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Commitment to a purpose in life: An antidote to the suffering by individuals with social anxiety disorder

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Abstract

Recent acceptance and mindfulness based cognitive-behavioral interventions explicitly target the clarification and commitment to a purpose in life. Yet, scant empirical evidence exists on the value of purpose as a mechanism relevant to psychopathology or well-being. The present research explored daily (within-person) fluctuations in purposeful pursuits and well-being in adults with and without the generalized subtype of Social Anxiety Disorder (SAD); a community sample of 84 (41 with generalized SAD). After completing an idiographic measure of purpose in life, participants monitored their effort and progress toward this purpose along with their well-being each day. . Across two weeks of daily reports, we found that healthy controls reported increased self-esteem, meaning in life, positive emotions, and decreased negative emotions. People with SAD experienced substantial boosts in well-being indicators on days characterized by significant effort or progress toward their life purpose. We found no evidence for the reverse direction (with well-being boosting the amount of effort or progress that people with SAD devote to their purpose) and effects could not be attributed to comorbid mood or anxiety disorders. Results provide evidence for how commitment to a purpose in life enriches the daily existence of people with SAD. The current study supports principles that underlie what many clinicians are already doing with clients for SAD.

Keywords

social anxiety disorder; purpose in life; experience-sampling; major depressive disorder

Purpose in life – a central, self-organizing motivation - has a long history in psychological science (Frankl, 1963; Hayes, Strosahl, & Wilson, 1999; Yalom, 1980) and recently gained greater attention as a therapeutic mechanism. Recent interventions focus on helping people develop, clarify, and pursue their purpose to organize their lives and ensure their actions are deliberate and consistent with that purpose (Wilson & Murrell, 2004; Wong & Fry, 1998). These interventions gained strong support recently through Acceptance and Commitment Therapy (ACT; Hayes et. al., 1999); other interventions developed by Frankl (1963) and colleagues continue today. Given the prominence of attention to ACT and the importance of purpose in life as a key ingredient for therapeutic intervention, we were surprised to find an absence of empirical research on the advantages of committing effort or making progress

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toward a purpose in everyday life. In this paper, we provide an initial test of the value of effort and progress toward a purpose in life in people with and without diagnoses of social anxiety disorder (SAD). We review the literature on purpose in life and provide a rationale for why purpose in life might be of particular relevance as a protective mechanism in people suffering from SAD.

To define purpose in life, we rely on the definition in our prior work (Kashdan & McKnight, 2009, p. 304):

> Purpose is defined as a central, self-organizing life aim. *Central* in that if present, purpose is a predominant theme of a person's identity. If we envision a person positioning descriptors of their personality on a dartboard, purpose would be near the innermost, concentric circle. Purpose is *self-organizing* in that it provides a framework for systematic behavior patterns in everyday life. Self-organization should be evident in the goals people create, the effort devoted to these goals, and decision-making when confronted with competing options of how to allocate finite resources such as time and energy. A purpose motivates a person to dedicate resources in particular directions and toward particular goals and not others. That is, terminal goals and projects are an outgrowth of a purpose. As a *life aim*, a purpose cannot be achieved. Instead, there are continual targets for efforts to be devoted.

Features of purpose in life offer direct links to ACT terminology (Hayes et al., 1999). Purpose can be viewed as a sub-category of values, reflecting the most important or central. As a self-organizing system, purpose provides a framework for people to create goals and then specific behaviors that if pursued, reflect committed action.

The relevance of purpose becomes evident as an attribution for behavior as well as correlate of important individual differences. As an attribution, people who are contemplating killing themselves and, to a lesser degree, people who experience emotional disturbances often attribute their current status to a lack of purpose in life (Camus, 1965; Heisel & Flett, 2004; Ryff & Singer, 1996). Purpose or lack thereof, therefore, serves as a retrospective causal agent for negative outcomes. In contrast, people who endorse a strong sense of purpose in their lives also endorse greater meaning in life, self-esteem, happiness, and less stress about competing goals (Bonebright, Clay, & Ankenmann, 2000; Chamberlain & Zika, 1988; Ryff, 1989).

The positive impact of purpose and its potential as a buffer against stress serves as the primary link between purpose in life and psychological disorders such as SAD. In laboratory and survey studies, researchers have found that reflecting on one's purpose in life provides a short-term buffer against psychological and physiological markers of stress (e.g., Creswell et al., 2005). If awareness of a purpose is beneficial then engaging in or pursuing purpose-driven action ought to provide even greater benefit. These benefits include offsetting deficits in well-being -particularly during adverse or difficult times (Lapierre, Dubé, Bouffard, & Alain, 2007).

Theorists (Baumeister, 1992) have suggested that people who consistently engage in purpose-driven action often reinterpret immediate situations in terms of the relevance to their larger purpose. A person with a clearly defined purpose ought to find daily stressors less threatening following reflection on her purpose; she also ought to have less difficulty deciding between competing options when reflecting on her purpose. Little empirical research exists, however, on these advantages – a surprising situation (Wong & Fry, 1998).

To facilitate research on purpose-driven action toward a purpose, we split this overarching construct into two facets. *Effort toward a purpose* is defined as the committed dedication of resources (energy, time, money) to set goals aligned with a purpose and work toward them. *Progress toward a purpose* is the degree to which a person successfully accomplishes purpose related activity. These two constructs might strongly correlate since a person who progresses toward a purpose needed to devote effort toward that end. However, a person's progress can be partially if not fully due to serendipitous opportunities; thus the correlation may be lower than expected. In addition, a person can devote considerable effort but that effort fails to translate into any discernible progress. Thus, these constructs may be related but we treat them as distinct.

Why Focus on Social Anxiety Disorder?

In the present paper, we argue that purpose in life is relevant to understanding the breadth of positivity deficits associated with SAD (Weeks & Heimberg, 2012), and potential avenues for enhancing well-being. We realize that purpose in life is likely to be a transdiagnostic construct. For several reasons, to initiate research on the benefits of purpose in life in the lives of people diagnosed with psychological disorders, we narrowed our focus to SAD. First, theoretical and preliminary research suggests that the phenomenology of SAD is distinct from related anxiety conditions. SAD appears to be similar to other anxiety conditions based on the presence of excessive threat and punishment vigilance (Amir, Elias, Klumpp, & Przeworski, 2003; Mogg & Bradley, 2002) but can be distinguished by the presence of deficient approach motivation (Hirsch & Mathews, 2000; Kashdan, 2007; Rodebaugh & Heimberg, 2008). There is indirect research that the psychological benefits of committing behavioral effort toward purpose might have important implications for the prognosis of individuals diagnosed with social anxiety disorder (SAD). Theorists suggest that social anxiety activates a prevention system where people pursue safety and avoid unwanted outcomes while also inhibiting a promotion system where people pursue rewards and strive toward the fulfillment of hopes and aspirations (Scholer & Higgins, 2012). It is the latter focus on approach oriented strivings that directly ties to the construct of purpose in life. Purpose in life generates approach oriented behaviors where there is effort toward, not away, from purpose-related goals (McKnight & Kashdan, 2009; Sheldon & Houser-Marko, 2001). As articulated by Elliot (2006), "avoidance motivation is designed to facilitate surviving, whereas approach motivation is designed to facilitate thriving" (p. 115); effort and progress toward a purpose in life is about thriving.

Second, prior research suggests that the deficient approach motivation or promotion system of people with SAD is malleable. Laboratory and therapist guided interventions have found that people with SAD can be trained to be more attentive to rewards and in turn, approach-

oriented in how they navigate their social world (Alden & Taylor, 2011; Schmidt, Richey, Buckner, & Timpano, 2009; Taylor & Amir, 2012). These findings suggest that despite the typical tendency of people with SAD to engage in infrequent positive events, experience less reward responsiveness, and show a preference toward avoidance over approach motivation (Heimberg, Brozovich, & Rapee, 2010; Kashdan, Weeks, & Savostyanova, 2011), these attributes can be altered with a simple manipulation with lasting, positive social effects (Taylor & Amir, 2012). Thus, positivity deficits might be the wrong term to describe the difficulties of people with SAD –a more appropriate term might be decreased well-being and approach motivation. Enhancing well-being via increased approach motivation may be the best and most proximal mechanism for treating SAD. We argue that purpose and, in particular, daily effort and progress towards a purpose serve as the most efficient way to produce those effects. Two clinical trials suggest that ACT is efficacious in targeting SAD (Brady & Whitman, 2012; Dalrymple & Herbert, 2007), where therapists assisted clients in their behavioral commitment to values (i.e., effort toward a purpose). Nonetheless, there is an absence of empirical evidence on the specific value of addressing life purpose in people with SAD.

Purpose in Life as a Well-Being Enhancer for People with SAD

Well-being has been theorized to be a direct consequence of a life devoted to a purpose in life (Damon, Menon, & Cotton Bronk, 2003; Peterson, Park, & Seligman, 2005; Ryff, 1989; Michael F. Steger, 2009). Instead of viewing purpose in life as an abstract element of one's existence, researchers focused on purpose as a framework for selecting goals that are most worthy of dedicating finite attention and effort (Scheier et al., 2006). This self-regulation model of purpose by Scheier and colleagues suggests that it is effort and progress toward a purpose that maximizes the generation of well-being. A sense of meaning in life is the most obvious dimension of well-being that can be expected to arise when people strive or make progress toward their purpose. Meaning in life conveys the degree to which a person sees significance in their life; purpose provides a lens to view life that directly affects meaning.

As for other facets of well-being, we relied on the widely adopted tripartite model of well-being (Diener, Suh, Lucas, & Smith, 1999) that includes reflective cognitive evaluations of life, and positive and negative affective reactions to life events. Similar to meaning in life, self-esteem captures another reflective cognitive evaluation facet (i.e., satisfaction within the domain of social relationships; Leary, Tambor, Terdal, & Downs, 1995). We chose self-esteem in lieu of global life satisfaction due to the former's relevance to SAD as an internal gauge of whether one is a socially attractive person to valued social groups (Leary, 2001). Finally, prior work shows that positive affect is infrequent and negative affect is excessive for people with SAD (Brown, 2007; Kashdan, 2007). Thus, we include positive and negative affect as additional facets of well-being. Our list of well-being indices is not meant to be exhaustive. Instead, these indices are a starting point for understanding how behavioral commitment to a purpose in life might compensate for problems linked to SAD.

The Present Study

As the first study of purpose in life in people with SAD, we began with an initial exploration of how motivation for their purpose, effort, difficulty in overcoming obstacles, and success differed from a healthy comparison group. Essentially, we wanted to capture how purpose in life might differ for people with and without SAD (limiting diagnoses to the generalized subtype that captures a broader range of social situations that evoke fear, avoidance, and functional impairment). This comparison allowed us to determine whether the problems in positivity and approach motivation associated with SAD extended to the construct of purpose in life. We hypothesized that people with SAD, compared to a healthy comparison group, would endorse greater difficulty and less success toward their purpose in life along with greater extrinsic compared with intrinsic motivation for their purpose.

Studying differences in the purpose of people with and without SAD using single assessment surveys provides a starting point for understanding the intersection of purpose in life and SAD. Nevertheless, a growing body of research indicates that constructs that have traditionally been studied as stable dispositions also vary meaningfully within individuals (Fleeson, 2001; Nezlek, 2007). While global meaning in life is relatively stable (Steger & Kashdan, 2006), several daily diary studies show that meaning in life fluctuates on a daily basis (Kashdan & Steger, 2007; King, Hicks, Krull, & Del Gaiso, 2006; Steger & Frazier, 2005; Steger & Kashdan, 2013; Steger, Kashdan, & Oishi, 2008). We believe that effort and progress on a daily basis toward a purpose in life accounts for some of this daily variability in meaning in life and other well-being dimensions that fluctuate day-to-day such as self-esteem (Heppner et al., 2008; Nezlek & Plesko, 2001) and positive and negative affect (Kashdan & Nezlek, 2012; Laurenceau, Troy, & Carver, 2005; Nezlek, 2005).

Research on goals and work engagement supports our expectation that effort and progress toward a purpose in life would vary from day-to-day (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Specifically, people show substantial variability from day to day in their ability to craft goals to be more meaningful and when successful, these behaviors are linked to greater task engagement (Petrou et al., 2012). By studying within-person associations between purpose-driven action and well-being, we hoped to provide additional insights to understanding SAD. We assessed purpose in life with an idiographic measure and then asked people to monitor their daily effort and progress toward this purpose and well-being over a two-week assessment period. Essentially, we used a mixed model where our two group design (i.e., between-subjects for SAD and healthy) was augmented by within-subjects measures and allowed us to compare between and within effects.

Assuming there was within-person variation in purpose-driven action, we addressed our primary interest in whether SAD moderated within-person associations between purpose-driven action and well-being. Essentially, does effort and progress toward a purpose in life aid people with SAD to experience a richer, fuller, more meaningful life? Because the reverse direction is also plausible, we tested the alternative explanation that on days when people with SAD experience greater well-being they in turn devote greater effort and make more progress toward their purpose in life. We addressed construct specificity by testing

whether any SAD effects would be a function of comorbid anxiety and mood disorders. We chose these conservative, construct specificity analyses because of the shared phenotypic features among SAD, anxiety, and depressive disorders (Mineka, Watson, & Clark, 1998).

In summary, the present study was guided by the following expectations and hypotheses.

1. Compared to a healthy control group, people with the generalized subtype of SAD would endorse greater extrinsic and less intrinsic motivation, greater difficulty, and less success over the past month in reference to their purpose in life.
2. Effort and progress toward a purpose in life would vary within persons, i.e., across time and measurement occasions (days in our case).
3. People with SAD – compared to the healthy control group – would experience lower well-being in daily life but would endorse greater self-esteem, meaning in life, positive emotions, and less negative emotions on days when they were devoting effort and/or committed to an identified purpose in life.
4. No reverse causal effects would be evident among our emotional outcomes and effort and progress toward a purpose.
5. Daily effort and progress toward purpose would be related to SAD but those relationships would not be explained by other anxiety or unipolar mood disorders.

Method

Participants

Our initial sample consisted of 84 community participants (52 women) from Northern Virginia; 41 diagnosed with Social Anxiety Disorder (SAD), generalized subtype and 43 (51%) healthy without psychiatric disorders. We excluded non-native English speakers with current psychotic or substance use disorders, and if participants with SAD only met criteria for the non-generalized subtype. Due to an absence of daily diary data, nine participants were excluded from analyses. This led to a final sample of 38 participants with generalized SAD diagnoses (25 women) and 38 healthy controls (24 women).

The mean sample age was 28.98 years (SD = 8.64) with 53.8% Caucasian, 21.3% African American, 10.0% Latino/Hispanic, and 15.1% other. Groups did not differ in age, t (77) = 0.52, p = .60, d = .12, gender, $\chi^2(1) = 0.15$, p = .70, d = .04, race/ethnicity, $\chi^2(4) = 1.19$, p = .88, d = .12, romantic relationship status, $\chi^2(4) = 5.55$, p = .26, d = .25, or education, $\chi^2(8) = 5.38$, p = .72, d = .25. Notably, one participant in the healthy control group did not respond to questions on relationship or education status.

Seven people (18.4%) in the SAD group received treatment for psychological conditions, whereas there was only one person in the healthy control group, $\chi^2(1) = 6.40$, p = .01. Using the Social Interaction and Anxiety Scale (a global self-report questionnaire) (Mattick & Clarke, 1998) to measure clinical symptom severity, the SAD group endorsed greater social anxiety (M = 43.44, SD = 8.91) than healthy controls (M = 8.70, SD = 6.31), t (74) = 19.60, $p < .001$, d = 4.56.

Procedure

We recruited individuals in the community via flyers and online advertisements (e.g., Craigslist, listservs). Following a verbal informed consent procedure, trained research assistants conducted a phone screen with potential participants, assessing for social anxiety, generalized anxiety disorder, and depressive symptoms, functional impairment, suicidality, and psychotic symptoms. Psychological referrals and emergency services were provided to any participants endorsing suicidal ideation. If potential participants showed evidence of social anxiety fears that extended beyond public speaking situations (or endorsed no psychological symptoms for the healthy control group), research assistants scheduled them for the next phase of the study.

Participants provided informed consent at the beginning of the initial face-to-face session and then completed self-report questionnaires, including demographic questions and trait measures. Clinical psychology doctoral students administered the Structured Clinical Interview for DSM-IV Axis I Disorders (First, Spitzer, Gibbon, & Williams, 2002) to assess for anxiety, mood, substance use, eating, and psychotic disorders. We supplemented this assessment with the SAD module of the Anxiety Disorders Interview Schedule for DSM–IV (Di Nardo, Brown, & Barlow, 1994). To be eligible for the generalized SAD group, this condition had to be the primary or most severe diagnosis if other comorbid psychiatric conditions were present. People with the generalized subtype of SAD fear and avoid a broad array of situations such as initiating conversations, attending social gatherings, talking to people in authority, or interacting with peers in informal settings. In this study, in addition to meeting DSM-IV criteria for SAD, participants had to exhibit fear and avoidance of at least three social situations, and two of these had to involve social interactions.

In the generalized SAD group, 17.5% met criteria for a current episode of major depressive or dysthymic disorder and 47.5% for an additional current anxiety disorder. To ensure interrater reliability for SAD diagnoses, 45 randomly chosen recorded interviews were rated by multiple researchers, resulting in excellent agreement (Cohen's $\kappa = .87$).

Qualifying participants subsequently took part in a 1.5 hour individualized introductory session that included the practice of daily record submissions on our secure website. Staff contacted participants two days into data collection and weekly to assess and mitigate possible problems. Of note, participants did not report any problems with the web-based recording of end-of-day records. Following this contact, researchers sent multiple reminder e-mails each week that emphasized compliance, confidentiality, and data coding details (i.e., time-and-date stamped entries). To maximize compliance, we paid participants with an incentive structure system such that participants received a minimum payment of $165 and bonus money for each completed end-of-day record (50 cents) and a $10 bonus for uninterrupted calendar weeks (Sunday through Saturday).

Operationalizing Purpose

Initially, participants generated an open-ended list of six strivings (Emmons, 1986); defined as "an objective that you are typically trying to accomplish or attain," and "goals or purposes that motive [you]"). Participants were given examples (e.g., "trying to be a good

role model to others," and "trying to avoid feeling inferior to others") and informed that strivings could be positive/approach-oriented or negative/avoidance-oriented, respectively. The experimenter asked each participant to choose one of these six strivings that best reflect their central, fundamental, life aim (i.e., purpose).

Participants provided retrospective reports about each striving concerning their effort (towards success), difficulty (how hard it was to overcome obstacles), and success over the past month (7-point Likert scale item from 1 = "not at all" to 7 = "extremely"). Participants also rated four reasons for pursuing each striving (Sheldon & Kasser, 1995, 1998) from "1" (not at all because of this reason) to "7" (completely because of this reason): (1) external pressure (because somebody else wants you to), (2) experiential avoidance (because you would feel guilty if you didn't), (3) internal importance (because you believe that it is important), and (4) self-determined (tied to central values). These scales have been previously shown to be psychometrically sound (Koestner, Lekes, Powers, & Chicoine, 2002; Sheldon & Elliot, 1998; Sheldon & Houser-Marko, 2001).

Daily Measures

Participants logged onto a secure website for 14 days to report daily effort and progress toward the one selected purpose, self-esteem, meaning in life, and positive and negative affect. Daily effort and progress toward purpose in life, were measured using face-valid items (i.e., How much effort did you put toward your striving today? How much progress did you make toward your striving today?). Questions referred to the striving selected at the beginning of the study to be most important. Participants answered items with endpoints labeled "0=None" to "10=Extreme amount".

Outcomes—We measured daily self-esteem with two items adapted from the Rosenberg Self-Esteem Scale (Rosenberg, 1965) used in prior daily diary studies (Kashdan & Nezlek, 2012; Nezlek & Plesko, 2001) ("Today…I felt like I had many good qualities," and "Today…on the whole, I was satisfied with myself." Daily meaning in life was measured with a 2-item scale ("How meaningful did you feel your life was today?" "How much did you feel your life had purpose today?") used in prior daily diary studies (Kashdan & Steger, 2007; Michael F. Steger, Kashdan, & Oishi, 2008). Participants answered items from both constructs (i.e., self-esteem and meaning in life) using 7-point scales from "Very uncharacteristic of me today" to "Very characteristic of me today". Daily negative affect was measured by responses to high (*anxious/nervous, angry*) and low (*sad, sluggish*) arousal adjectives; daily positive affect was measured by responses to high (*enthusiastic, joyful*) and low (*content, relaxed*) arousal adjectives (Nezlek, 2005). Participants answered using 5-point scales from, "Did not feel this way at all" to "Felt this way very strongly."

Compliance

Participants completed entries for an average of 12.23 days (*SD* = 3.79). We found no significant difference between the SAD (*X* = 11.98 days, *SD* = 4.19) and control (*X* = 12.48 days, *SD* = 3.37) groups in number of entries completed (*p* = .83).

Results

Baseline Retrospective Purpose Ratings

We conducted a multivariate General Linear Model analysis on baseline ratings about participants' self-selected purpose in life. We included SAD and comorbid mood and anxiety disorders (1 = yes, -1 = no) as between-person predictors. For the omnibus test, SAD was significantly related to retrospective purpose ratings, F (7, 74) = 2.49, p = .02; mood disorders and secondary anxiety disorders failed to add significant prediction to the model (ps > .90). Compared to healthy controls, people with SAD indicated that over the past month they had more difficulty pursuing their purpose, F(1, 83) = 9.40, p = .003, and less success in these pursuits, F (1, 83) = 14.58, p < .001. People with SAD also endorsed greater external pressure, F (1, 83) = 4.12, p < .05, and experiential avoidance, F (1, 83) = 8.98, p = .004, and less internal importance, F (1, 83) = 6.67, p = .01, and self-determined, F (1, 83) = 5.36, p = .02, reasons for pursuing their purpose. Results are detailed in Table 1.

Daily Life: Reliability and Variability

Data were conceptualized in a multilevel structure, with days (n = 978) nested within persons (n = 80). Analyses were conducted with HLM 6.08 (Raudenbush, Bryk, Cheong, & Congdon, 2000). To calculate the reliability of day-level measures, we conducted analyses using 3-level unconditional models with items nested within days and days nested within people (Nezlek, 2011). To demonstrate what we did, we offer the model equations below with i items nested within j days nested with k participants. In such an analysis, the reliability of the Level 1 intercept is the functional equivalent of an interaction level Cronbach's alpha, adjusted for differences among interactions and among people.

$$\begin{aligned} &\text{Item Level 1:} && y_{ijk} = \pi_{0jk} + e_{ijk} \\ &\text{Interaction Level 2:} && \pi_{0jk} = \beta_{00k} + r_{0jk} \\ &\text{Person Level 3:} && \beta_{00k} = \gamma_{000} + u_{00k} \end{aligned}$$

Daily measures had acceptable reliability for self-esteem (.75), meaning in life (.89), positive affect (.64), and negative affect (.59). Daily measures provided sufficient within-person (relative to total) variability for daily effort toward a purpose (56%), progress toward a purpose (54%), self-esteem (39%), meaning in life (38%), and positive (36%) and negative (56%) affect.

Daily Life: Slopes

Our primary analyses reflect "slopes-as-outcomes" or the effects of the Level 2 SAD variable on the Level 1 slopes or association between daily purpose predictors (effort and progress) and daily well-being outcomes (self-esteem, meaning in life, and positive and negative affect). To calculate the simple effects associated with any statistically significant cross-level interaction, we recentered the SAD variable so that zero reflected the presence of SAD in one case and the healthy controls (or absence of SAD) in another case. After doing this, we recomputed the multilevel models, including the new recentered variables. These analyses allowed us to examine the slope between daily purpose predictors and daily well-being outcomes for the SAD group and healthy control group, respectively. This analytic

approach is widely used (Cohen, Cohen, West, & Aiken, 2003) and has been previously applied to multilevel modeling (Nezlek, 2011).

In these cross-level interaction models, SAD diagnostic status moderated the slope between effort toward purpose and the following outcomes: self-esteem (b = .11, t = 2.45, p = .02), meaning in life (b = .10, t = 2.09, p = .04), and positive affect (b = .14, t = 2.33, p = .02); the effect for negative affect was non-significant (b = −.08, t = −1.73, p = .09); see upper half of Table 2. We calculated simple slopes using dummy codes for SAD and control groups, respectively (Cohen et al., 2003); see Figure 1. On days characterized by greater effort toward a purpose in life (+1 SD from mean), people with SAD experienced greater self-esteem, b = .31, t = 5.00, p < .001, meaning in life, b = .25, t = 3.46, p = .001, and positive affect, b = .35, t = 3.54, p = .001. In contrast, on days characterized by greater effort toward a purpose in life (+1 SD from mean), people in the healthy control group did not experience a significant difference in meaning in life, positive affect, negative affect, and self-esteem ps > .05. [1]

Similarly, SAD status significantly moderated the slope between progress toward purpose and self-esteem, b = .14, t = 3.27, p = .002, and meaning in life, b = .14, t = 2.83, p = .006; there was no significant effect on positive or negative affect (ps >.05); see lower half of Table 2. On days characterized by greater progress toward a purpose (+1 SD from mean), people with SAD experienced greater self-esteem, b = .41, t = 6.70, p < .001, and meaning in life, b = .33, t = 4.92, p < .001 - patterns similar to Figure 1. On days characterized by greater progress toward a purpose in life (+1 SD from mean), people in the healthy control group also experienced greater self-esteem, b = .16, t = 2.64, p = .01, but there was no significant change in meaning in life, p > .10. [2]

Reverse Causal Paths—We tested an alternative explanation for our findings that equally plausible models would include SAD and daily well-being variables as predictors of

[1]We included Time as a Level 1 covariate to determine whether any daily slope-as-outcome effects were an artifact of the variance due to time per se. We tested these models and found that Time as a Level 1 covariate failed to significantly predict any daily well-being outcome (self-esteem, meaning in life, positive affect, and negative affect) (ps ranged from .25 to .50). More importantly, the cross-level interaction models with SAD diagnostic status moderating the slope between effort toward purpose and self-esteem, meaning in life, and positive affect, and the slope between progress toward purpose and self-esteem and meaning life remained statistically significant (all ps < .05).

[2]Strivings were independently coded for evidence of approach/avoidance themes by two raters unaware of participant details (e.g., SAD status) and none of the strivings revealed information about diagnostic status. Each striving was given a score of -1 for avoidance and 1 for approach. Raters assessed whether the person wished to approach, obtain, achieve or keep the object of the striving or if they wished to avoid, prevent, or get rid of the object of the striving (Emmons, 1986). Evidence for the validity of this approach/avoidance coding system stems from research showing that a greater ratio of avoidance (relate to approach) strivings is inversely related to mental health and well-being outcomes (Elliot, Sheldon, & Church, 1997; Kashdan, Breen, & Julian, 2010). In therapy, clients reporting a greater ratio of avoidance-oriented treatment goals experienced less satisfaction with therapists, less goal progress and improvement over 12 sessions (Elliot & Church, 2002). Both raters coded all available narratives. Reliability was calculated using the two-way random intraclass correlation coefficient (ICC). Reliability was excellent (ICC=.94). For the healthy control group, 92.11% of purpose-related strivings were rated as approach-oriented; for the SAD group, 86.84% of purpose-related strivings were rated as approach-oriented. Thus, participants' purpose was almost invariably approach-oriented. In the absence of variability, no additional analyses were conducted.

For the SAD group, an example of an avoidance-related purpose was "Trying to have as little physical impact as possible (environmental concerns-living simply)" and "Trying to avoid conflict". Although the first one was prosocial and the second was about living a life of benevolence, their rule-bound approach to avoid pain instead of approaching rewards is important to the structure of their purpose. For the healthy control group, an example of an avoidance-related purpose was "Trying not to offend others" and "Not worry about things beyond my control". Similar to the SAD group, the first one was prosocial whereas the second was about letting go of the uncontrollable to focus on the controllable. The present work offers an important leap forward in methodology but more creative approaches are needed that go beyond self-report to non-obtrusive behavioral observations among other strategies.

daily purpose related variables. We tested eight reverse causal path models and we failed to find any statistically significant findings. To be specific, using cross-level interactions, SAD diagnostic status failed to moderate the slope between self-esteem and effort toward purpose (b = .02, t = 0.54, p = .59), meaning in life and effort toward purpose (b = .03, t = 0.62, p = .54), positive affect and effort toward purpose (b = .06, t = 1.84, p = .07), or negative affect and effort toward purpose (b = −.02, t = −0.78, p = .44). Similarly, SAD diagnostic status failed to moderate the slope between self-esteem and progress toward a purpose (b = .03, t = 0.87, p = .39), meaning in life and progress toward a purpose ((b = .04, t = 0.79, p = .43), positive affect and progress toward a purpose ((b = .05, t = 1.70, p = .09), or negative affect and progress toward a purpose (b = −.01, t = −0.37, p = .71). These analyses provide greater support for the single direction hypothesized with daily purpose related effort and progress serving to buffer the influence of SAD on daily well-being.

Construct Specificity—Controlling for comorbid anxiety and mood disorders, the SAD x Daily Purpose Effort interaction was statistically significant for positive affect, b = .18, t = 2.16, p = .03, and had a trend for self-esteem, b = .10, t = 1.81, p = .07, and meaning in life, b = .11, t = 1.77, p = .08. Neither comorbid anxiety (ps from .30 to .86) nor mood (ps from .12 to .64) disorders moderated daily purpose effort on daily well-being. The SAD x Daily Purpose Progress interaction remained significant for daily self-esteem, b = .17, t = 3.23, p = .002, and meaning in life, b = .17, t = 2.90, p = .005; neither comorbid anxiety nor mood disorders moderated purpose progress on well-being (ps > .10).

Discussion

People diagnosed with generalized SAD, in our study, endorsed lower daily self-esteem, meaning in life, positive emotions, and effort and progress toward a purpose in life compared to healthy controls; adding to a literature on dampened or deficient positivity (Heimberg et al., 2010; Kashdan et al., 2011; Weeks & Heimberg, 2012). Importantly, we found evidence of meaningful within-person variability in these daily variables, allowing us to test whether within-person well-being is linked to purpose-driven action.

Although researchers have argued that increasing people's behavioral commitment to a purpose enhances therapeutic interventions (Wilson & Murrell, 2004; Wong & Fry, 1998), we are unaware of prior studies that examined how and to what extent this process operates in daily life, nor how the process works for people with a disorder. On days when people with SAD devoted considerable effort toward a purpose in life, they benefited by an increase in self-esteem and meaning in life, and reported greater positive emotions; we observed similar benefits for self-esteem and meaning in life on days when people with SAD make progress toward their purpose. Importantly, we failed to find support for the reverse direction such that for people with SAD, the presence of elevated daily well-being did not influence effort and progress toward purpose. These uni-directional findings provide strong evidence for the particular benefits of purpose-driven effort and progress. As further evidence of specificity, associations between purpose in life and well-being could not be accounted for by comorbid anxiety or mood disorders. Unfortunately, people with SAD were at a disadvantage for working toward a purpose in life. In retrospective ratings about

the past month, compared to healthy controls, people with SAD reported greater obstacles and failures and endorsed less intrinsic motivation for their purpose.

Replication is necessary - the data, however, are encouraging for explorations of whether the pursuit of purpose in life is sensitive to treatment. Although tentative, our results suggest that fostering purpose in life with a SAD client increases the likelihood of well-being. The firm foundation offered by a purpose might facilitate a greater range of approach-oriented behavior and positive affect and these subsequent changes might then lead to an amelioration of SAD symptoms. The sequence of events we offer above requires direct empirical examination.

Daily diary designs offer a unique opportunity to examine how people respond to natural environmental and social reward contingencies (Reis & Gable, 2000). Effort toward a purpose in life is variable and modifiable. By using idiographic striving and daily diary methodologies similar to the current study as supplemental treatment outcome variables, researchers can examine which psychological and pharmacological interventions enhance client's clarity, motivation, effort, and success in committing to a life purpose. Researchers can determine whether there is a need for developing additional therapeutic modules that explicitly target purpose in life such as those found in ACT (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Wilson & Murrell, 2004) and counseling psychology (Dik & Steger, 2008).

The reason that purpose in life fits with SAD is that they reflect opposing motivational orientations. SAD is defined by a lack of approach motivation, and excessive avoidance motivation and vigilance to threat (Amir et al., 2003; Hirsch & Mathews, 2000; Mogg & Bradley, 2002). Recent interventions have shown that people with SAD can be trained to direct their attention away from threats and become more approach oriented in their attention and social behavior, with evidence that these changes extend at least in the short-term to subsequent social interactions (Alden & Taylor, 2011; Schmidt et al., 2009; Taylor & Amir, 2012). These interventions require greater consideration to constructing optimal strategies for enhancing the psychological and social well-being of people with SAD. Our findings – among others – provide a glimpse at the promise of moving beyond the negative spectrum of distress, avoidance, and impairment toward the positive spectrum of human functioning.

Despite behavioral sampling from people's naturalistic environments over two weeks, using a demographically similar healthy control group, and conducting stringent tests of construct specificity, we note several limitations. The design limits our ability to infer causal direction. To understand the dynamic links between SAD symptoms, purpose-driven action, and well-being, future work ought to include multiple assessments during the course of a single day to enable the analysis of spillover effects. Our measure of purpose in life has been validated in prior social psychology studies, however, few studies have explored the utility of an idiographic measure of strivings in clinical samples (Elliot & Church, 2002). Finally, there is the potential demand characteristic of asking people how they feel immediately after asking them how meaningful their life felt today.

One counterintuitive finding was the lack of an effect of purpose-driven action on psychological outcomes in the healthy control group. The reason we saw no effect for the healthy control group was potentially due to a ceiling effect or, more generally to a range restriction on our measures. As shown in Figure 1, the healthy control group was observed at the top-end of the 14-point scales (means for daily self-esteem and daily meaning in life were between 10 and 12 points while affect scores were in the same relatively high range of 19 to 20). Despite the potential range restriction, we observed non-significant changes in the direction we would expect; these directional but non-significant effects give us reason for optimism. In subsequent studies we would likely change the scaling to allow all groups to equally benefit. Thus, our effects for the SAD group may reflect the strong impact of focusing individuals on a purpose but the relative differences between SAD and healthy controls may be more related to a measurement issue than a true difference between groups.

Our study adds to a surge of empirical tests of clinical techniques used in acceptance and mindfulness based therapies; the current study is the first to focus on the benefits of purpose in daily life. Although the current focus was on SAD, we believe purpose in life operates as a mechanism that addresses risk and resilience for multiple disorders (Andresen, Oades, & Caputi, 2003; Hedberg, Gustafson, Alèx, & Brulin, 2010).

Encouraging clients to think about life aspirations, reflecting on avoidance and control strategies, and focusing on becoming aware of meaningful personal values and making decisions based on those values remain consistent with purpose in life (McKnight & Kashdan, 2009; Steger, 2009). Our results provide initial evidence for how commitment to a purpose in life is relevant to the daily existence of people with SAD. These results also support a few principles that underlie what clinicians are already doing with clients (Wilson & Murrell, 2004) with the hope of inspiring additional work on how these mechanisms help clients live lives that are not just less painful but more meaningful.

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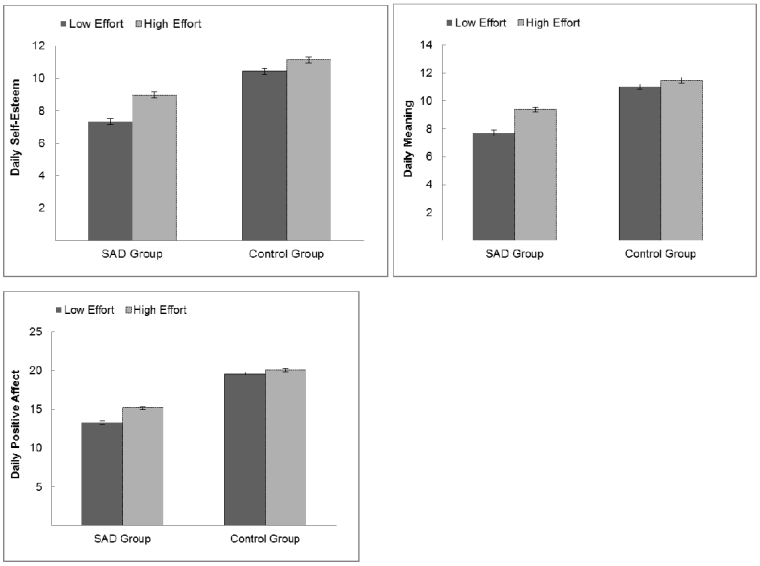

Figure 1.

Cross-level interactions of SAD on the slope between daily effort toward a purpose in life and self-esteem, meaning in life, and positive affect

Note. Error bars reflect standard errors from simple slope analyses.

Table 1

Baseline global perceptions about purpose in life

	Social Anxiety Disorder Group M (SD)	Healthy Control Group M (SD)
Purpose Motive- extrinsic social pressure	3.34 (1.98)	2.27 (1.85)*
Purpose Motive- experiential avoidance	4.74 (2.05)	3.19 (2.19)*
Purpose Motive- personally important	6.07 (1.50)	6.70 (0.71)*
Purpose Motive- self-determined	5.10 (1.88)	5.89 (1.56)*
Global Purpose- effort	4.83 (1.77)	5.31 (1.14)
Global Purpose- difficulty	5.26 (1.71)	4.12 (1.66)*
Global Purpose- past success	3.88 (1.77)	5.21 (1.16)*

* $p < .05$.

Table 2

Cross-level interactions of SAD on the slope between daily purpose in life and well-being

Outcomes	Daily Self-Esteem		Daily Meaning in Life		Daily Positive Affect		Daily Negative Affect	
	b (SE)	*t*-test	*b (SE)*	*t*-test	*b (SE)*	*t*-test	*b (SE)*	*t*-test
Effort as Predictor								
Intercept	9.51 (.25)	38.14*	9.91 (.27)	36.60*	13.98 (.36)	38.38*	8.06 (.24)	34.08*
SAD	−1.49 (.25)	−5.98*	−1.39 (.27)	−5.13*	−2.52 (.36)	−6.92*	1.47 (.24)	6.21*
Purpose Effort (slope)	.23 (.04)	5.43*	.18 (.05)	3.46*	.22 (.06)	3.76*	−.09 (.04)	−2.13*
SAD x Purpose Effort	.11 (.04)	2.45*	.10 (.05)	2.09*	.14 (.06)	2.33*	−.08 (.04)	−1.73†
Progress as Predictor								
Intercept	9.51 (.25)	38.14*	9.91 (.27)	36.60*	13.98 (.36)	38.38*	8.06 (.24)	34.07*
SAD	−1.49 (.25)	−5.98*	−1.39 (.27)	−5.13*	−2.52 (.36)	−6.92*	1.47 (.24)	6.20*
Purpose Progress (slope)	.29 (.04)	6.93*	.23 (.05)	4.75*	.29 (.06)	4.87*	−.16 (.06)	−2.77*
SAD x Purpose Progress	.14 (.04)	3.27*	.14 (.05)	2.83*	.11 (.06)	1.92†	−.07 (.06)	−1.31

* *Notes*. $p < .05$.

† $p < .10$.

All *p*-values were two-tailed. *B* = unstandardized HLM coefficient. *SE* = standard error.