

The social world of the socially anhedonic: Exploring the daily ecology of asociality

By: Thomas R. Kwapil, Paul J. Silvia, Inez Myin-Germeys, A.J. Anderson, Sarah A. Coates, and Leslie H. Brown

[Thomas R. Kwapil](#), [Paul J. Silvia](#), Inez Myin-Germeys, A.J. Anderson, Sarah A. Coates, [Leslie H. Brown](#), The social world of the socially anhedonic: Exploring the daily ecology of asociality, *Journal of Research in Personality*, Volume 43, Issue 1, February 2009, Pages 103-106. DOI: 10.1016/j.jrp.2008.10.008.

Made available courtesy of Elsevier: <http://www.sciencedirect.com/science/journal/00926566>

*****Note: Figures may be missing from this format of the document**

Abstract:

The need to belong is fundamental to human motivation. The significance of needs for relatedness and intimacy can be highlighted by examining aberrations in these needs. Social anhedonia, a component of the schizophrenia spectrum, represents a lack of reward from social interaction. The present research examined the everyday social worlds of the socially anhedonic. A week-long experience-sampling study found that people high in social anhedonia were more likely to be alone. When alone, they were likely to prefer solitude and to be alone by choice, not because they felt excluded. When with other people, they were likely to be in bigger, less intimate groups and to feel asocial. Socially anhedonic people felt more positive affect and less negative affect when alone, indicating a genuine preference for solitude. Because social anhedonia is a liability for psychopathology, it is the exception to the need to belong that proves the rule.

Keywords: Need to belong; Relatedness; Social anhedonia; Schizotypy; Experience sampling; Multilevel modeling

Article:

1. Introduction

Social psychologists are perhaps more circumspect than other scientists when it comes to proposing scientific laws, but recent years have seen a growing discussion of what social psychology's foundational principles might be ([Fiske, 2003] and [Leary, 2007]). Most researchers would agree that a need to belong is one of social psychology's foundational principles. Evidence from many areas of psychology suggests that humans are innately motivated to form close and meaningful relationships with other people (Baumeister & Leary, 1995; McAdams, 1989).

The present research examines the operation of the need to belong in people's everyday social worlds. Unlike past work, however, our study uses a psychopathology approach to understanding belonging: psychology can clarify the nature of normal human functioning by studying aberrations and pathologies. We thus examine the social worlds of the socially anhedonic, the few people who appear to find social interaction genuinely unrewarding Kwapil, 1998.

2. Social anhedonia

We have proposed that the trait of *social anhedonia* represents a deficient need to belong: socially anhedonic people fail to get normal pleasure from social interaction [Kwapil, 1998] and [Kwapil et al., 2008]). Although social anhedonia is relatively new to social–personality psychologists, it has a long history in the study of personality disorders. Social anhedonia is a component of the subclinical liability for schizophrenia-spectrum disorders, known as schizotypy. The base rates of social anhedonia are low (Horan, Blanchard, Gangestad, & Kwapil, 2004), consistent with the view that social anhedonia is an abnormal expression of a need to belong.

If the need to belong is a rule of social motivation, then social anhedonia is an exception that proves the rule. Socially anhedonic people find social interactions unrewarding, but they are not leading lives of content, well-adjusted solitude. People high in schizotypy are at risk for developing schizophrenia and related disorders, although most of them will not decompensate. Of the dimensions of schizotypy, social anhedonia is the strongest predictor of the development of schizophrenia-spectrum disorders. In a longitudinal study, for example, Kwapil, 1998 found that 24% of college students high in social anhedonia were diagnosed with a schizophrenia-spectrum disorder 10 years later; only 1% of people in a control group had such a diagnosis (cf. Gooding, Tallent, & Matts, 2007).

In our recent work, we have explored the nature of social motivation in social anhedonia. Thus far, we have found that social anhedonia is not merely another form of social anxiety. Socially-anxious people have an intact need to belong, but this need is frustrated by the belief that other people are rejecting or threatening. Self-report measures of social anxiety and social anhedonia are modestly related (Brown, Silvia, Myin-Germeys, Lewandowski, & Kwapil, 2008), and recent experience-sampling data show that social anhedonia and social anxiety have different consequences for daily interaction. For example, socially anxious people, but not socially anhedonic people, are more likely to feel self-conscious during social encounters (Brown, Silvia, Myin-Germeys, & Kwapil, 2007). Social anhedonia and social anxiety thus represent different ways that belongingness needs can go awry.

3. The present research

The present research examined social anhedonia in daily life. Past research has differentiated social anhedonia from other dimensions of social impairment (Brown et al., 2008) and gained some early daily-life evidence (Brown et al., 2007), but thus far we do not have a detailed picture of the social worlds of the socially anhedonic. Experience-sampling methods offer insight into how psychological traits are manifested in people’s everyday environments. In this study, we sought a fine-grained look at everyday social interactions, such as how often people were alone, people’s experience of solitude, the kinds of interactions people had, and the emotional experience of solitude and interaction.

4. Methods

4.1. Participants

Usable data were collected from 56 students—40 female, 16 male—enrolled in psychology courses at the University of North Carolina at Greensboro. The mean age was 22.1 years ($SD = 4.7$), and the sample was 77% Caucasian and 23% African-American. Men and women were similar in ethnicity and age. An additional 10 people (five men, five women) participated

but were omitted. Four people were dropped because of elevated scores on an infrequency scale; two people's ESM data were lost due to equipment failure; and four people didn't respond to least 15 beeps. Participants received course credit. The data were collected across 4 months, mostly during the summer. Participants who completed at least 70% of the ESM questionnaires were entered into a drawing for gift cards from an electronics store. On average, people completed 45 ESM questionnaires (76%). Neither social anhedonia nor the other dimensions of schizotypy predicted compliance rates. Small effects appeared, however, for gender and age: women and older participants responded relatively more often.

4.2. Materials and procedures

4.2.1. Initial assessment

Participants attended a one-hour initial session to complete questionnaires and receive training in the ESM procedures. The measures included a demographic questionnaire, a brief infrequency scale, and self-report measures of Social Anhedonia, Physical Anhedonia, Magical Ideation, and Perceptual Aberration. The Revised Social Anhedonia Scale has 40 true-false items that assess asociality and indifference regarding interpersonal relationships (Kwapil et al., 2008). Coefficient alpha was .87, which is similar to larger samples Kwapil, Crump, and Pickup, 2002. The distribution of scores on the Revised Social Anhedonia Scale for males and females was comparable to normative data for college students. The interquartile range for males was 3–12 in the present sample and 5–13 in the normative sample ($n = 1331$). The interquartile range for females was 4–9 in the present sample and 4–10 in the normative sample ($n = 4370$).

The three additional components of schizotypy were measured for purposes of statistical control. The Physical Anhedonia Scale (61 items) measures a lack of sensory and aesthetic pleasure; the Magical Ideation Scale (30 items) measures beliefs in unlikely or invalid causation; and the Perceptual Aberration Scale (35 items) measures schizophrenic-like perceptual and bodily distortions (for scale details, see Kwapil et al., 2008). Finally, the Infrequency Scale contains 13 items (e.g., "I go at least once every two years to visit either northern Scotland or some part of Scandinavia") that were designed to screen out people who responded in a random, inattentive, or "fake bad" manner. We omitted participants who endorsed more than two items, which is a standard cut-off for exclusion ([Brown et al., 2007], [Brown et al., 2008] and [Kwapil et al., 2008]).

4.2.2. ESM data collection

ESM data were collected on palm pilot (model m100, m125, or m130) personal digital assistants (PDA) using iESP software, a modification of the ESP software. The ESM questionnaire inquired about a variety of daily-life events; it took about two minutes to complete. The PDA signaled people to complete the ESM questionnaire eight times daily, between noon and midnight, for 7 days. One signal occurred randomly during each of the eight 90-min blocks that comprised the 12-h window. After a signal, participants had up to 5 min to start the questionnaire and up to 3 min to complete each question. After these time intervals or the completion of a questionnaire, the PDA shut down. The iESP software prevented people from turning the PDA on and off, completing missed questionnaires, or using the PDA for any other purpose. As a result, all ESM questionnaires not completed at the proper time (i.e., started within 5 min and completed promptly) were treated as missing. The ESM procedure was explained to the participants during the initial training session, and a practice questionnaire was completed in the

lab. Participants returned to the lab on days two and four of the study to download their data. These visits were scheduled to decrease data loss and to increase compliance.

4.3. Dependent measures

To explore the daily ecology of asociality, we asked a range of questions about people’s social interactions and their experience of these interactions. Many of the questions were based on our past experience-sampling research (e.g., Brown et al., 2007). Given the many questions and constructs, we will describe the items in detail in the Results section, for the sake of simplicity. In brief, the ESM questionnaires gathered information about people’s current social contexts. People were asked if they were alone or with other people; their answer to this question branched toward more detailed questions about their experience of solitude or their experience of the social situation. Each questionnaire also assessed people’s momentary feelings of positive affect (PA) and negative affect (NA).

5. Results

5.1. Analytic model

Experience-sampling data have a nested structure: features of daily life (a within-person level) are nested within features of people (a between-person level). The observations are thus interdependent. Multilevel models—also known as hierarchical linear models—can estimate simultaneous within-person and between-person effects, so they are typical for the analysis of experience-sampling data. In addition to a multilevel structure, our data also have a multivariate structure. Some outcomes, such as PA and NA, are correlated, so they ought to be modeled together instead of individually. We thus estimated a series of univariate and multivariate multilevel models, using Mplus 5.1 (see Muthén, 2002). All between-person predictors (except gender) were grand-mean centered, all within-person slopes and all intercepts were modeled as random, and all models were estimated using full-information maximum likelihood with robust standard errors. Table 1 reports the unstandardized effects.

Table 1.
Summary of the effects of social anhedonia on daily variables.

Model	Level 2 IV	Outcome	<i>b</i>	<i>SE</i>	<i>Z</i>	<i>p</i>	<i>ICC</i>
1.	Social anhedonia	Alone	.367	.087	4.25	.001	.111
2.	Social anhedonia	Enjoy being alone	.281	.085	3.32	.001	.274
		Alone by choice	.243	.083	2.91	.004	.287
		Prefer to be with others	-.413	.127	3.26	.001	.389
		Alone due to rejection	-.01	.059	.15	.88	.362
3.	Social anhedonia	Asociality when with others	.439	.102	4.31	.001	.230
4.	Social anhedonia	Group size	.349	.121	2.89	.004	.069

Model	Level 2 IV	Outcome	<i>b</i>	<i>SE</i>	<i>Z</i>	<i>p</i>	<i>ICC</i>
		Presence of significant other	−.893	.489	1.83	.068	.261
5.	Social anhedonia	PA	−.061	.125	.49	.62	.239
		NA	−.085	.073	1.17	.24	.406
		Effect of Alone on PA	.147	.065	2.26	.024	—
		Effect of Alone on NA	−.169	.058	2.93	.003	—

Note. *b*, unstandardized regression weight; *SE*, standard error of *b*; *ICC*, intraclass correlation. The coefficients for binary outcomes (alone and presence of significant other) are logistic.

For each hypothesis, we ran two models. The first model included social anhedonia as the only Level 2 predictor. The second model included age, gender, and the other dimensions of schizotypy (magical ideation, perceptual aberration, and physical anhedonia) as additional predictors. Social anhedonia's effects were essentially the same, so we report the results from the second, more conservative model.

5.2. Who tended to be alone?

At each beep, people indicated whether they were alone or with other people. Were socially anhedonic people more likely to be alone? We estimated a model—model 1 in Table 1—in which social anhedonia scores predicted social contact scores. Solitude was scored 0 (with others) or 1 (alone), so it was modeled as a categorical outcome. As expected, socially anhedonic people were significantly more likely to be alone, $b = .367$, $SE = .087$, $p < .001$. In fact, social anhedonia explained 34.2% of the variance in solitude.

5.3. How did people experience solitude?

Given the variability in the tendency to be alone, how did people experience solitude? Were people alone by choice? Did they desire to be with others or to remain alone? When people indicated being alone, the palm pilot branched toward four questions (1 = *not at all*, 7 = *very much*) about the experience of solitude:

Right now I enjoy being alone.

Being alone right now is my choice.

Right now I would prefer to be with other people.

I am alone right now because people do not want to be with me.

The first three questions assessed whether people chose and desired solitude; the last question assessed whether people were alone due to perceived social rejection. We estimated a multivariate model (model 2 in Table 1) in which social anhedonia predicted scores on these four variables.

The pattern of results was consistent with genuine social disinterest. Socially anhedonic people were significantly more likely to say that they enjoyed being alone and that they were alone by

choice; they were significantly less likely to say that they would prefer to be with other people. Furthermore, social anhedonia had no relationship with whether people said they were alone because of social rejection—socially anhedonic people were not more or less likely to feel rejected (see Table 1).

5.4. How did people experience social interaction?

Social interaction is hard to avoid completely; all participants reported at least some situations in which they were with other people. How did people experience social interaction? When people indicated being with others, the palm pilot branched toward five questions (1 = *not at all*, 7 = *very much*) about their experience of the social contact:

I like this person (these people).

My time with this person (these people) is important to me.

We are interacting together.

I feel close to this person (these people).

Right now I would prefer to be alone.

These five items were highly associated, so we reverse-scored the first four items and then averaged the five scores, yielding an index of feelings of asociality during social interaction. We estimated a model in which social anhedonia predicted scores on this asociality index. As expected, socially anhedonic people felt significantly more asocial (see Table 1).

5.5. What social contexts were people in?

So far, we have seen that socially anhedonic people are (1) more likely to be alone; (2) to prefer solitude when alone; and (3) to feel asocial when in a social context. When socially anhedonic people were with other people, what was the social context like? Our daily-life questionnaire asked people several questions about the other people in the social situation. First, we asked how many men and how many women were there (using a scale of 0, 1, 2, 3, and 4 or more). We summed these ratings for an index of *group size*, the number of people in the social situation. We also asked people if they were interacting with a *significant other*, such as a boyfriend, girlfriend, or spouse. On average, people were in a group of 3.07 people, and they were with a significant other 17% of the time.

We estimated a multivariate model (see model 4 in Table 1) in which social anhedonia predicted group size and the presence of a significant other (a categorical outcome). The results showed that socially anhedonic people were in significantly larger groups, and a significant other was significantly less likely to be one of the people in the group. This latter finding is consistent with findings from longitudinal research Kwapil, 1998, which found that socially anhedonic people were less likely to have married after 10 years or to have dated within the past 2 months.

5.6. How did social contact and solitude influence positive affect and negative affect?

In general, people experience more positive affect when with other people (Watson, 2000), a finding that is consistent with a need to belong. What about the socially anhedonic? We estimated a multivariate model that assessed whether social anhedonia moderated solitude's relationships with PA and NA. At the within-person level, solitude (whether or not people were with others or alone) was a within-person predictor, and positive affect and negative affect were

outcomes. Positive affect (PA) was the average of responses to four PA items (*happy, relaxed, satisfied, enthusiastic*); negative affect (NA) was the average of responses to five NA items (*uncertain, anxious, sad, guilty, irritable*). Each item was completed with a 1 to 7 scale (1 = *not at all*, 7 = *very much*). At the between-person level, social anhedonia was modeled as a predictor of (1) overall PA and NA, and (2) the relationship between solitude and PA and NA, effects known as cross-level interactions. The intercepts and slopes were random, and solitude was centered within-person.

Several interesting effects appeared (see Table 1). First, social anhedonia was essentially unrelated to overall PA and NA. These null effects are important because they show that social anhedonia is not merely anhedonic depression, dysphoria, or anxiety. Second, for the sample as a whole, people experienced more NA when alone than with others ($b = .421, SE = .225, Z = 1.87$); PA had no overall relation to solitude ($b = .122, SE = .282, Z = .43$). But social anhedonia moderated these relationships (Fig. 1). For the socially anhedonic, solitude had a significantly negative effect on NA ($b = -.169, SE = .058, Z = 2.93$) and a significantly positive effect on PA ($b = .147, SE = .065, Z = 2.26$). Stated differently, socially anhedonic people experienced relatively more PA and less NA when alone—they apparently did not find solitude distressing.

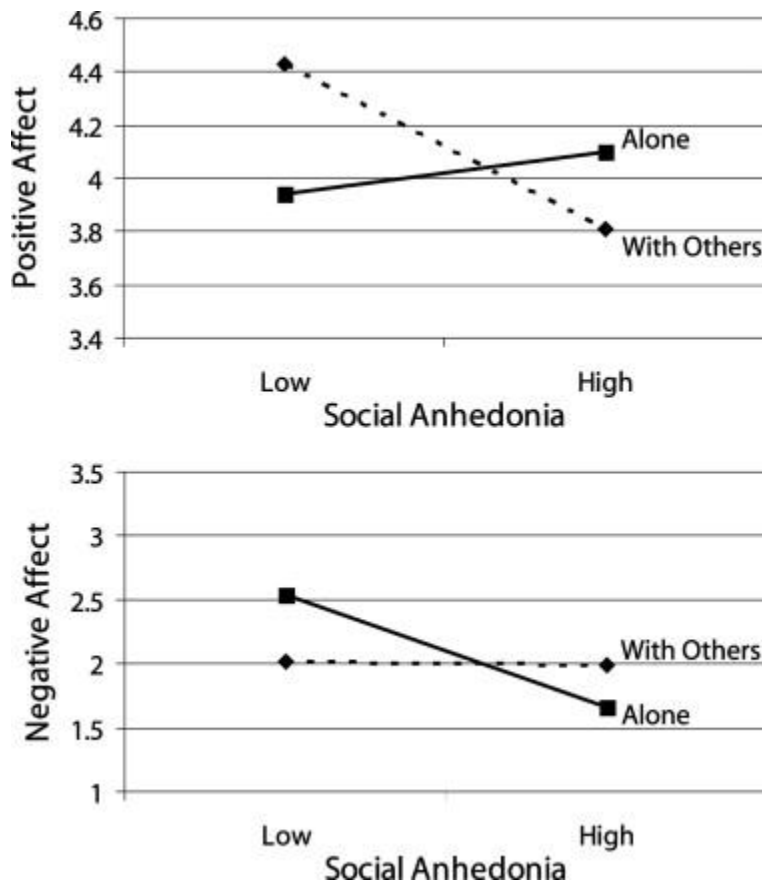


Fig. 1. Effects of social anhedonia and solitude on positive and negative affect.

6. General discussion

Social psychology assumes that people are social animals, and for good reason: many studies find beneficial effects of satisfying a need to belong (Baumeister and Leary, 1995 R.F. Baumeister and M.R. Leary, The need to belong: Desire for interpersonal attachments as a fundamental human motivation, *Psychological Bulletin* 117 (1995), pp. 497–529. Abstract | Order Document | Full Text via CrossRef | View Record in Scopus | Cited By in Scopus (1274)Baumeister & Leary, 1995) and harmful effects of social exclusion, rejection, and ostracism ([DeWall and Baumeister, 2006] and [Williams, 2001]). The present research offered support for our view of social anhedonia as a genuinely asocial trait. People high in social anhedonia were more likely to be alone and to prefer solitude. When alone, socially anhedonic people did not attribute their solitude to perceived or expected social rejection; instead, they reported being alone by choice. When with other people, socially anhedonic people reported asocial feelings and took part in larger and less intimate social groups. Finally, social anhedonia moderated the effect of solitude on positive and negative affect: people high in social anhedonia reported more PA and less NA when they were alone than when they were with other people.

The study of social anhedonia parallels experimental research on social rejection and ostracism (Williams, 2001). Both areas of research illuminate the nature of the need to belong by examining what happens when the motive is thwarted. It's worth combining the study of social anhedonia, rooted in the study of individual differences, with the experimental paradigms developed to study social rejection. If people high in social anhedonia are relatively less affected by rejection and ostracism, then there would be strong evidence for our view of social anhedonia as an aberration of normal social motivation.

References

- Baumeister and Leary, 1995 R.F. Baumeister and M.R. Leary, The need to belong: Desire for interpersonal attachments as a fundamental human motivation, *Psychological Bulletin* 117 (1995), pp. 497–529.
- Brown et al., 2007 L.H. Brown, P.J. Silvia, I. Myin-Germeys and T.R. Kwapil, When the need to belong goes wrong: The expression of social anhedonia and social anxiety in daily life, *Psychological Science* 18 (2007), pp. 778–782.
- Brown et al., 2008 L.H. Brown, P.J. Silvia, I. Myin-Germeys, K.E. Lewandowski and T.R. Kwapil, The relationship of social anxiety and social anhedonia to psychometrically identified schizotypy, *Journal of Social and Clinical Psychology* 27 (2008), pp. 127–149.
- DeWall and Baumeister, 2006 C.N. DeWall and R.F. Baumeister, Alone but feeling no pain: Effects of social exclusion on physical pain tolerance and pain threshold, affective forecasting, and interpersonal empathy, *Journal of Personality and Social Psychology* 91 (2006), pp. 1–15.
- Fiske, 2003 S.T. Fiske, *Social beings: A core motives approach to social psychology*, Wiley, New York (2003).
- Gooding et al., 2007 D.C. Gooding, K.A. Tallent and C.W. Matts, Rates of avoidant, schizotypal, schizoid and paranoid personality disorders in psychometric high-risk groups at 5-year follow-up, *Schizophrenia Research* 94 (2007), pp. 373–374.
- Horan et al., 2004 W.P. Horan, J.J. Blanchard, S.W. Gangestad and T.R. Kwapil, The psychometric detection of schizotypy: Do putative schizotypy indicators identify the same latent class?, *Journal of Abnormal Psychology* 113 (2004), pp. 339–357.
- Kwapil, 1998 T.R. Kwapil, Social anhedonia as a predictor of the development of schizophrenia-spectrum disorders, *Journal of Abnormal Psychology* 107 (1998), pp. 558–565.

- Kwapil et al., 2008 T.R. Kwapil, N. Barrantes-Vidal and P.J. Silvia, The dimensional structure of the Wisconsin schizotypy scales: Factor identification and construct validity, *Schizophrenia Bulletin* 34 (2008), pp. 444–457.
- Kwapil et al., 2002 T.R. Kwapil, R.A. Crump and D.R. Pickup, Assessment of psychosis proneness in African-American college student, *Journal of Clinical Psychology* 58 (2002), pp. 1601–1614.
- Leary, 2007 M.R. Leary, Motivational and emotional aspects of the self, *Annual Review of Psychology* 58 (2007), pp. 317–344.
- McAdams, 1989 D.P. McAdams, *Intimacy*, Doubleday, New York (1989).
- Muthén, 2002 B. Muthén, Beyond SEM: General latent variable modeling, *Behaviormetrika* 29 (2002), pp. 81–117.
- Watson, 2000 D. Watson, *Mood and temperament*, Guilford, New York (2000).
- Williams, 2001 K.D. Williams, *Ostracism: The power of silence*, Guilford, New York (2001).