Personality and Individual Differences 105 (2017) 54–63

Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com/locate/paid

A prisoner of one's own mind: Identifying and understanding existential isolation☆

Elizabeth C. Pinel [a,*], Anson E. Long [b], Erin Q. Murdoch [c], Peter Helm [d]

[a] University of Vermont, United States
[b] Indiana University of Pennsylvania, United States
[c] George Mason University, United States
[d] University of Arizona, United States

ARTICLE INFO

Article history:
Received 20 July 2016
Received in revised form 10 September 2016
Accepted 13 September 2016
Available online 23 September 2016

Keywords:
Existential isolation
Interpersonal isolation
Social isolation
Need to belong

ABSTRACT

Although often treated as a singular construct, social isolation can assume an interpersonal or an existential form (Yalom, 1980). Here we develop an individual difference measure of existential isolation, or, isolation with regard to one's experience of reality (Pinel, Long, Landau, & Pyszczynski, 2004; Yalom, 1980). We detail the validation of the Existential Isolation Scale and provide evidence of its convergent, discriminant, and criterion validities (Studies 1 and 2). In addition, we show that levels of existential isolation remain stable over a two-week period (Study 3), but also change as expected among those primed with the construct (Study 3). In the discussion, we review research that further establishes the uniqueness of this construct and its relevance to understanding the causes and consequences associated with social isolation more broadly construed.

1. Introduction

> "At times I think I'm the most alone man in existence. And…it has nothing to do with the presence of others – in fact, I hate others who rob me of my solitude and do not truly offer me company."
> [**When Nietzsche Wept** (Yalom, 1992, p. 228)]

> "L'enfer, c'est les autres." ("Hell is other people.")
> [**Huis Clos** (Sartre, 1944, p. 93)]

Where would we be without others? Humans need the physical presence of other people for their continued existence. No venom pockets or poison darts came with the human design, no razor-sharp talons, no ability to change color to match our environment. Instead, humans survived over millions of years by grouping together and adopting a "strength in numbers" mentality (Baumeister & Leary, 1995; Bowlby, 1969; Caporael & Brewer, 1995). With our very lives riding on these physical connections to others, how could anyone have the audacity to suggest that he would rather be alone than in the presence of others? How could any ingrate utter the unthinkable – even in a theatrical piece of fiction – that hell is other people?

It turns out that, for a species endowed with complex cognitive abilities that include self-consciousness and the ability to ponder existential issues (Arndt & Vess, 2008; Goldenberg & Arndt, 2008; Pyszczynski, Greenberg, Koole, & Solomon, 2010), there are multiple ways of being with others, or, put differently, multiple ways of being alone. In **Existential Psychotherapy**, Yalom (1980) documents three distinct, albeit intertwined forms of isolation: interpersonal, intrapersonal, and, the one with which we shall be concerned here, existential. Interpersonal isolation refers to the isolation stemming from lack of social contact with others. Thus, when inmates get placed in solitary confinement, when explorers find themselves alone in a remote part of the world, or when someone struggling to meet a deadline voluntarily holes herself up in her apartment for several consecutive days, interpersonal isolation will likely result.

In contrast to interpersonal isolation, intrapersonal isolation refers to isolated aspects within one's own psyche. This type of isolation can manifest itself in quite common symptoms such as indecisiveness, or feeling unsure of one's authentic wishes, desires, and interests, but can also appear at its most extreme in people with Dissociative Identity Disorder. When Deci and Ryan (2009) speak of self-determined individuals, they speak of individuals who have conquered the intrapersonal isolation that can sometimes result from behaving out of a desire to be loved, rather than out of intrinsic factors.

Although often comorbid with interpersonal and intrapersonal isolation, existential isolation stands apart from these other forms of isolation in theoretically meaningful ways. Yalom (1980) describes existential isolation as the unbridgeable gap between people, a gap that we often deny or cover up, but that can be felt most poignantly during key moments in life:

☆ National Institute of Mental Health grant R01MH067823-02, as well as National Science Foundation grant BCS 1148847, funded portions of this research.

* Corresponding author at: 348 Dewey Hall, Department of Psychological Science, University of Vermont, Burlington, VT 05405, United States.
E-mail address: epinel@uvm.edu (E.C. Pinel).

http://dx.doi.org/10.1016/j.paid.2016.09.024
0191-8869/

"No matter how close each of us becomes to another there remains a final unbridgeable gap; each of us enters existence alone and must depart from it alone. The existential conflict is thus, the tension between our awareness of our absolute isolation and our wish to be part of a larger whole (Yalom, 1980)."

Yalom focuses on what he argues is the reality of the human condition – the reality of existential isolation. From Yalom's perspective, then, every human is existentially isolated. Although we agree that every human has the potential to experience existential isolation, here we focus specifically on the *feeling* of existential isolation. People feel existentially isolated when they feel alone in their experience, as though nobody else shares their experience or could come close to understanding it. One could argue that all people are indeed existentially isolated from one another (Yalom, 1980), insofar as subjective experience results from the filtering of any given stimulus through an individual's sense organs and higher level cognitive apparati and processes (Bruner, 1990). Practically, however, not all individuals experience this existential isolation and certainly not all people experience it all or even most of the time. Here we concentrate on these individual differences, which may stem from situational or dispositional causes.

1.1. What factors influence feelings of existential isolation?

Not all people walk around with heightened feelings of existential isolation. Some people erroneously assume that they share psychological states with significant others (Murray, Holmes, Bellavia, Griffin, & Dolderman, 2002), or overestimate the number of people who share their beliefs and attitudes (i.e., the *false consensus effect*; Ross, Greene, & House, 1977). Such thinking may keep existential isolation levels in check. Other strategies that may reduce existential isolation, and that people deploy with varying degrees of success, include seeking out confirmation for their belief systems (Landau et al., 2004; Swann, 1996) and even changing their own views to coincide with those of psychologically salient others (Asch, 1951; Hardin & Higgins, 1996; Sinclair, Huntstinger, Skorinko, & Hardin, 2005).

What factors then, increase people's levels of existential isolation? Feeling existentially isolated, we argue, results either from chronically or acutely (or both) having different subjective experiences from others. For instance, a young child who regularly follows all of her parents' wishes and strives only to please them may develop dispositionally high levels of existential isolation to the extent that her parents deny her goodness and call her incorrigible and mischievous throughout her childhood. She may feel "alone in her experience," as though no one truly understands her own private experience of herself (which is that she is a good kid!).

One need not experience a lifetime of misunderstanding to experience existential isolation, however. For example, a gay man may experience an acute case of existential isolation in the context of a heterosexual wedding where romantic connections of the heterosexual kind dominate the conversation. He may feel as though his conception of romantic connection and partnership shares no common ground with the prevailing, heterosexual conceptions being expressed. In contrast, those forming part of the dominant social reality of the occasion would feel low in existential isolation, presumably because of the surplus of seemingly like-minded others.

1.2. Why researchers should isolate existential isolation

Existential isolation can rattle people's psychological equanimity (Pinel, Long, Landau, & Pyszczynski, 2004; Yalom, 1980) and thus could very well contribute to the negative consequences previously chalked up to social isolation more broadly construed. Drawing inspiration from Yalom (1980), as well as from research and theorizing on the social construction of reality (Berger & Luckmann, 1966; Echterhoff, Higgins, & Levine, 2009; Hardin & Higgins, 1996; Swann & Bosson, 2010), Pinel et al. (2004) and Pinel, Long, Landau, Alexander, and Pyszczynski (2006) note that existential isolation poses challenges to the needs for belief validation and connectedness that sustain people psychologically and that fill their lives with a sense of meaning. As beings who construct reality socially (Berger & Luckmann, 1966; Echterhoff et al., 2009; Hardin & Higgins, 1996; Swann & Bosson, 2010), we rely on others to confirm our conceptions of reality. If others cannot access our conceptions of reality, however (and if we cannot access theirs), this whole process gets called into question and we find ourselves in a meaningless abyss (Greenberg, Solomon, & Arndt, 2008; Landau et al., 2004; Swann, 1996).

The feelings of safety and protection that stem from our social connections with others (e.g., Mikulincer, Florian, & Hirschberger, 2003) also diminish when feelings of existential isolation loom large. Feeling misunderstood and feeling connected are antithetical (Murray et al., 2002; Swann, De La Ronde, & Hixon, 1994). As a whole, then, prolonged and enduring feelings of existential isolation can threaten our needs for belief validation and belonging, thus rendering us vulnerable to feelings of meaninglessness, social influence, poor judgment, and negative self-feelings (Costello & Long, 2014; Pinel, Long, & Crimin, 2010).

The potential mental health consequences of existential isolation give us reason enough to study it empirically. That said, existential isolation could have significant and deleterious interpersonal consequences as well, consequences that add to the need to distinguish it from other forms of isolation. Existential isolation is a form of social isolation insofar as feeling existentially isolated hinges on the existence of other people who (we presume) have different subjective experiences from our own. Moreover, we know from correlational and experimental research that social isolation takes an enormous toll on individuals and communities. Social isolation causes drops in well-being (Zadro, Williams, & Richardson, 2004), and increases hostile cognitions (DeWall, Twenge, Gitter, & Baumeister, 2009) and outward displays of aggression (Gaertner, Iuzzini, & O'Mara, 2008). Social isolation predicts suicide attempts (Gini & Espelage, 2014), is implicated in homicide (Leary, Kowalski, Smith, & Phillips, 2003; Leary, Twenge, & Quinlivan, 2006), and correlates with depression (Cacioppo, Hawkley, & Thisted, 2010) and both internalizing and externalizing problem behaviors (Hymel, Rubin, Rowden, & LeMare, 1990).

We maintain that research uncovering the nefarious consequences of social isolation – broadly construed – calls for a more nuanced study of it. Yet to date, empirical work on social isolation does not tease existential isolation apart from interpersonal isolation. Despite knowing, then, that social isolation has negative effects, we do not currently have a way of determining which form of social isolation accounts for these effects. Having a validated measure of existential isolation could thus help advance our understanding of the effects of social isolation.

1.3. The present research

For both theoretical and empirical reasons, scholars of mental health and of interpersonal processes may want to consider the role that existential isolation plays in their research. The studies reported in this manuscript detail the validation of a measure that would allow them to do so. Studies 1 and 2 report on the development of the Existential Isolation Scale, as well as on its convergent, discriminant, and criterion validities. Study 3 asks whether a situational manipulation of existential isolation increases scores on the Existential Isolation Scale as well as whether scores on the Existential Isolation Scale remain stable over a 2-week period.

2. Study one: development of the Existential Isolation Scale

2.1. Method

In Study 1 we aimed to develop an internally consistent measure of existential isolation. Following classic scale validation procedure, we began with a large pool of possible items, with the goal of extracting

from this larger, all-inclusive pool items that together formed one unique, internally consistent factor. Also in Study 1, we examined the discriminant validity of the scale. As such, in addition to measuring responses to all of our possible existential isolation items, we measured responses to previously validated measures of potentially related and overlapping constructs, including loneliness, belongingness needs, interpersonal reliance, and alienation. We expected to develop an internally consistent measure of existential isolation that could be discriminated from other measures of interpersonal constructs.

2.1.1. Participants and procedure

A total of 352 undergraduate students in an introductory psychology course participated in the study in return for course credit. We deleted the data from 5 participants for whom we noted data entry errors. A total sample of 347 participants remained: 86 males, 250 females, and 11 participants who did not report their gender. The majority ($n = 299$) of these students identified as European American (16 Black; 17 Asian; 1 Native Hawaiian/Pacific Islander; 8 multiracial; 6 did not report race). Eleven students identified their ethnicity as Latino/Latina; 333 identified as non-Latino/Latina; 3 did not report their ethnicity.

2.1.2. Materials

Participants arrived at the study session in groups ranging in size from 15 to 30 individuals. After providing informed consent, each participant completed a packet of questionnaires. The contents of this packet were as follows.

2.1.2.1. Potential scale items. We started with a pool of 44 items, 22 of which centered around the theme of the extent to which people share the respondent's experiences. We chose this theme because of its alignment with our definition of existential isolation: feeling as though one differs, either chronically or acutely, with respect to one's subjective experience. Samples included "People usually do not understand my experiences" and "I often have the same reactions to things that other people around me do." The remaining 22 items centered around the theme of a desire for existential connectedness. Sample items included "I want other people to feel the way I do," and "It is not important to me to think about things in the same way as other people." Participants responded to all items using a 10-point Likert scale, ranging from 0 (strongly disagree) to 9 (strongly agree). Half of the items were reverse-coded.

We administered these 44 items in two different orders. Some participants completed all 44 items before completing any other questionnaires; others completed all of the questionnaires before completing these 44 items.

2.1.2.2. Need to Belong. The Need to Belong Scale (Leary, Kelly, Cottrell, & Schreindorfer, 2013) is a 10-item scale that measures people's desire to feel accepted and included by others ($\alpha = 0.79$). Participants rate their level of agreement with items such as, "I try hard not to do things that will make other people avoid or reject me," "I do not like being alone," and "I have a strong need to belong." Participants in the current study responded on a five-point scale ranging from 0 (not at all) to 4 (extremely). Higher levels of agreement indicate a higher need to belong.

Because many of its items implicate physical proximity to others, we consider the Need to Belong Scale as tapping into interpersonal isolation more so than existential isolation. Thus, including the Need to Belong Scale in Study 1 allowed us to assess the discriminant and convergent validities of the Existential Isolation Scale. We expected no higher than a moderate correlation between the Existential Isolation Scale and the Need to Belong Scale.

2.1.2.3. Existential Loneliness Questionnaire. Mayers, Khoo, and Svartberg (2002) created the Existential Loneliness Questionnaire (ELQ) for use with HIV-positive patients, and not for a general population. Given its name, one might erroneously conclude that the ELQ measures the present construct of interest. However, the ELQ, at least at face value, measures feelings of interpersonal isolation rather than feelings of existential isolation. We nonetheless included this measure here, for the purpose of validating our own scale.

We began by rewording items that focused specifically on HIV-positive individuals to make those items applicable to our general sample. For example, we shortened the original item "Because I am HIV+ I feel hopeless about having a romantic relationship" to: "I feel hopeless about having a romantic relationship." The measure consists of 22 items ($\alpha = 0.91$), to which participants in the current study responded on a 10-point scale ranging from 0 (not at all true of me) to 9 (very much true of me). We included this measure because of its nominal link to existential isolation. That said, some of the items seem to capture more of what we think of as interpersonal isolation (e.g. "I feel lonely" and "I feel I have people I can trust and rely on if I need them"). For this reason, we expected to observe only a moderate, positive correlation between our measure and the Existential Loneliness Questionnaire.

2.1.2.4. UCLA Loneliness Scale, Version 3. The UCLA Loneliness Scale assesses feelings of loneliness and interpersonal isolation ($\alpha = 0.93$). Sample items include: "How often do you feel part of a group of friends?" and "How often do you feel alone?" The version we used (Russell, 1996) has 20 items, for which participants indicate how often, on a 4-point Likert scale ranging from 1 (never) to 4 (always), they feel the way described in each statement. As with the previous two scales, we expected no more than a moderate, positive correlation between the UCLA Loneliness Scale and the Existential Isolation Scale.

2.1.2.5. Alienation Scale. Jessor and Jessor (1977) developed the Alienation Scale to assess generalized feelings of alienation, focusing on feelings of isolation and purposelessness in daily life. This scale has 15 items ($\alpha = 0.84$) and uses a 4-point Likert scale, ranging from 0 (strongly disagree) to 3 (strongly agree). Some items seemed theoretically relevant to the construct of existential isolation, such as "Hardly anyone I know is interested in how I really feel inside" and "I often feel alone when I am with other people." Including this measure allowed us to look for evidence of our scale's convergent validity. We expected a moderate, positive correlation between the two scales.

2.1.2.6. Social Desirability Scale. Standard scale validation procedure prescribes the inclusion of a measure of social desirability. We chose Crowne and Marlowe's (1960) Social Desirability Scale. Participants indicated whether each of 33 statements was true or false for them ($\alpha = 0.76$). Items from this measure include, "I am always careful about my manner of dress" and "I am always courteous, even to people who are disagreeable."

2.1.2.7. Interpersonal Dependency Inventory. The Interpersonal Dependency Inventory (Hirschfeld et al., 1977), consists of 46 items ($\alpha = 0.80$) that span three subscales: emotional reliance (e.g., "I have always had a terrible fear that I will lose the love and support of people I desperately need"), assertion of autonomy (e.g., "I rely only on myself"), and lack of social self-confidence (e.g., "When I meet new people, I'm afraid that I won't do the right thing"). Participants responded to each item using a 4-point scale, ranging from 0 (not at all characteristic of me) to 3 (very characteristic of me). Following Pinel et al. (2006), we especially expected a positive correlation between existential isolation and interpersonal dependency.

2.1.2.8. Self-Liking and Competence Scale. We assessed trait self-esteem with Tafarodi and Swann's (1995) Self-Liking and Competence Scale (SLC). Participants used a 5-point Likert scale (0 = strongly disagree, 4 = strongly agree) to rate the extent to which they agreed with each of the 20 items.

The SLC conceptualizes self-esteem as two-dimensional, comprised of feelings of social worth and feelings of personal efficacy. The two

subscales allow for an assessment of the constructs of self-liking and self-competence separately, as well as creating an overall assessment of self-worth when taken together. Sample self-liking items include "I like myself" and "I feel comfortable about myself" ($\alpha = 0.92$). Sample self-competence items include: "Owing to my capabilities, I have much potential" and "I perform very well at a number of things" ($\alpha = 0.87$).

2.1.2.9. Ten Item Personality Inventory (TIPI). The TIPI is a ten-item measure developed by Gosling, Rentfrow, and Swann (2003) to assess participants' endorsement of the Big Five personality traits. Respondents see paired characteristics (e.g., "anxious, easily upset" and "sympathetic, warm") that represent the Big Five personality domains, and indicate how much each pair of traits applies to them. Participants made these ratings on a 7-point scale ranging from 0 (strongly disagree) to 6 (strongly agree).

2.1.2.10. Demographic questions. Participants reported their gender, ethnicity, race, age, and sexual orientation, and whether they were a foreign student. We also asked several exploratory questions that we do not cover here (e.g., frequency of cell phone use; frequency of phone contact with family members).

2.2. Results

We originally thought that all 44 of our items would implicate existential isolation, insofar as people who regularly have different experiences from others might also wish for this not to be the case. Because of their potential conceptual overlap, we submitted the 22 items designed to tap existential isolation together with the 22 items designed to tap a desire for existential connection to a principal axis factor analysis with varimax rotation (changing the rotation to oblimin did not change the results). We used a combination of theory and eigenvalue and scree plot analysis to extract our factors. Specifically, we had designed our questions with two constructs in mind, and the two top factors that emerged had eigenvalues > 4 and corresponded with our anticipated factors. The existential isolation factor had an eigenvalue of 7.12, accounting for approximately 16% of the common variance. The desire for existential connectedness factor had an eigenvalue of 4.68, accounting for approximately 11% of the common variance. For each factor, we retained 6 items that loaded 0.47 or higher on their respective factor and that showed no signs of cross-loading. Scores on these two scales correlated weakly and negatively, $r(347) = -0.12$, $p = 0.03$.

We next verified this factor structure with another principal axis factor analysis, this time on the 12 retained items. Again, two factors emerged. This time, the existential isolation factor had an eigenvalue of 3.42 and accounted for approximately 28.5% of the common variance. The desire for existential connectedness factor had an eigenvalue of 2.53 and accounted for approximately 21% of the common variance. All items loaded 0.46 or higher on their respective factor (see Table 1), and no item cross-loaded.

Table 1
Study 1: The Existential Isolation Scale and its factor loadings.

Existential Isolation Scale	Factor loadings
1. I usually feel like people share my outlook on life. (R)	0.63
2. I often have the same reactions to things that other people around me do. (R)	0.71
3. People around me tend to react to things in our environment the same way I do. (R)	0.74
4. People do not often share my perspective.	0.52
5. Other people usually do not understand my experiences.	0.46
6. People often have the same "take" or perspective on things that I do. (R)	0.64

We also examined the internal consistency of our factors. The items comprising the existential isolation factor showed a Cronbach's alpha of 0.78; the items comprising the desire for existential connectedness factor showed an alpha of 0.76.

Having isolated the six items to comprise the Existential Isolation Scale, we next assessed its convergent and discriminant validities. We reasoned that existential isolation, insofar as it measures a form of separateness from others, should correlate positively with other measures that tap into separation broadly construed. At the same time, it should be distinguishable from measures that primarily tap interpersonal isolation. Looking at the correlation matrix in Table 2, we find support for this thinking. Existential isolation correlated significantly and positively with alienation ($r = 0.32$), loneliness ($r = 0.34$), and existential loneliness ($r = 0.28$). Existential isolation also correlated positively with interpersonal dependency ($r = 0.23$).

Somewhat surprisingly, but underscoring its discriminant validity, existential isolation did not correlate with a need to belong ($r = -0.06$). Existential isolation showed statistically significant, *negative* correlations with all five big five traits: extroversion ($r = -0.30$), agreeableness ($r = -0.18$), conscientiousness ($r = -0.15$), emotional stability ($r = -0.19$), and openness to experience ($r = -0.11$). It also correlated negatively with self-liking ($r = -0.23$) and self-competence ($r = -0.28$) and, as noted earlier, with a need for existential connectedness ($r = -0.12$). Interestingly then, people high in existential isolation tended to exhibit a dampened desire for the very kind of interpersonal experience that could ease their isolation (i.e., experiences of existential connectedness).

We next turned to the task of assessing the discriminant validity of our scale. We looked at what differentiated existential isolation from the constructs with which it correlated the strongest: alienation ($r = 0.32$), extroversion ($r = -0.30$), and loneliness ($r = 0.34$). Turning to the correlation matrix in Table 3, we see that existential isolation and alienation differ with regard to their connections to the desire for existential connectedness, need to belong, loneliness, and social desirability, among other things. Specifically, where existential isolation correlates negatively with the desire for existential connectedness ($r = -0.12$), alienation correlates positively ($r = 0.20$). Where existential isolation and need to belong show no correlation ($r = -0.06$), alienation and need to belong show a positive correlation ($r = 0.23$). Whereas existential isolation correlates at 0.34 with loneliness, alienation correlates at 0.78 with loneliness. Lastly, existential isolation does not correlate with social desirability ($r = -0.08$), but alienation does ($r = -0.37$). In short, it appears as though alienation shares more of the variance with factors relevant to interpersonal isolation than does existential isolation, attesting to the discriminant validity of these constructs.

Table 2
Study 1: Convergent validity of the Existential Isolation Scale for the whole sample and separately by gender.

Existential isolation			
Measure	Whole sample	Females	Males
Desire for existential connection	−0.12*	−0.14*	−0.14
Alienation	0.32**	0.32**	0.29*
UCLA Loneliness Scale	0.34**	0.34**	0.33*
Existential loneliness	0.28**	0.27**	0.28*
Interpersonal dependency	0.23**	0.24**	0.18
Need to belong	−0.06	−0.08	0.10
Extroversion	−0.30**	−0.25**	−0.43**
Agreeableness	−0.18*	−0.16*	−0.17
Conscientiousness	−0.15*	−0.13*	−0.18
Emotional stability	−0.19**	−0.27**	−0.01
Openness to experience	−0.11*	−0.14*	−0.05
Self-liking	−0.23**	−0.21*	−0.34*
Self-competence	−0.28**	−0.27**	−0.34*
Social desirability	−0.08	−0.12	0.00

* $p < 0.05$.
** $p < 0.001$.

Table 3
Study 1: Discriminant validity of the Existential Isolation Scale.

	Existential isolation	Alienation
Desire for existential connection	−0.12*	0.20**
Need to belong	−0.06	0.23**
UCLA Loneliness Scale	0.34**	0.78**
Social desirability	−0.08	−0.37**
	Existential isolation	**Extroversion**
Desire for existential connection	−0.12*	−0.06
Agreeableness	−0.18*	−0.02
Conscientiousness	−0.15*	0.06
Emotional stability	−0.19**	0.09
Need to belong	−0.06	−0.13*
Openness to experience	−0.11*	0.35**
	Existential isolation	**Loneliness**
Desire for existential connection	−0.12*	0.10
Need to belong	−0.06	0.22**
Alienation	0.32**	0.78**

* $p < 0.05$.
** $p < 0.001$.

With respect to extroversion, recall that it correlated negatively and moderately with existential isolation. Looking at how these two constructs can be discriminated, we see that extroversion and existential isolation can be distinguished from one another in terms of their relation with the desire for existential connectedness, agreeableness, conscientiousness, emotional stability, the need to belong, and openness to experience. Whereas existential isolation correlated negatively with the desire for existential connectedness ($r = -0.12$), agreeableness ($r = -0.18$), conscientiousness ($r = -0.15$), and emotional stability ($r = -0.19$), extroversion did not correlate significantly with any of these constructs (*r*s range from −0.02 to 0.09). With regard to the need to belong, however, existential isolation did not correlate with this construct ($r = -0.06$) but extroversion did ($r = -0.13$), such that lower extroversion scores corresponded to a greater desire to belong. Lastly, existential isolation correlated with openness at $r = -0.11$, whereas extroversion correlated with openness at $r = 0.35$. As with alienation, extroversion appears to tap interpersonal connectedness to a greater extent than does existential isolation.

Correlates of the UCLA loneliness scale tell a similar story. The UCLA loneliness scale correlates marginally ($p < 0.10$) but positively with the desire for existential connectedness ($r = 0.10$). Existential isolation, on the other hand, correlates negatively with the desire for existential connectedness ($r = -0.12$). Also, relative to the existential isolation scale, UCLA loneliness correlates positively with the need to belong ($r = 0.22$) and shares a substantial portion of its variance with alienation ($r = 0.78$). In contrast, existential isolation does not correlate with the need to belong ($r = -0.06$) and correlates with alienation at $r = 0.32$.

In sum, the three constructs that shared the greatest variance with existential isolation could nonetheless be discriminated from it. Generally speaking, all three constructs tap into interpersonal isolation/connectedness more so than existential isolation/connectedness. This further establishes our scale as cleanly tapping into a form of isolation previously discussed as intrapsychically and interpersonally significant (Yalom, 1980), but very rarely studied empirically (for a few exceptions see Pinel & Long, 2012 and Pinel et al., 2006, 2010).

As seen in Table 2, similar patterns of correlations emerged for males and females. This said, males showed significantly higher levels of existential isolation ($M = 3.85$, $SD = 1.32$) than females ($M = 3.43$, $SD = 1.18$), $t(334) = 2.78$, $p < 0.01$, $d = 0.34$. Males and females did not, however, differ with respect to the desire for existential connectedness, $t < 1$.

Why did our males evince higher levels of existential isolation (on average) than our females? Stereotypes about gender and the pressure to live up to those stereotypes may have something to do with it. In the United States, cultural stereotypes dictate that males are agentic, independent, and emotionally disconnected from others whereas females are nurturing, passive, and in-tune with others and their emotions (Durik et al., 2006; Fiske, 1998; Fiske, Cuddy, & Glick, 2007). These stereotypes may foster a tendency for males to shy away from experiences that result in feeling existentially connected to other people, thus leaving them more existentially isolated than females.

3. Study two: confirmatory factor analysis

In Study 1 we developed a 6-item scale of existential isolation that yields statistically reliable scores that relate to but can be distinguished from relevant and related constructs. Study 1 utilized an exploratory principal axis factor analysis to develop the Existential Isolation Scale; here we follow the exploratory analysis up with a confirmatory one conducted on a separate sample.

3.1. Method

3.1.1. Participants

Participants comprising Study 2 came from multiple samples taken from two universities in the Northeastern region of the United States. Our Study 2 sample consisted of 576 participants (377 female; 198 male; 1 unknown) ($M_{age} = 18.99$, $SD = 1.26$). Of these participants, 13 identified as Hispanic, 559 identified as not Hispanic, and 4 did not report this information. With regard to race, 522 identified as white, 7 as Black/African American, 19 as Asian, 2 as Pacific Islander, 13 as multiracial, 5 as Other, and 8 did not report this information.

3.1.2. Procedure and materials

We administered this investigation online. Participants accessed a secure website to complete the 6-item Existential Isolation Scale, described in Study 1 (see also Appendix A). Participants completed additional measures not relevant to the current study, with perhaps the exception of the Desire for Existential Connectedness Scale. Because this paper concentrates on the Existential Isolation Scale, we dedicate the main text to the discussion of this scale. Nonetheless, we share in footnote 1 the results for the Desire for Existential Connectedness Scale.[1]

3.2. Results

We asked whether our one-factor solution from Study 1 replicated. We ran a confirmatory factor analysis (CFA) with RStudio software (version 00.99.482). We used Maximum Likelihood Estimation to determine whether our 6-item Existential Isolation Scale indeed loaded onto a single factor. Indeed, one solid factor emerged, with item loadings ranging from 0.324 to 0.909 ($M_{loading} = 0.645$). For all model estimations, error and disturbance weights were fixed to one (McDonald & Ho, 2002). Per common practice (e.g., Brown, 2006; Hooper, Coughlan, & Mullen, 2008; McDonald & Ho, 2002), we report multiple fit indices to determine the goodness of fit for our model. In this case, we report two absolute fit indices: relative chi-square statistic (Wheaton, Muthen, Alwin, & Summers, 1977) and root-mean-square error of approximation (RMSEA: Steiger, 1990); and two incremental fit indices: Comparative Fit Index (CFI; Bentler, 1990), and Tucker-Lewis Index (TLI: Tucker & Lewis, 1973) to triangulate on the goodness of fit of our model. Absolute fit indices measure how the model fits in comparison to no model at all, which uses the chi-square value in its raw form (Hooper et al., 2008; McDonald & Ho, 2002). Incremental fit indices, on the other hand,

[1] We also conducted a CFA on the Desire for Existential Connectedness Scale, and we again report multiple indices. The chi-square test suggested our data diverge from the hypothesized model, $X^2(9) = 58.194$, $p < 0.001$, but again utilizing a relative chi-square approach (Wheaton et al., 1977), our relative chi-square value is 6.466. RMSEA = 0.098 [90% CI: 0.075 to 0.123]; CFI = 0.943 and TLI = 0.904. The measurement component of the model displayed some variability (β weights for factor loadings ranged from 0.561 to 0.779).

compare the chi-square value to a baseline model, which assumes that all variables are uncorrelated (McDonald & Ho, 2002).

Our CFA analysis revealed a significant chi-square, $X^2(9) = 42.883$, $p < 0.001$, suggesting that the data significantly diverge from the hypothesized model. However, chi-square interpretations have severe limitations. Chi-square assumes multivariate normality and large sample sizes often yield statistical significance (Bentler & Bonett, 1980; McIntosh, 2006). Using Wheaton et al.'s (1977) relative chi-square approach (X^2/df), with recommended cutoffs between 2.0 and 5.0 (Tabachnick & Fidell, 2007; Wheaton et al., 1977), our relative chi-square value is, at 4.765, within the range of acceptable fit.

RMSEA indications overcome limitations of chi-square estimates by accounting for discrepancies between our model and population parameters (Steiger, 1990). Typical cutoffs for RMSEA indices range from 0.05 to 0.08, according to some sources (e.g., McDonald & Ho, 2002), and from 0.05 to 0.10 according to others (e.g., Hooper et al., 2008). In our model, RMSEA = 0.082, [90% CI: 0.058 to 0.107].

Incremental fit indices suggest that our model fits the data well: CFI = 0.975 and TLI = 0.958. With incremental fit indices, values above 0.90 indicate acceptable fit and values above 0.95 indicate superior fit (Hooper et al., 2008; McDonald & Ho, 2002). Our scale also showed strong internal consistency ($\alpha = 0.809$). As in Study 1, existential isolation and the desire for existential connection correlated negatively, but weakly, $r(576) = -0.198$, $p < 0.001$.

3.3. Discussion

We conducted a CFA on a larger combined sample taken from two universities. We utilized multiple fit indices to triangulate on how well our proposed model fit the data, and all indices (save the now-questioned chi-square index) suggest that our model is indeed a good fit. With two separate samples confirming that our Existential Isolation Scale measures a single construct, we turned our attention to the manipulability and test-retest reliability of scores on the scale.

4. Study three: a situational manipulation and test-retest reliability

Studies 1 and 2 attest to the validity of the Existential Isolation Scale and highlight several correlates that await further study. Given our scale validation focus in the current manuscript, however, we next turned our attention to questions of the stability and manipulability of existential isolation. In addition to measuring test-retest reliability over a 2-week period, we asked whether people's scores on the Existential Isolation Scale rise in response to situational manipulations of existential isolation. To this end, participants first completed a baseline measure of existential isolation. Next, they wrote about a time when they felt existentially isolated, interpersonally isolated, or existentially connected. Finally, they completed a second measure of existential isolation. We expected to find an increase in existential isolation among those primed with existential isolation, but not among those in the other two conditions.

Two weeks after the priming experiment, we invited participants to complete one last measure of existential isolation. This enabled us to determine the test-retest reliability of existential isolation over a two-week period.

4.1. Method

4.1.1. Participants

Two hundred fifty-two students enrolled in an introductory psychology course participated in the first phase of the study as part of a course research requirement. Because of a data entry error, we could not use the data for 4 of these participants; this left us with a total of 248 participants in the final, Phase I sample (154 female; 86 male; 8 unknown).

One hundred forty four people from the Phase I sample (58%) also participated in Phase II. Because of a methodological oversight, we have demographic data only for these participants (and not for the entire Phase I sample). Of these participants, 108 identified as White; 5 identified as Black; 15 as Asian; 8 as multiracial; and the rest did not provide race data. With respect to ethnicity, 9 of the 144 participants identified as Hispanic; 134 did not; 1 did not provide this information (modal age = 19).

4.1.2. Procedure and materials

4.1.2.1. Phase I: priming experiment. Participants completed the experiment in a classroom setting, with 5–20 participants present during each session. After providing informed consent, participants filled out the Existential Isolation Scale. Next, they completed a filler task that asked them their liking for people in a range of scenarios. Completing this task allowed some time to pass (approximately 10 min) between the first administration of the Existential Isolation Scale and the priming manipulation.

After the filler task, participants completed a writing task, which served as our prime manipulation. Given our perspective on existential isolation – namely, that people feel existentially isolated when they feel as though no one understands them or reacts the same way as they do to a stimulus – we asked participants randomly assigned to the *existential isolation* condition to write about a time when no one understood how they saw things or how they were feeling. Participants randomly assigned to the *interpersonal isolation* condition wrote about a time when they were physically alone; and participants randomly assigned to the *existential connectedness* condition wrote about a time when people really understood them and saw things the same way they did (for the precise instructions used, see Appendix B).

After all participants had finished writing, the experimenter explained that she had mistakenly collected their first questionnaire when she should have asked them to place it in the folder that they had been given. Now, the experimenter explained, there was no way to know whose questionnaire was whose. She thus asked participants to complete the Existential Isolation Scale a second time and this time to place it in their folder with the rest of their questionnaires. In actuality, the first measure that participants had completed had a number hidden on the back of the form, allowing us to match it with the number on each participant's folder. This procedure enabled us to determine how participants' existential isolation levels changed from before the priming manipulation to after the priming manipulation.

Following completion of the second Existential Isolation Scale, participants completed the UCLA Loneliness Scale (Russell, 1996), which served as our measure of interpersonal isolation and which we describe in Study 1. Including this measure enabled us to verify that our findings were unique to existential isolation.

We also administered a modified version of the PANAS (Watson, Clark, & Tellegen, 1988), the Self Liking and Competence Scale (Tafarodi & Swann, 1995), and the Existential Loneliness Questionnaire (Mayers et al., 2002).

4.1.2.2. Phase II: test-retest reliability. Two weeks after they had completed the priming experiment, an experimenter contacted the participants via email. The email directed participants to a secure website where they could complete the Existential Isolation Scale. Also via this email, the experimenter provided participants with a personal identification number, which happened to correspond to their folder number from the initial session. Participants entered this PIN prior to completing the Existential Isolation Scale, thus allowing us to match up their questionnaires.

4.2. Results

Did writing about existential isolation cause scores on the Existential Isolation Scale to rise? To answer this question, we subjected participants' existential isolation scores from before and after the writing task to a 3 (Prime: existential isolation, interpersonal isolation, existential connectedness) × 2 (Existential Isolation: before prime, after prime) repeated

measures ANOVA, with repeated measures on the second factor. This analysis revealed a statistically significant main effect of existential isolation, which increased from before the prime ($M = 3.42$) to after the prime ($M = 3.55$), $F(1, 245) = 20.61$, $p < 0.01$, $\eta_p^2 = 0.078$, that was qualified by the predicted interaction between prime and existential isolation, $F(2, 245) = 4.25$, $p = 0.02$, $\eta_p^2 = 0.034$. As indicated pictorially in Fig. 1, participants who wrote about existential isolation showed a statistically significant increase in existential isolation from before the prime ($M = 3.35$) to after the prime ($M = 3.60$), $F(1, 245) = 22.03$, $p < 0.01$, $\eta_p^2 = 0.083$. Also worthy of note, participants who wrote about being physically alone showed a marginally significant increase in existential isolation from before the prime ($M = 3.50$) to after the prime ($M = 3.58$), $F(1, 245) = 3.44$, $p = 0.07$, $\eta_p^2 = 0.014$, suggesting perhaps that interpersonal isolation contributes to feelings of existential isolation.

Importantly, we found no effect of the writing manipulation on scores on the UCLA Loneliness scale, $F(2, 245) = 0.34$, $p = 0.71$, $\eta_p^2 = 0.003$. We also did not find any effect on participants' positive affect, $F(2, 245) = 1.57$, $p = 0.21$, $\eta_p^2 = 0.013$, negative affect, $F(2, 245) = 0.56$, $p = 0.57$, $\eta_p^2 = 0.005$, self-liking/self-competence, $F(2, 245) = 0.36$, $p = 0.70$, $\eta_p^2 = 0.003$, or existential loneliness, $F(2, 245) = 1.63$, $p = 0.20$, $\eta_p^2 = 0.013$. Our prime appears only to have affected the measure most relevant to it: the Existential Isolation Scale.

4.2.1. Test-retest reliability

Do feelings of existential isolation remain stable over the course of a 2-week period? To answer this question, we calculated the correlation between existential isolation assessed at the start of the priming experiment and existential isolation scores assessed two weeks later. A statistically significant positive correlation emerged, $r(144) = 0.78$, $p < 0.01$.

We also asked whether our priming manipulation showed enduring effects by running the same repeated measures analysis reported above, with one difference: instead of looking at existential isolation before the prime and immediately after the prime as our repeated measure, we looked at existential isolation before the prime and two weeks later as our repeated measure. Here we see no interaction between prime and existential isolation, $F(2, 141) = 1.72$, $p = 0.18$, $\eta_p^2 = 0.024$. Thus, although people's existential isolation levels can go up or down depending on the situation, the effect of the manipulation appears short-lived, at least using the operational definitions chosen here.

5. General discussion

Despite its theoretical (Pinel et al., 2004; Yalom, 1980) and empirical significance (Helm, Lifshin, Greenberg, & Ashish, 2016; Pinel & Long, 2012; Pinel et al., 2006, 2010), few scholars of mental health and interpersonal constructs have devoted their attention to existential isolation. We attribute this unfortunate neglect of the construct to the heretofore lack of its explicit articulation and, perhaps more importantly, to the lack of a well-validated measure. Here we bring light to the construct of existential isolation by providing validation of the Existential Isolation Scale and by highlighting its significant correlates.

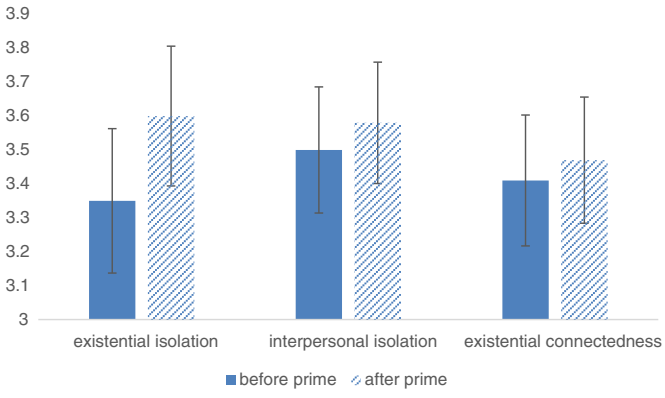

Fig. 1. Study 3: existential isolation scores from before the prime to after the prime as a function of prime condition.

The results of our three studies validate the Existential Isolation Scale, establish its convergent and discriminant validities, and establish both its stability and manipulability.

We observed that although existential isolation correlates as predicted with conceptually related variables, it is also distinct from them. Most importantly, existential isolation differs from measures of interpersonal isolation, such as measures of the need to belong and loneliness. Moreover, when participants wrote about a time when they felt existentially isolated, their scores on the Existential Isolation Scale increased but their scores on the UCLA Loneliness Scale did not. Taken as a whole, the studies presented here attest to the validity of the Existential Isolation Scale and to the uniqueness of the existential isolation construct.

Future researchers in the area of existential isolation have a lot of directions they may take. Some of us, for example, have begun to pursue possible precursors to dispositionally high levels of existential isolation, such as early attachment relationships. Some people may, as infants, have had inattentive caregivers who did not validate their experiences (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969, 1973, 1980). This lack of validation, in turn, may have contributed to a feeling of existential disconnect that continues to this day (Hazan & Shaver, 1987; Mikulincer & Shaver, 2007). New work in this area supports this reasoning, insofar as existential isolation correlates positively with insecure attachment, and with dismissing avoidant attachment in particular. Not surprisingly, existential isolation correlates negatively with secure attachment (Helm, Lifshin, & Greenberg, 2016).

In other research, we ask how belonging to a demographic minority could impact one's existential isolation level. Looking at existential isolation across a variety of social groups reveals a consistent pattern: individuals belonging to stigmatized groups have, on average, higher existential isolation than their non-stigmatized counterparts (e.g., see Yawger, Helm, Johnson, & Pinel, 2016). Future work in this area might examine how existential isolation connects with people's experiences as targets of stigma, and in particular whether it renders people more vulnerable to the effects of stigma.

Significant life events – such as having participated in and witnessed active combat – may also leave people feeling existentially isolated, as though only those who have had their exact same experience can truly relate to them (Greening, 1997; Herman, 1997; May, 1999). As May (1999) noted in his description of war veterans suffering from PTSD, "They were unable to take part in the feelings and thoughts of others or share oneself with others" (p. 21). In effect, they were existentially isolated. Drawing from this, researchers and practitioners with a focus on trauma and trauma recovery may find the construct of existential isolation particularly relevant to the people they strive to help.

As we noted earlier, the existential isolation construct also has particular significance for the work on social isolation and its correlates and consequences. Scholars interested in the consequences of social isolation may want to consider the role that existential isolation may play in processes and outcomes associated with social isolation.

It almost goes without saying that researchers will also want to consider how to address feelings of existential isolation. Theoretically speaking, successful interventions would render a person with a greater sense of shared subjective experience with others. Research on I-sharing proves relevant to this cause, insofar as I-sharing is an interpersonal experience characterized by a feeling of existential connectedness, by a feeling of shared in-the-moment subjective experience (Pinel & Long, 2012; Pinel, Long, & Huneke, 2015; Pinel et al., 2004, 2006, 2010). Indicating its promise for tackling existential isolation, research on I-sharing indicates that people with heightened existential isolation levels – whether measured or situationally manipulated – show an especial preference for an I-sharer (Pinel, Johnson, & Long, 2016; Pinel & Long, 2012; Pinel et al., 2006).

Some additional possibilities for addressing existential isolation include therapeutic approaches that cultivate shared subjective experience, such as exercising together or playing an absorbing game together. Still other approaches might involve identifying poets, authors, or songwriters whose words resonate with the existentially isolated individual (for these and additional ideas, see Pinel, Bernecker, & Rampy, 2015). Practicing mindfulness could also ease existential isolation (Pinel, Bernecker, et al., 2015; Pinel, Long, et al., 2015).

Of course, for any of this research to move forward, scholars need a well-validated, reliable measure of existential isolation. The scale we validate here thus allows for the future study of the potentially far-reaching interpersonal and societal implications of existential isolation. In the interest of our own existential isolation levels, we hope that our readers agree.

5.1. Concluding remarks

Existential isolation refers to a specific form of social isolation that results from feeling alone in one's experience, as though no one understands us or reacts to the world in the same way as us. Previous research on social isolation does not explicitly consider this form of social isolation and instead treats social isolation as monolithic. The Existential Isolation Scale that we validate here provides researchers with an opportunity to disentangle this form of isolation from social isolation of the more interpersonal variety. Our research indicates that the Existential Isolation Scale is internally consistent, reliable over the course of a two week period, and responsive to situational manipulations. Moving forward, we hope to see more researchers consider this construct, which has important implications for both intrapersonal and interpersonal health.

Appendix A. Existential Isolation Scale (the EIS)

Please rate the extent to which you agree or disagree with each of the following statements:

0----------1----------2----------3----------4----------5----------6----------7----------8----------9

strongly disagree

strongly agree

1. I usually feel like people share my outlook on life. (R)
2. I often have the same reactions to things that other people around me do. (R)
3. People around me tend to react to things in our environment the same way I do. (R)
4. People do not often share my perspective.
5. Other people usually do not understand my experiences.
6. People often have the same “take” or perspective on things that I do. (R)

Appendix B. Study 3 - priming manipulation

Existential isolation

Please think of a situation where you felt disconnected from others – a time when no one understood how you saw things or how you were feeling (e.g., standing up for something only you believe in, watching a movie you do not think is funny when everyone else is laughing, feeling like no one ‘gets’ you). Provide a description of this situation in the space below.

Interpersonal isolation

Please think of a situation where you were physically alone – a time when no one else was around (e.g., arriving by yourself too early for an event, working in an isolated environment, going camping on your own, etc.). Provide a description of this situation in the space below.

Existential connectedness

Please think of a situation where you felt like someone else (or a group of people) really understood you and saw things the same way that you did (e.g., felt exactly the same as you after experiencing an event, laughed at a joke at the same time you did, cried at the same part in a movie, etc.). Provide a description of this situation in the space below.

References

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation.* Hillsdale, NJ: Erlbaum.

Arndt, J., & Vess, M. (2008). Tales from existential oceans: Terror management theory and how the awareness of our mortality affects us all. *Social and Personality Psychology Compass, 2*, 909–928. http://dx.doi.org/10.1111/j.1751-9004.2008.00079.x.

Asch, S. E. (1951). Effects of group pressure upon the modification and distortion of judgments. In H. Guetzkow (Ed.), *Groups, leadership, and men: Research in human relations* (pp. 177–190). Pittsburgh, PA: Carnegie Press.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529. http://dx.doi.org/10.1037/0033-2909.117.3.497.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*, 238–246. http://dx.doi.org/10.1037/0033-2909.107.2.238.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, *88*, 588–606. http://dx.doi.org/10.1037/0033-2909.88.3.588.

Berger, P. L., & Luckmann, T. (1966). *The social construction of reality: A treatise in the sociology of knowledge.* Garden City, NY: Anchor Books.

Bowlby, J. (1969). *Attachment and loss: Vol. I. Attachment.* New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger.* New York: Basic Books.

Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss.* New York: Basic Books.

Brown, T. A. (2006). *Confirmatory factor analysis for applied research.* New York: Guilford.

Bruner, J. S. (1990). *Acts of meaning, Vol. 3,* Harvard University Press.

Cacioppo, J. T., Hawkley, L. C., & Thisted, R. A. (2010). Perceived social isolation makes me sad: 5-year cross-lagged analyses of loneliness and depressive symptomatology in the Chicago Health, Aging, and Social Relations Study. *Psychology and Aging*, *25*(2), 453–463. http://dx.doi.org/10.1037/a0017216.

Caporael, L. R., & Brewer, M. B. (1995). Hierarchical evolutionary theory: There is an alternative, and it's not creationism. *Psychological Inquiry*, *6*, 31–34. http://dx.doi.org/10.1207/s15327965pli0601_2.

Costello, A. E., & Long, A. E. (2014, August). *Existential isolation and its psychological and physical health correlates. Poster presentation at the Annual Meeting of the American Psychological Association, Washington, DC.*

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, *24*, 349–354.

Deci, E. L., & Ryan, R. M. (2009). Self-determination theory: A consideration of human motivational universals. In P. J. Corr, & G. Matthews (Eds.), *The Cambridge handbook of personality psychology* (pp. 441–456). New York: Cambridge University Press. http://dx.doi.org/10.1007/s11199-006-9020-4.

Durik, A. M., Hyde, J. S., Marks, A. C., Roy, A. L., Anaya, D., & Schultz, G. (2006). Ethnicity and gender stereotypes of emotion. *Sex Roles*, *54*(7–8), 429–445. http://dx.doi.org/10.1007/s11199-006-9020-4.

DeWall, C. N., Twenge, J. M., Gitter, S. A., & Baumeister, R. F. (2009). It's the thought that counts: The role of hostile cognition in shaping aggressive responses to social exclusion. *Journal of Personality and Social Psychology*, *96*, 45–59. http://dx.doi.org/10.1037/a0013196.

Echterhoff, G., Higgins, E. T., & Levine, J. M. (2009). Shared reality: Experiencing commonality with others' inner states about the world. *Perspectives on Psychological Science*, *4*, 496–521. http://dx.doi.org/10.1111/j.1745-6924.2009.01161.x.

Fiske, S. T. (1998). Stereotyping, prejudice, and discrimination. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology, Vol. 2.* (pp. 357–411). Boston: McGraw-Hill.

Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*(2), 77–83. http://dx.doi.org/10.1016/j.tics.2006.11.005.

Gaertner, L., Iuzzini, J., & O'Mara, E. M. (2008). When rejection by one fosters aggression against many: Multiple-victim aggression as a consequence of social rejection and perceived groupness. *Journal of Experimental Social Psychology*, *44*, 958–970. http://dx.doi.org/10.1016/j.jesp.2008.02.004.

Gini, G., & Espelage, D. L. (2014). Peer victimization, cyberbullying, and suicide risk in children and adolescents. *Journal of the American Medical Association*, *312*, 545–546. http://dx.doi.org/10.1001/jama.2014.3212.

Goldenberg, J. L., & Arndt, J. (2008). The implications of death for health: A terror management health model for behavioral health promotion. *Psychological Review*, *115*, 1032–1053. http://dx.doi.org/10.1037/a0013326.

Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A very brief measure of the big five personality domains. *Journal of Research in Personality*, *37*, 504–528. http://dx.doi.org/10.1016/s0092-6566(03)00046-1.

Greenberg, J., Solomon, S., & Arndt, J. (2008). A basic but uniquely human motivation: Terror management. In J. Y. Shah, & W. L. Gardner (Eds.), *Handbook of motivation science* (pp. 114–134). New York: Guilford.

Greening, T. (1997). Post-traumatic stress disorder: An existential-humanistic perspective. In S. Krippner, & S. M. Powers (Eds.), *Broken images, broken selves: Dissociative narratives in clinical practice* (pp. 125–135). New York: Brunner/Mazel.

Hardin, C. D., & Higgins, E. T. (1996). Shared reality: How social verification made the subjective objective. In R. M. Sorrentino, & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior, Vol. 3.* (pp. 28–84). New York: Guilford.

Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, *52*, 511–524. http://dx.doi.org/10.1037/0022-3514.52.3.511.

Helm, P. J., Lifshin, U., Greenberg, J., & Ashish, D. (2016). *Existential isolation and group affiliation: Moderating terror management processes.* (Manuscript in Preparation).

Helm, P. J., Lifshin, U., & Greenberg, J. (2016, January). *Existential isolation, attachment, and death-thought accessibility. Poster presented at Society for Personality and Social Psychology. San Diego, CA.*

Herman, J. (1997). *Trauma and recovery.* New York: Basic Books.

Hirschfeld, R. M. A., Klerman, G. L., Gouch, H. G., Barrett, J., Korchin, S. J., & Chodoff, P. (1977). A measure of interpersonal dependency. *Journal of Personality Assessment*, *41*, 610–618. http://dx.doi.org/10.1207/s15327752jpa4106_6.

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modeling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, *6*, 53–60.

Hymel, S., Rubin, K. H., Rowden, L., & LeMare, L. (1990). Children's peer relationships: Longitudinal prediction of internalizing and externalizing problems from middle to late childhood. *Child Development*, *61*, 2004–2021. http://dx.doi.org/10.1111/j.1467-8624.1990.tb03582.x.

Jessor, R., & Jessor, S. (1977). *Problem behavior and psychosocial development.* New York: Academic Press.

Landau, M. J., Johns, M., Greenberg, J., Pyszczynski, T., Martens, A., Goldenberg, J. L., & Solomon, S. (2004). A function of form: Terror management and structuring the social world. *Journal of Personality and Social Psychology*, *87*, 190–210. http://dx.doi.org/10.1037/0022-3514.87.2.190.

Leary, M. R., Kowalski, R. M., Smith, L., & Phillips, S. (2003). Teasing, rejection, and violence: Case studies of the school shootings. *Aggressive Behavior*, *29*, 202–214. http://dx.doi.org/10.1002/ab.10061.

Leary, M. R., Twenge, J. M., & Quinlivan, E. (2006). Interpersonal rejection as a determinant of anger and aggression. *Personality and Social Psychology Review*, *10*, 111–132. http://dx.doi.org/10.1207/s15327957pspr1002_2.

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2013). Construct validity of the Need to Belong Scale: Mapping the nomological network. *Journal of Personality Assessment*, *95*, 610–624. http://dx.doi.org/10.1080/00223891.2013.819511.

May, R. (1999). *Freedom and destiny.* New York: Peter Smith.

Mayers, A. M., Khoo, S., & Svartberg, M. (2002). The Existential Loneliness Questionnaire: Background, development, and preliminary findings. *Journal of Clinical Psychology*, *58*, 1183–1193. http://dx.doi.org/10.1002/jclp.10038.

McDonald, R. P., & Ho, M. H. R. (2002). Principles and practice in reporting structural equation analyses. *Psychological Methods*, *7*, 64–82. http://dx.doi.org/10.1037/1082-989x.7.1.64.

McIntosh, C. (2006). Rethinking fit assessment in structural equation modeling: A commentary and elaboration on Barrett (2007). *Personality and Individual Differences*, *42*, 859–867. http://dx.doi.org/10.1016/j.paid.2006.09.020.

Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change.* New York, NY: Guilford Press.

Mikulincer, M., Florian, V., & Hirschberger, G. (2003). The existential function of close relationships: Introducing death into the science of love. *Personality and Social Psychology Review*, *1*, 20–40. http://dx.doi.org/10.1207/s15327957pspr0701_2.

Murray, S. L., Holmes, J. G., Bellavia, G., Griffin, D. W., & Dolderman, D. (2002). Kindred spirits? The benefits of egocentrism in close relationships. *Journal of Personality and Social Psychology*, *82*, 563–581. http://dx.doi.org/10.1037/0022-3514.82.4.563.

Pinel, E. C., & Long, A. E. (2012). When I's meet: Sharing subjective experience with someone from the outgroup. *Personality and Social Psychology Bulletin*, *38*, 296–307. http://dx.doi.org/10.1177/0146167211433878.

Pinel, E. C., Long, A. E., Landau, M., & Pyszczynski, T. (2004). I-sharing, the problem of existential isolation, and their implications for interpersonal and intergroup phenomena. In J. Greenberg, S. Koole, & T. Pyszczynski (Eds.), *Handbook of experimental existential psychology* (pp. 352–368). New York: The Guilford Press.

Pinel, E. C., Long, A. E., Landau, M. J., Alexander, K., & Pyszczynski, T. (2006). Seeing I to I: A pathway to interpersonal connectedness. *Journal of Personality and Social Psychology*, *90*, 243–257. http://dx.doi.org/10.1037/0022-3514.90.2.243.

Pinel, E. C., Long, A. E., & Crimin, L. A. (2010). I-sharing and a classic conformity paradigm. *Social Cognition*, *28*(3), 277–289. http://dx.doi.org/10.1521/soco.2010.28.3.277.

Pinel, E. C., Bernecker, S. L., & Rampy, N. M. (2015). I-sharing on the couch: On clinical implications of shared subjective experience. *Journal of Psychotherapy Integration*, *25*, 59–70. http://dx.doi.org/10.1037/a0038895.

Pinel, E. C., Long, A. E., & Huneke, M. (2015). The blink of an I: On delayed but identical subjective reactions and their effect on cooperation. *The Journal of Social Psychology*, *155*, 605–616. http://dx.doi.org/10.1080/00224545.2015.1038496.

Pinel, E. C., Johnson, L. C., & Long, A. E. (2016). *More about when I's meet: The intergroup ramifications of I-sharing, part II.* (Manuscript in preparation).

Pyszczynski, T., Greenberg, J., Koole, S., & Solomon, S. (2010). Experimental existential psychology: Coping with the facts of life. In S. Fiske, D. Gilbert, & G. Lindzey (Eds.), (5th ed). *Handbook of social psychology, Vol. 1.* (pp. 724–757). London: John Wiley and Sons.

Ross, L., Greene, D., & House, P. (1977). The "false consensus effect": An egocentric bias in social perception and attribution processes. *Journal of Experimental Social Psychology*, *13*, 279–301. http://dx.doi.org/10.1016/0022-1031(77)90049-x.

Russell, D. (1996). The UCLA Loneliness Scale (version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*, 20–40. http://dx.doi.org/10.1207/s15327752jpa6601_2.

Sartre, J. P. (1944). *Huis clos suivi de les mouches.* Gallimard. Print.

Sinclair, S., Huntstinger, J., Skorinko, J., & Hardin, C. D. (2005). Social tuning of the self: Consequences for the self-evaluations of stereotype targets. *Journal of Personality and Social Psychology*, *89*, 160–175. http://dx.doi.org/10.1037/0022-3514.89.2.160.

Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, *25*, 173–180. http://dx.doi.org/10.1207/s15327906mbr2502_4.

Swann, W. B., Jr. (1996). *Self-traps: The elusive quest for self-esteem.* New York: Freeman.

Swann, W. B., Jr., & Bosson, J. K. (2010). Self and identity. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (pp. 589–628) (5th ed). Hoboken, NJ: John Wiley & Sons.

Swann, W. B., Jr., De La Ronde, C., & Hixon, J. G. (1994). Authenticity and positivity strivings in marriage and courtship. *Journal of Personality and Social Psychology*, *66*, 857–869. http://dx.doi.org/10.1037/0022-3514.66.5.857.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed). New York: Allyn and Bacon.

Tafarodi, R. W., & Swann, W. B., Jr. (1995). Self-liking and self-competence as dimensions of global self-esteem: Initial validation of a measure. *Journal of Personality Assessment*, *65*, 322–342. http://dx.doi.org/10.1207/s15327752jpa6502_8.

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, *38*, 1–10. http://dx.doi.org/10.1007/bf02291170.
Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology*, *54*, 1063–1070. http://dx.doi.org/10.1037/0022-3514.54.6.1063.
Wheaton, B., Muthen, B., Alwin, D. F., & Summers, G. (1977). Assessing reliability and stability in panel models. *Sociological Methodology*, *8*, 84–136. http://dx.doi.org/10.2307/270754.
Yalom, I. D. (1980). *Existential psychotherapy*. United States of America: Basic Books.
Yalom, I. D. (1992). *When Nietzsche Wept*. New York, NY: Harper Perennial.
Yawger, G. C., Helm, P. J., Johnson, L. C., & Pinel, E. C. (2016). *Existential isolation among the stigmatized.* (Manuscript in Preparation).
Zadro, L., Williams, K. D., & Richardson, R. (2004). How low can you go? Ostracism by a computer is sufficient to lower self-reported levels of belonging, control, self-esteem, and meaningful existence. *Journal of Experimental Social Psychology*, *40*, 560–567. http://dx.doi.org/10.1016/j.jesp.2003.11.006.

Further Reading

Yawger, G. C., Pinel, E. C., & Long, A. E. (2016). *Existential isolation, basic need satisfaction, and prejudice. Poster presentation at the 2016 Society for Personality and Social Psychology Annual Convention, San Diego, CA.*