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Leslie H. Brown, Paul J. Silvia, Inez Myin-Germeys, & Thomas R. Kwapil (2007). When the need to belong goes wrong: The expression of social anhedonia and social anxiety in daily life. *Psychological Science, 18,* 778–782.

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

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WORD COUNT:
Main text (2454) + Acknowledgments (42) = ***Total (2496)****; (25 references)*

Abstract

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

[150 words]

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

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

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

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

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

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

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

Method

Participants

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

Materials and Procedures

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

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

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

Participants attended an information session in which experimenters provided PDAs and described the procedures. The PDAs signaled the participants, administered the questionnaires, and time-stamped and recorded responses. Participants were signaled to complete the ESM 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

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

Results

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

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

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

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

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

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

interactions of this relationship were not significant, indicating that social contact, *per se*, did not impact affective responding. In other words, the relationship of social anhedonia with lower positive affect, and the relationship of social anxiety with higher negative and lower positive affect, were independent of whether participants were alone or not.

However, the experience of self-consciousness by participants high in social anxiety was moderated by social contact. Specifically, socially anxious participants experienced more self-consciousness when with others, relative to when they were alone or to participants who did not report social anxiety. As expected, there was no significant cross-level interaction with social anhedonia. In other words, social anxiety was related to increased self-consciousness when with others that was not observed in social anhedonia.

Although social anxiety and anhedonia did not moderate affective responses to social situations, affective responding did differ depending on how close participants felt to the people with whom they were interacting. In general, people reported more negative affect, more self-consciousness, and lower positive affect when with people to whom they were not close. These relationships did not change across levels of social anhedonia. Social anxiety, on the other hand, had negative cross-level interactions of closeness with both negative affect and self-consciousness, indicating that people high in social anxiety experienced greater negative affect and self-consciousness when they were not close to their social companions.

Discussion

The present study supported the view that the need to belong is central to human social functioning and can be disrupted in at least two ways. Specifically, the belongingness drive can be diminished, as in the case of social anhedonia, and thwarted, as in the case of social anxiety.

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

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

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

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

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

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

References

Asendorpf, J.B. (1990). Beyond social withdrawal: Shyness, unsociability, and peer avoidance. *Human Development, 33,* 250-259.

Beidel, D.C, & Turner, S.M. (1998). Clinical presentation of social phobia in adults. In D.C. Beidel & S.M. Turner (Eds.), *Shy children, phobic adults: Nature and treatment of social phobia* (pp. 1-31). Washington, DC: American Psychological Association.

Baumeister, R.F., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497-529.

Brown, L.H., Silvia, P.J., Myin-Germeys, I., Lewandowski, K.E., & Kwapil, T.R. (2006). *The relationship of social anxiety and social anhedonia to psychometrically identified schizotypy.* Manuscript submitted for publication.

Chapman, L.J., Chapman, J.P., & Raulin, M.L. (1976). Scales for physical and social anhedonia. *Journal of Abnormal Psychology, 85,* 374-382.

Cohen, J., Cohen, P., & West, S.G. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.).Mahwah, NJ: Lawrence Erlbaum Associates.

Csikszentmihalyi, M., & Larson, R. (1987). Validity and reliability of the experience-sampling method. *Journal of Nervous and Mental Disease, 175,* 526-536.

Davila, J., & Beck, J. G. (2002). Is social anxiety associated with impairment in close relationships? A preliminary investigation. *Behavior Therapy, 33,* 447–464.

Fleeson, W., Malanos, A.B., Achille, N.M. (2002). An intraindividual process approach to the relationship between extraversion and positive affect: Is acting extraverted as "good" as being extraverted? *Journal of Personality and Social Psychology, 83,* 1409-1422.

Hox, J. (2002). *Multilevel analysis: Techniques and applications.* Mahwah, NJ: Lawrence

Erlbaum Associates.

Intel Corporation. (2004). *iESP* [Computer software]. Retrieved from http://seattleweb.intelresearch.net/projects/ESM/iESP.html

Kashdan, T.B., & Steger, M.F. (2006). Expanding the topography of social anxiety: An experience-sampling assessment of positive emotions, positive events, and emotion suppression. *Psychological Science, 17,* 120-128.

Kwapil, T.R. (1998). Social anhedonia as a predictor of the development of schizophrenia-spectrum disorders. *Journal of Abnormal Psychology, 107,* 558-565.

Kwapil, T.R., Silvia, P.J., Myin-Germeys, I., Anderson, A.J., Coates, S.A., & Brown, L.H. (2006). *An experience sampling study of the relationship of social anhedonia with social contact, stress, and emotion.* Manuscript submitted for publication.

Lewandowski, K.E., Barrantes-Vidal, N., Nelson-Gray, R.O., Clancy, C., Kepley, H.O., & Kwapil, T.R. (2006). Anxiety and depression symptoms in psychometrically identified schizotypy. *Schizophrenia Research, 83,* 225-235.

Luke, D.A. (2004). *Multilevel modeling.* Thousand Oaks, CA: Sage.

Mattick, R.P., & Clarke, J.C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy, 36,* 455-470.

McAdams, D.P., & Bryant, F.B. (1987). Intimacy motivation and subjective mental health in a nationwide sample. *Journal of Personality, 55,* 395-413.

Nezlek, J. B. (2001). Multilevel random coefficient analyses of event- and interval-contingent data in social and personality psychology research. *Personality and Social Psychology Bulletin, 27,* 771–785.

Raudenbush, S., Bryk, A., & Congdon, R. (2004). *HLM for Windows* (v. 6) [Computer software].

Lincolnwood, IL: Scientific Software International.

Reis, H.T., & Gable, S.L. (2000). Event-sampling and other methods for studying everyday experience. In H.T. Reis & C.M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 190-221). Cambridge: Cambridge University Press.

Ross, S.R., Lutz, C.J., & Bailley, S.E. (2002). Positive and negative symptoms of schizotypy and the Five-Factor Model: A domain and facet level analysis. *Journal of Personality Assessment, 79*, 53-72.

Scollon, C.N., Kim-Prieto, C., Diener, E. (2003). Experience sampling: Promises and pitfalls, strengths and weaknesses. *Journal of Happiness Studies, 4*, 5-34.

Vittengl, J. R., & Holt, C. S. (1998). A time-series study of mood and social interaction. *Motivation and Emotion, 22*, 255-275.

Watson, D. (2000). *Mood and temperament.* New York: Guilford.

Author Note

This research was supported in part by a National Science Foundation graduate fellowship awarded to Leslie Brown.

We thank Eve Lewandowski for her thoughtful comments, and A.J. Anderson, Gena Barbee, Ben Cline, and Sarah Coates for assistance in data collection.

Table 1

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

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

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

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

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

[b]Degrees of freedom for analyses of self consciousness ($\gamma_{01/}$ γ_{02} *df* = 164, γ_{03} *df* = 163)

Table 2

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

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

$^{@}p \leq .10$ $*p \leq .05$ $**p \leq .01$ $***p \leq .001$

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

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

[b]Degrees of freedom for analyses of self consciousness ($\gamma_{01/}$ γ_{02} *df* = 164, γ_{03} *df* = 163)