negative affect, including self-consciousness, sadness, and anxiety. A negative relationship was
18 found between the anxiety x anhedonia interaction term and sadness, suggesting that the positive
19 relationship of social anxiety and sadness is only seen at low levels of social anhedonia.

20 We next examined whether affective responding differed depending upon whether
21 participants were alone or with others. First, negative affect was inversely associated—and
22 positive affect was directly associated—with social contact. In other words, people generally
23 reported more positive and less negative affect during social encounters. The cross-level

1 The present findings indicated that social anxiety and social anhedonia are associated with
2 markedly different patterns of responses in daily life.

3 As hypothesized, increased levels of social anhedonia were associated with lower
4 positive, but not higher negative, affect in daily life. Furthermore, participants high in social
5 anhedonia interacted with others less frequently, but did not endorse doing so because they felt
6 unwanted. They endorsed the preference to be alone when with others, and when alone reported
7 less desire for social interactions. Social anhedonia was also associated with greater
8 disengagement and distance during social contacts. Overall, it appears that people high in social
9 anhedonia prefer solitude and are not as compelled to pursue social interactions.

10 As noted earlier, the construct of social anhedonia has primarily been studied within the context
11 of schizotypy and schizophrenia research. The daily experiences of participants high in social
12 anhedonia appear consistent with schizoid adjustment and negative symptoms of
13 schizophrenia. However, the participants were sampled from a college student sample—not a
14 clinical sample—suggesting that social anhedonia is a disruption in the need to belong that can
15 be readily identified in the general population.

16 As hypothesized, people high in social anxiety experienced more negative affect across
17 situations. Consistent with recent diary studies by Kashdan and Steger (2006), the present
18 findings indicated that social anxiety was also associated with lower positive affect. Contrary to
19 predictions, social anxiety was associated with the preference to be alone when with others;
20 however, it was not associated with the preference to remain alone. Socially anxious individuals'
21 desire to be alone was driven by the closeness of the relationship—specifically, they wanted to
22 be alone when with less familiar and trusted individuals. Likewise, negative affect and self-
23 consciousness were substantially higher when they were with others to whom they did not report

1 feeling close. These findings indicate that *who a socially anxious person is with* plays an
2 essential role in their distress and desire for solitude.

3 The present findings support the idea that socially anxious individuals want social contact
4 (unlike socially anhedonic individuals), but feel anxious and uncomfortable when with people
5 outside of their trusted circle of acquaintances. Previous empirical studies suggest that socially
6 anxious individuals may have small networks of close friends with whom they have relatively
7 non-distressed social interactions (e.g. Davila & Beck, 2002) and thus the context of the social
8 interactions may determine the person's subjective reports of affect. Social anhedonia, on the
9 other hand, does not appear to vary depending on the situation, which is consistent with our
10 understanding of social anhedonia as a trait-like construct in which people experience global
11 deficits in affect and interest. Future work examining deviations in the need to belong must
12 attempt to more carefully parse these situational differences by examining the exact nature of
13 participants' relationship with their interaction partners and the specific types of social situations
14 they encounter.

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1 Table 1

2 *Relationship of Social Anxiety and Social Anhedonia with Daily Life Experiences (n = 245)*

<u>ESM Criterion</u>	Step 1: Social Anhedonia (<i>df</i> = 240)	Step 1: Social Anxiety (<i>df</i> = 240)	Step 2: Social Anhedonia x Social Anxiety (<i>df</i> = 239)
ESM Social Contact			
Alone ^a	-0.030 (<i>SE</i> =0.009)***	-0.017 (<i>SE</i> =0.011)	0.001 (<i>SE</i> =0.007)
Prefer Alone	0.255 (<i>SE</i> =0.050)***	0.117 (<i>SE</i> =0.052)*	-0.004 (<i>SE</i> =0.036)
Alone Not Wanted	0.071 (<i>SE</i> =0.050)	0.085 (<i>SE</i> =0.046) [@]	-0.009 (<i>SE</i> =0.034)
Alone Prefer Others	-0.155 (<i>SE</i> =0.059)**	0.121 (<i>SE</i> =0.080)	0.095 (<i>SE</i> =0.056)
Social Distance	0.211 (<i>SE</i> =0.039)***	0.005 (<i>SE</i> =0.043)	-0.009 (<i>SE</i> =0.028)
Affect			
Negative Affect	0.049 (<i>SE</i> =0.042)	0.142 (<i>SE</i> =0.053)**	-0.033 (<i>SE</i> =0.031)
Positive Affect	-0.102 (<i>SE</i> =0.042)*	-0.103 (<i>SE</i> =0.053)*	0.045 (<i>SE</i> =0.044)
Anxious	-0.062 (<i>SE</i> =0.057)	0.168 (<i>SE</i> =0.071)*	-0.018 (<i>SE</i> =0.044)
Sad	0.089 (<i>SE</i> =0.054)	0.137 (<i>SE</i> =0.064)*	-0.072 (<i>SE</i> =0.036)*
Self-Conscious ^b	-0.037 (<i>SE</i> =0.079)	0.280 (<i>SE</i> =0.082)***	-0.054 (<i>SE</i> =0.061)

[@]*p* ≤ .10 **p* ≤ .05 ***p* ≤ .01 ****p* ≤ .001

Note: values are multilevel modeling coefficients (and standard error)

^aItems is reversed scored (1 = yes [alone], 2 = no [with others])

^bDegrees of freedom for analyses of self consciousness (γ_{01} / γ_{02} *df* = 164, γ_{03} *df* = 163)

Table 2

Cross Level Interactions of Social Anxiety and Social Anhedonia with Daily Life Experiences

<u>ESM Criterion</u>	<u>ESM Predictor</u>	Relationship of ESM Predictor & Criterion (<i>df</i> = 240)	Step 1: Social Anhedonia (<i>df</i> = 240)	Step 1: Social Anxiety (<i>df</i> = 240)	Step 2: Social Anhedonia x Social Anxiety (<i>df</i> = 239)
Positive Affect	Alone ^a	0.267 (<i>SE</i> =0.031)***	-0.011 (<i>SE</i> =0.034)	-0.049 (<i>SE</i> =0.033)	0.043 (<i>SE</i> =0.025)
Negative Affect	Alone ^a	-0.239 (<i>SE</i> =0.030)***	0.005 (<i>SE</i> =0.028)	-0.033 (<i>SE</i> =0.029)	0.026 (<i>SE</i> =0.018)
Self-Conscious ^b	Alone ^a	0.189 (<i>SE</i> =0.048)***	-0.020 (<i>SE</i> =0.046)	0.206 (<i>SE</i> =0.059)***	0.032 (<i>SE</i> =0.043)
Anxious	Close to Person	-0.067 (<i>SE</i> =0.013)***	0.014 (<i>SE</i> =0.012)	-0.021 (<i>SE</i> =0.013)	-0.003 (<i>SE</i> =0.012)
Positive Affect	Close to Person	0.139 (<i>SE</i> =0.009)***	0.015 (<i>SE</i> =0.009)	0.015 (<i>SE</i> =0.009)	0.009 (<i>SE</i> =0.006)
Negative Affect	Close to Person	-0.048 (<i>SE</i> =0.008)***	0.001 (<i>SE</i> =0.008)	-0.022 (<i>SE</i> =0.009)*	-0.002 (<i>SE</i> =0.008)
Self-Conscious ^b	Close to Person	-0.058 (<i>SE</i> =0.016)***	-0.001 (<i>SE</i> =0.012)	-0.034 (<i>SE</i> =0.017)*	0.005 (<i>SE</i> =0.011)
Prefer Alone	Close to Person	-0.344 (<i>SE</i> =0.018)***	-0.031 (<i>SE</i> =0.021)	-0.062 (<i>SE</i> =0.019)**	-0.004 (<i>SE</i> =0.018)

@ $p \leq .10$ * $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

Note: values are multilevel modeling coefficients (and standard error)

^aItems is reversed scored (1 = yes [alone], 2 = no [with others])

^bDegrees of freedom for analyses of self consciousness (γ_{01} , γ_{02} *df* = 164, γ_{03} *df* = 163)