The moderating role of mystical-type experiences on the relationship between existential isolation and meaning in life

Alex Sielaff, Dylan E. Horner, Jeff Greenberg

Department of Psychology, University of Arizona, United States of America

ARTICLE INFO

Keywords:
Existential isolation
Mystical experience
Meaning
Psychedelics
Existential psychology

ABSTRACT

Mystical-type experiences (MTEs) are unique phenomenological experiences that are often reported to induce significant and persisting changes in the experiencer's worldview. Previous research suggests that higher levels of existential isolation (EI) are associated with lower levels of meaning in life (MIL). This study examines the hypothesis that people who have had an MTE (compared with those who have not) will not show such a relationship between EI and MIL. Data from two samples (N = 2055) support the idea that those who have not had an MTE show a negative relationship between EI and MIL while those who have had an MTE show no relationship between EI and MIL. Implications and future directions are discussed.

“If we fail to develop the inner strength, the sense of personal worth and firm identity that enables us to face existential isolation, to say ‘so be it,’ and to take anxiety into ourselves, then we will struggle in oblique ways to find safety.”

Irvin Yalom (1980, Existential Psychotherapy, p. 373)

1. Introduction

This article seeks to explore a novel moderator in the relationship between existential isolation (EI) and meaning in life (MIL). The moderator being explored here is an uncommon but influential experience called a mystical-type experience (MTE). The inspiration for this line of inquiry comes from recent research finding psychedelic-assisted therapy to be successful in treating psychiatric diagnoses including, but not limited to, end-of-life distress (Ross et al., 2016), tobacco addiction (García-Romeu et al., 2014), and obsessive-compulsive disorder (OCD; Moreno et al., 2006). Furthermore, the MTE that about two-thirds of participants experience in these clinical trials is the main mechanism of action that researchers point to when they explain why the psychedelic experience causes significant and persisting improvements. However, the present study is not clinically oriented. Instead, it aims to explore the potential for MTEs to change the way people relate to their existential condition.

1.1. Existential isolation

One of the more psychologically painful realizations self-aware humans can have is the realization that their experience of reality is theirs alone. This sense that others do not validate one's subjective experience of reality is referred to as existential isolation (EI; Helm et al., 2018; Pinel et al., 2017; Yalom, 1980). It is important to distinguish EI from loneliness and social isolation, as they are related but separate constructs. The feeling of loneliness results from the subjective evaluation that one's actual social relationships are inadequate in comparison with one's desired social relationships (Mikulincer & Shaver, 2014), and social isolation is an objective situation where one has measurably few relationships with others (De Jong Gierveld & Van Tilburg, 2006). People may experience EI even when they are satisfied with their social relationships and objectively have many relationships (Helm et al., 2018). For example, although loneliness is associated with a high need to belong, EI typically is not (Pinel et al., 2017).

EI can be experienced as a fleeting state and it can also be measured as a dispositional trait (Helm et al., 2018; Pinel et al., 2017). The present article is most interested in trait EI, which is positively correlated with alienation, loneliness, and interpersonal dependency, while being negatively correlated with extroversion, self-competence, and self-liking (Pinel et al., 2017).

Of present interest, a person's level of EI is relevant in their
understanding of reality and the meaning of life. This is because reality – and in turn meaning – is largely socially constructed (e.g., Hardin & Higgins, 1996; Heine et al., 2006; Sheriff, 1936). The tendency to interpret reality as a collective social process is observed in such trivial instances as Asch’s line studies (Asch, 1951) up to larger more consequential worldview beliefs (Routeledge & Vess, 2019).

What one determines to be meaningful in life is an individual choice but is also dependent on social consensus. Indeed, friendships serve to validate that what you are each doing is worthwhile and meaningful (Mikulincer et al., 2004).

### 1.2. Existential isolation and meaning

Since we rely on one another to establish meaning, it is important that other people hold a perception of reality that is similar to one’s own. Therefore, the existentially isolated individual might have a harder time establishing a sense of meaning. A handful of studies support this idea. Most directly, Pinel et al. (2021) found EI to be negatively correlated with three separate indices of meaning: (1) the meaningfulness subscale of the Sense of Coherence Scale, (2) the Life Regard Index, and (3) the Purpose in Life Test. Another correlational study found that, among an American college student population, trait EI was negatively correlated with both American identity and identity with the college they attend (Helm et al., 2017). This finding at least suggests that high EI individuals might not find as much meaning in social group identity as their low EI counterparts. In a study by Pinel et al. (2021), participants who identified as Black rated three vaguely racist scenarios for how racist they anticipated they were less confident in their perceptions of reality.

### 1.3. Autonomy and meaning

Although social validation is one important basis for viewing life as meaningful, another existentialist line of thought highlights the importance of choosing one’s own way in life in order to establish a sense of meaning. Viktor Frankl (1959) and Otto Rank (1932) are among the notable early psychologists whose writings penetrated into the fundamental dilemmas of being human and of finding meaning. Both placed central importance on self-determined sources of meaning. In recent times, self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2017) elucidates the empirically validated perspective that autonomy is one of three core psychological needs (along with competence and relatedness), the fulfillment of which leads to healthy psychological functioning.

Indeed, SDT research has found a positive association between autonomy and meaning (Steger & Samman, 2012). Furthermore, Martela et al. (2018) found that autonomy is a significant predictor of greater meaning.

So, in the context of establishing meaning, the question “is it more important to merge one’s identity/perspective with the group or to individuate oneself?” seems to be, like the age old “nature or nurture” question, not a binary one-or-the-other. The more fruitful question to ask is whether there is some optimal balance to be maintained between merging and individuating, an idea discussed by Rank (1932), Becker (1973), Greenberg et al. (1995), and Simon et al. (1997), among others.

Both dynamics, of merging and individuation, are discussed in the present context because both seem to be simultaneously and glaringly present during most MTEs. The presence of these elements is why the present study poses a novel hypothesis regarding the relationship between EI and MIL for people who have experienced an MTE.

### 1.4. Mystical-type experiences

Some experiences in life are more memorable than others; when a person has an MTE, it is likely on that list. For example, about 67% of participants in clinical trials with psychedelics rate their psychedelic-induced MTE among the top five most meaningful experiences of their lives (Griffiths et al., 2006). Aside from psychedelics, MTEs have also been reportedly induced from breathwork (Puente, 2014), diseases, trauma, ritual, near-death-experiences, religious activity, and even spontaneously (Yaden et al., 2016). In part, the memorability of MTEs is because they are unmistakably unique experiences, phenomenologically speaking. In the current literature, the construct of an MTE is comprised of four factors: mystical, transcendence of time/space, positive mood, and ineffability (Barrett et al., 2015). The mystical factor includes items about feeling merged (“at one”) with everyone and everything and gleaning new “fundamentally true” information at an intuitive (non-verbal) level. Transcendence of time/space is to feel a sense of timelessness and/or limitless space. Positive mood is self-explanatory. Ineffability is the sense that attempting to put the experience into words will inevitably fall short. It is of significant note that an understanding of MTEs is still developing and there is ongoing discussion as to the conceptualization and operationalization of the construct (see e.g., Brouwer & Carhart-Harris, 2020; Taves, 2020).

Of particular relevance to the present discussion, MTEs seem to be ineffable, an experiencing of reality that is at once extremely unique and existentially isolating to the individual – no one can verify the things someone else experiences during an MTE – yet at the same time, mystical, with the individual feeling, at an intuitive level, that they are nonetheless part of everyone and everything. In his chapter on EI, Yalom wrote,

> I believe that if we are able to acknowledge our isolated situations in existence and to confront them with resoluteness, we will be able to turn lovingly toward others. If, on the other hand, we are overcome with dread before the abyss of loneliness, we will not reach out toward others but instead will flail at them in order not to drown in the sea of existence.

Yalom (1980, pp. 363)

One potential that we see in MTEs is this acknowledgement and confrontation with one’s isolated situation that Yalom speaks of but that still allows connection to others.

### 1.5. The present research

The present study sets out to explore whether the experience of having had an MTE at some point during one’s life would moderate the relationship between EI and MIL. Specifically, those who have not experienced an MTE are hypothesized to show a negative relationship between EI and MIL (aligning with prior research) while those who have experienced an MTE are hypothesized to show no relationship. The latter hypothesized relationship is null rather than positive because, after experiencing an MTE, being unique in one’s subjective experiences (feeling existentially isolated) may no longer be a threat to the individual’s sense of meaning. For the relationship to become positive it would essentially mean that one finds meaning in feeling existentially isolated, but there is nothing to suggest such a shift. More probable is that EI is simply not a predictor of MIL if someone has experienced an MTE.

### 2. Methods

#### 2.1. Participants

Two samples of undergraduate psychology students were offered the opportunity to participate in a mass survey aimed at assessing their attitudes and experiences. Students received course extra credit if they participated, however participation was entirely voluntary.

Samples 1 and 2 consisted of 873 and 1182 participants (age M₁ = 19.67, SD₁ = 2.86; M₂ = 19.05, SD₂ = 2.71), respectively. The majority were female (Sample 1: 581 females, 291 males, 1 non-binary; Sample 2:
Sample 1: 615 White, 62 Black or African American, 27 American Indian or Alaska Native, 133 Asian, 10 Native Hawaiian or Pacific Islander, 117 “other”; Sample 2: 911 White, 72 Black or African American, 26 American Indian or Alaska Native, 150 Asian, 15 Native Hawaiian or Pacific Islander, 117 “other”; respondents could select more than one race). In Sample 1, 115 (13%) participants scored as having an MTE (70 females, 45 males, 0 non-binary; 88 White, 10 Black or African American, 5 American Indian or Alaska Native, 14 Asian, 1 Native Hawaiian or Pacific Islander, 11 “other”). In Sample 2, 195 (16%) participants had an MTE (123 females, 71 males, 1 non-binary; 158 White, 10 Black or African American, 4 American Indian or Alaska Native, 35 Asian, 4 Native Hawaiian or Pacific Islander, 12 “other”). This second sample was collected in order to test whether the results would replicate in another sample.

2.2. Materials and procedure

The surveys were hosted on Qualtrics and participants completed them online on personally owned devices. After gaining informed consent, the following measures were displayed in order: demographics, MIL, EI, and assessment of prior MTE. The MTE measure was presented last in order to avoid the possibility that reflecting on an MTE would influence responses to MIL and EI.

2.2.1. Meaning in life (MIL)

Participants responded to a six-item (Sample 1) or four-item (Sample 2) Presence of Meaning subscale from the Meaning in Life Questionnaire (MLQ; Steger et al., 2006), using a seven-point Likert scale (1 = Absolutely untrue, 7 = Absolutely true). A mean score was computed (Sample 1: α = 0.81, M = 4.41, SD = 1.13; Sample 2: α = 0.86, M = 4.76, SD = 1.35) where higher scores indicate higher perceived MIL.

2.2.2. Existential isolation (EI)

The trait EI scale (Pinel et al., 2017) assesses the extent to which participants generally feel that their experience of life is in consensus with others. Sample 1 completed a six-item version while Sample 2 completed a three-item version (because of constraints on number of items we had room for), both utilizing a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree). A mean score was computed (Sample 1: α = 0.82, M = 3.77, SD = 1.01; Sample 2: α = 0.82, M = 3.84, SD = 1.17) where higher scores indicate higher EI.

2.2.3. Mystical-type experience

One item (Fig. 1) was used to assess whether participants had experienced an MTE at some point in their lives. This “prior MTE” item had a list of eight (Sample 1) or nine (Sample 2) phenomena, derived from items on the MEQ30 (Barrett et al., 2015), that capture all 4 dimensions of an MTE while also representing especially memorable aspects of MTEs. The ninth item was added in Sample 2 because it is an important aspect of MTEs that was overlooked in Sample 1.

Note: The item with the “X” is the item added in Sample 2.

Fig. 1. Questionnaire item assessing prior MTE. Note: The item with the “X” is the item added in Sample 2.

835 females, 339 males, 8 non-binary) and White (Sample 1: 615 White, 62 Black or African American, 27 American Indian or Alaska Native, 133 Asian, 10 Native Hawaiian or Pacific Islander, 115 “other”; Sample 2: 911 White, 72 Black or African American, 26 American Indian or Alaska Native, 150 Asian, 15 Native Hawaiian or Pacific Islander, 117 “other”; respondents could select more than one race). In Sample 1, 115 (13%) participants scored as having an MTE (70 females, 45 males, 0 non-binary; 88 White, 10 Black or African American, 5 American Indian or Alaska Native, 14 Asian, 1 Native Hawaiian or Pacific Islander, 11 “other”). In Sample 2, 195 (16%) participants had an MTE (123 females, 71 males, 1 non-binary; 158 White, 10 Black or African American, 4 American Indian or Alaska Native, 35 Asian, 4 Native Hawaiian or Pacific Islander, 12 “other”). This second sample was collected in order to test whether the results would replicate in another sample.

2.2. Materials and procedure

The surveys were hosted on Qualtrics and participants completed them online on personally owned devices. After gaining informed consent, the following measures were displayed in order: demographics, MIL, EI, and assessment of prior MTE. The MTE measure was presented last in order to avoid the possibility that reflecting on an MTE would influence responses to MIL and EI.

2.2.1. Meaning in life (MIL)

Participants responded to a six-item (Sample 1) or four-item (Sample 2) Presence of Meaning subscale from the Meaning in Life Questionnaire (MLQ; Steger et al., 2006), using a seven-point Likert scale (1 = Absolutely untrue, 7 = Absolutely true). A mean score was computed (Sample 1: α = 0.81, M = 4.41, SD = 1.13; Sample 2: α = 0.86, M = 4.76, SD = 1.35) where higher scores indicate higher perceived MIL.

2.2.2. Existential isolation (EI)

The trait EI scale (Pinel et al., 2017) assesses the extent to which participants generally feel that their experience of life is in consensus with others. Sample 1 completed a six-item version while Sample 2 completed a three-item version (because of constraints on number of items we had room for), both utilizing a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree). A mean score was computed (Sample 1: α = 0.82, M = 3.77, SD = 1.01; Sample 2: α = 0.82, M = 3.84, SD = 1.17) where higher scores indicate higher EI.

2.2.3. Mystical-type experience

One item (Fig. 1) was used to assess whether participants had experienced an MTE at some point in their lives. This “prior MTE” item had a list of eight (Sample 1) or nine (Sample 2) phenomena, derived from items on the MEQ30 (Barrett et al., 2015), that capture all 4 dimensions of an MTE while also representing especially memorable aspects of MTEs. The ninth item was added in Sample 2 because it is an important aspect of MTEs that was overlooked in Sample 1.

A few similarities and differences are noteworthy between the assessment of MTEs in the present study compared to other recent studies. The MEQ30 was validated in the context of psychedelic studies where it is given to a participant shortly after the conclusion of a guided therapy session where the participant ingested a psychedelic. The notable difference in the present study is that rather than being asked to reflect on something that just happened, participants were asked to reflect on the entirety of their lives. One criticism of this approach is the fallibility of memory over time, which is a valid point and one that future research can

\[ \begin{array}{cccc}
\text{Table 1} \\
\text{Descriptives and Pearson correlations (N = 2055).} \\
\hline
& \text{Mean (SD) [freq; %]} & 1 & 2 & 3 \\
\hline
1) Existential isolation & 3.81 (1.11) & \text{–} & \text{–} & \text{–} \\
2) Mystical-type experience & 0.15 (0.36) [310; 15.1%] & 0.08* & \text{–} & \text{–} \\
3) Meaning in life & 4.62 (1.27) & \text{–} & 0.23* & \text{–} \\
\hline
\end{array} \]

* p < .001.
and should explore; however, the argument for the validity of this approach lies in the high level of meaning people commonly assign to such experiences, making them especially memorable. The scoring of MTEs for the present study maintains the conceptualization of MTEs as a dichotomous construct (Barrett et al., 2015) and utilizes 60% cutoff criteria out of the total possible score on the scale. Following this cutoff percentage, participants in the present study were classified as having had an MTE if they selected five or more of the eight possible phenomena (at least 62.5%; Sample 1) or six or more of the nine possible phenomena (at least 66.7%; Sample 2), creating a dichotomous (yes/no) variable.

2.2.4. MTE induction activity

Participants were asked what activity they were engaging in when they experienced the above phenomena. They could select as many activities as applied (M = 2.28; SD = 1.38). Of the 310 participants who had an MTE: 172 selected “at an event surrounded by people/friends;” 150 “meditation or prayer;” 113 “under the influence of an ingested substance;” 90 “adventurous sport/hobby;” 80 “near-death or out-of-body experience;” 66 “artistic expression;” and 37 “other.” An additional 21 selected “prefer not to say.”

3. Results

Regression analyses were performed in R Studio to test the moderating role of MTEs in the relationship between EI and MIL for Sample 1, Sample 2, and the combined dataset. MTE was dummy coded (0 = no-MTE, 1 = yes-MTE) and EI was grand mean centered to reduce regression bias (Aiken & West, 1991). An interaction term was created by multiplying MTE and EI. (Dataset and R code can be found in the Online supplementary materials.)

See Table 1 for the combined descriptive statistics and Pearson correlations for the study variables, including the point-biserial correlations for the MTE variable.

In Sample 1, regression analyses revealed a significant interaction, \( B = 0.32, SE = 0.09, p < .001, R^2 = 0.10 \). Probing of the interaction revealed a negative association between EI and MIL among the no-MTE group, \( B = -0.38, SE = 0.04, p < .001 \), and no association among the yes-MTE group, \( B = -0.06, SE = 0.08, p = .481 \), as hypothesized. See Fig. 2 for interaction plot.

In line with recommendations from Aiken and West (1991), further probing of this interaction – using model1 in the processR package in R studio – revealed a significant difference in MIL between the yes-MTE and no-MTE groups at low levels of EI (1 SD below the mean), \( B = -0.47, SE = 0.15, t(853) = -3.18, p = .002 \), but not at high levels of EI (1 SD above the mean), \( B = 0.19, SE = 0.13, t(853) = 1.41, p = .160 \).

In Sample 2, regression analyses revealed an interaction trending in the same direction as in Sample 1, \( B = 0.16, SE = 0.09, p = .072, R^2 = 0.10 \). Probing of the interaction again revealed a negative association between EI and MIL among the no-MTE group, \( B = -0.28, SE = 0.04, p < .001 \), and no association among the yes-MTE group, \( B = -0.12, SE = 0.08, p = .127 \). See Fig. 3 for interaction plot.

Further probing of this interaction revealed no significant difference at low EI, \( B = -0.13, SE = 0.16, t(1167) = -0.82, p = .415 \), and a trending difference at high EI, \( B = 0.24, SE = 0.14, t(1167) = 1.76, p = .079 \).

Combining both samples revealed a significant interaction, \( B = 0.23, SE = 0.06, p < .001, R^2 = 0.06 \). Probing of the interaction revealed a negative association between EI and MIL among the no-MTE group, \( B = -0.31, SE = 0.03, p < .001 \), and no association among the yes-MTE group, \( B = -0.08, SE = 0.06, p = .142 \), as hypothesized. See Fig. 4 for interaction plot.

Probing of the combined sample's interaction revealed a significant difference between MTE groups at both low EI, \( B = -0.25, SE = 0.11, t(2034) = -2.21, p = .027 \), and high EI, \( B = 0.25, SE = 0.10, t(2034) = 2.59, p = .010 \).

4. Discussion

Prior research generally supports a negative association between EI and MIL (Pinel et al., 2021), which is further supported in this research, since the majority of people (~85% in the present sample) report no MTE and show this negative relationship. The present study adds to this in finding that this negative relationship between EI and MIL is not present in the minority of people (~15% in the present sample) who have experienced an MTE. As Yalom (1980) surmised, it seems plausible that high EI is not inherently unpleasant with exclusively negative outcomes. Rather, one person could relate to their EI in a preponderantly negative manner while another could relate to it with more equanimity. This is one interpretation of the present results. More specifically, this study suggests that experiencing an MTE allows people to be high in EI without a corresponding lower level of meaning. In contrast, for people who have not had an MTE, high EI goes with lower meaning.

At the same time, low EI participants also reported different levels of...
MIL as a function of whether they experienced an MTE. Specifically, the trend is reversed at low EI, where MTEs went with lower meaning. As this is correlational data, these results could be interpreted several ways.

For the low EI folks who have not experienced an MTE, it could be that their meaning structures and life experiences allow them to function from a place of relative blissful ignorance in regard to the existential concerns highlighted in this paper, thus allowing them to feel an unthreatened sense of meaning. On the other hand, recall that MTEs offer a glimpse of a reality that is divergent from everyday experience, along with feeling that the experience is “true.” For some people who have this experience but still maintain that their perspective of reality is similar to others, it is possible that this internal dialectic arouses a sort of cognitive dissonance that is managed via trivializing the MTE. Part of the impetus for this interpretation comes from the common Western cultural narrative that trivializes people’s MTEs by claiming that they are, for example, “meaningless hallucinations.” For the person in this scenario, it seems feasible that their meaning structure loses some of its strength thus leading low EI yes-MTE people to have lower MIL, relative to low EI no-MTE people.

The above interpretation largely hinges on the assumption that MTEs elicit changes in existential perspectives, but it is also possible that people with pre-existing equanimous existential perspectives are more likely to seek out experiences that potentiate MTEs. In this interpretation, perhaps a relative ambivalence toward one’s own meaning structure prompts greater interest in experiences that may provide an MTE.

Either way, the fact that someone has had an MTE is more of an indirect indicator that they might have a more equanimous relationship with EI. As such, future research could benefit from measuring EI not only by amount but also by valence – the kind of feeling people associate with their EI. Another potential direction would be an empirical study that manipulates state EI then assesses whether a prior MTE variable predicts differing responses to the EI conditions.

The present results come from cross-sectional data and our samples consisted primarily of White American students. So, empirical research is needed to determine if similar results would occur for individuals with other social identities, cultures, and age groups. People with different demographics may have different experiences with MTEs, and differences may be particularly likely for people who live in cultures or subcultures that are, compared to mainstream Euro-American culture, more accepting of MTEs as meaningful and more likely to have shared group rituals that seek to create MTEs. Perhaps for people in such cultures, the MTE is less existentially isolating; therefore, the lack of relationship between EI and MIL may not hold for people in such cultures who have experienced MTEs.

These important limitations being noted, the current results suggest that for populations our samples represent, MTEs may have the potential to moderate the way one relates to their existential condition. A cautious analogy can be made between an MTE and an acute traumatic experience insofar as both are singular experiences that seem to have the potential to cause lasting changes to a person’s worldview. One more extension of this analogy could be that two people could go through the same mystical or acute traumatic experience and one might walk away
with a significant shift in perspective while the other walks away relatively unaffected. Thus, research on how demographic, cultural, and other individual differences may interact with MTEs (as well as traumatic experiences) would be of great value. If an MTE could be induced in a lab setting, research could come closer to both determining a causal role of MTEs and discovering whether certain individual difference variables moderate the impact of MTEs.

In the paper introducing the state-trait existential isolation model (STEIM; Helm et al., 2018), the authors discuss how a traumatic experience would likely lead to higher EI after the experience. If so, perhaps MTEs could provide a buffer against future traumatic experiences, or some relief for those who have already experienced them. As research utilizing psychedelics that lead to MTEs continues, our hope is that further links between existential psychology and this research on MTEs will continue to contribute to understanding both the benefits of such therapies and how people cope with existential concerns.

CRediT authorship contribution statement

Alex Sielaff: Conceptualization, Data curation, Formal analysis, Writing – original draft. Dylan E. Horner: Data curation, Writing – review & editing. Jeff Greenberg: Writing – review & editing, Supervision.

Declaration of competing interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.paid.2021.111347.

References