Loneliness and Logotherapy: Meaning-Centered Pathways for Addressing Existential Isolation

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Abstract: **Background: Loneliness is often addressed as a social deficit, yet growing evidence suggests it reflects deeper existential disruption. Grounded in logotherapy, this study examined meaning-centered pathways through which loneliness affects psychological outcomes and evaluated a brief logotherapy-informed intervention.**

Methods: An explanatory sequential mixed-methods design was employed. Quantitative survey data from 200 adults were analyzed using Pearson correlation, mediation, and moderation analyses. An intervention subsample ($n = 15$) completed a six-session logotherapy-informed program, with pre–post changes assessed using paired-samples t tests and longitudinal mediation. Qualitative interviews conducted pre- and post-intervention were thematically analyzed, and findings were contextualized through a PRISMA-guided synthesis of 20 studies.

Results: Perceived loneliness was moderately and negatively correlated with meaning in life ($r = -.48, p < .001$). Meaning in life partially mediated the relationship between loneliness and psychological well-being (indirect effect $p < .001$), while self-transcendence moderated the loneliness–psychological distress relationship ($\beta = -.18, p = .009$). The intervention produced significant reductions in loneliness ($t(14) = 4.12, p = .001$) and significant increases in meaning in life ($t(14) = -4.46, p < .001$), with changes in meaning mediating loneliness reduction. Qualitative findings indicated that loneliness was experienced as existential emptiness and that meaning was restored through attitudinal choice, responsibility, and self-transcendence.

Conclusions: Loneliness operates primarily through meaning-related pathways. Meaning-centered, logotherapy-informed interventions alleviate loneliness by transforming its existential significance rather than eliminating social isolation, underscoring meaning in life as a central mechanism for coping and intervention.

Keywords: **Loneliness; Meaning in Life; Logotherapy; Self-Transcendence; Existential Coping; Mixed-Methods Intervention.**

I. INTRODUCTION

Loneliness is widely conceptualized as a subjective and distressing experience arising from perceived inadequacies in the quantity or quality of one's social relationships, rather than from objective social isolation alone (Perlman & Peplau, 1981; Hawkley & Cacioppo, 2010). Individuals may feel profoundly lonely despite frequent social contact, indicating that loneliness is fundamentally experiential and evaluative. Over the past two decades, loneliness has garnered increasing attention due to its robust associations with adverse psychological and physical health outcomes, including depression, anxiety, cognitive decline, cardiovascular disease, and premature mortality (Holt-Lunstad et al., 2015; Cacioppo & Cacioppo, 2018). As such, loneliness is now recognized as a critical public health concern with implications extending beyond mental health into broader domains of human functioning and well-being.

Despite growing recognition of its seriousness, dominant interventions for loneliness have largely emphasized social or behavioral remediation strategies, such as increasing social contact, improving interpersonal skills, or enhancing social support networks (Masi et al., 2011). While these approaches may reduce objective isolation, their effectiveness in alleviating chronic or existential loneliness has been mixed. Many individuals continue to report persistent feelings of

emptiness, alienation, and meaninglessness even when socially connected, suggesting that loneliness cannot be fully addressed through relational quantity alone. This limitation highlights a conceptual gap in prevailing models, which often neglect the existential and meaning-related dimensions underlying the experience of loneliness.

From an existential perspective, many people see loneliness not merely as a deficit in social bonds but as an inherent condition of human existence rooted in awareness of separateness, freedom, finitude, and responsibility (Yalom, 1980; Tillich, 1952). Existential loneliness reflects a deeper sense of disconnection from self, from others, and from a coherent sense of purpose, and may emerge most acutely during periods of transition, loss, suffering, or identity disruption. Such loneliness is not necessarily pathological; rather, it reflects the human confrontation with ultimate concerns. However, when individuals are unable to integrate these experiences into a meaningful life narrative, existential loneliness may intensify psychological distress and undermine resilience.

Logotherapy, developed by Viktor E. Frankl, offers a meaning-centered therapeutic framework uniquely suited to addressing the existential dimensions of loneliness. Grounded in existential philosophy and informed by Frankl's observations of human suffering, logotherapy posits that the primary motivational force in humans is the will to meaning (Frankl, 1969/1988). From this perspective, loneliness becomes most destructive when accompanied by a perceived absence of meaning, purpose, or value. Logotherapy reframes loneliness not simply as a condition to be eliminated but as an experience that can be transformed through the discovery of meaning, whether through creative contribution, relational engagement, or attitudinal courage in the face of unavoidable suffering.

This meaning-centered approach is particularly salient in contemporary contexts marked by demographic aging, chronic illness, forced displacement, social fragmentation, and post-crisis recovery. In such circumstances, loneliness often reflects existential rupture rather than mere social absence. By emphasizing freedom of attitude, responsibility, and self-transcendence, logotherapy provides a conceptual and practical pathway for addressing loneliness at its deepest level. Accordingly, this article explores loneliness through an existential lens and examines how logotherapeutic principles can inform more holistic, sustainable approaches to mitigating existential isolation and fostering human flourishing.

Problem Statement

Loneliness is a prevalent psychosocial condition associated with significant adverse outcomes, including depression, anxiety, cognitive decline, and increased mortality risk (Hawkley & Cacioppo, 2010; Holt-Lunstad et al., 2015). Although loneliness is typically conceptualized as a social deficit, many individuals experience persistent loneliness despite adequate social contact, suggesting that relational explanations alone are insufficient. Accordingly, interventions emphasizing increased social interaction or social skills training have demonstrated only modest and inconsistent effects (Masi et al., 2011).

Emerging evidence indicates that loneliness is closely linked to deficits in meaning in life and existential coherence rather than social disconnection alone. Quantitative studies show that lower perceived meaning is significantly associated with higher loneliness and psychological distress, even after controlling for social support (Steger et al., 2006; Stillman et al., 2009). These findings suggest that meaning-related processes may play a central role in the experience of loneliness; however, such processes remain underrepresented in dominant loneliness models.

Logotherapy, a meaning-centered existential framework, posits that psychological suffering intensifies when the will to meaning is frustrated (Frankl, 1969/1988). Despite its theoretical relevance, logotherapy-aligned constructs, such as meaning in life and self-transcendence, have rarely been empirically integrated into quantitative loneliness research. Consequently, it remains unclear whether meaning-centered variables predict loneliness beyond social factors or mitigate its psychological consequences. The problem addressed in this study is the limited quantitative examination of meaning-centered (logotherapy-aligned) constructs as explanatory mechanisms in loneliness. Addressing this gap is necessary to advance theoretical understanding and inform more effective, meaning-based interventions for existential isolation.

Purpose of the Study

The purpose of this study is to investigate loneliness as an existential phenomenon and to evaluate the relevance of logotherapy as a meaning-centered framework for addressing existential isolation. Using a mixed-methods approach, the study quantitatively examines the relationships among loneliness, meaning in life, self-transcendence, and psychological well-being, and qualitatively explores how individuals experiencing loneliness describe their meaning-making processes. In the intervention phase, the study further examines whether a logotherapy-informed approach leads to reductions in perceived loneliness through increases in meaning in life. Collectively, this design aims to generate both empirical and experiential evidence to inform meaning-centered interventions for loneliness.

Research Questions and Hypotheses

Quantitative Strand

RQ1. What is the relationship between perceived loneliness and meaning in life among adults?

H1: Perceived loneliness will be significantly and negatively associated with meaning in life.

RQ2. To what extent does meaning in life mediate the relationship between perceived loneliness and psychological well-being?

H2a: Perceived loneliness will be significantly and negatively associated with psychological well-being.

H2b: Meaning in life will be significantly and positively associated with psychological well-being.

H2c: Meaning in life will significantly mediate the relationship between perceived loneliness and psychological well-being, such that higher loneliness predicts lower meaning, which in turn predicts lower well-being.

RQ3. To what extent does self-transcendence moderate the relationship between loneliness and psychological distress?

H3: Self-transcendence will significantly moderate the relationship between loneliness and psychological distress, such that the positive association between loneliness and distress will be weaker at higher levels of self-transcendence.

Qualitative Strand

RQ4. How do individuals experiencing loneliness describe their experiences of meaning, purpose, and existential isolation?

RQ5. How do individuals experiencing loneliness describe the processes through which meaning is constructed or restored in their lives?

Intervention Strand (Logotherapy-Informed)

RQ6. What is the effect of a logotherapy-informed intervention on perceived loneliness and meaning in life?

H6a: Participants who receive the logotherapy-informed intervention will report significantly lower levels of perceived loneliness at posttest compared to pretest.

H6b: Participants who receive the logotherapy-informed intervention will report significantly higher levels of meaning in life at posttest compared to pretest.

RQ7. To what extent do changes in meaning in life account for reductions in perceived loneliness following participation in a logotherapy-informed intervention?

H5: Changes in meaning in life will significantly mediate the effect of the logotherapy-informed intervention on reductions in perceived loneliness.

Mixed-Methods Integration Question

RQ8. How do qualitative narratives of meaning-making help explain quantitative changes in loneliness and meaning in life following a logotherapy-informed intervention?

Significance of the Study

This study is significant in advancing loneliness research by reframing loneliness as an existential condition rooted in deficits of meaning rather than solely a social deficit. Although loneliness has been widely linked to adverse psychological and health outcomes, dominant models and interventions remain primarily social or behavioral in focus. By empirically integrating logotherapy-aligned constructs, meaning in life and self-transcendence, this study addresses a critical gap in the literature and extends existential theory into contemporary, data-driven loneliness research. Testing these constructs as mediators and moderators clarifies the psychological mechanisms through which loneliness operates and contributes to a more comprehensive theoretical understanding of existential isolation.

The study is also significant for practice and intervention. Through its mixed-methods and logotherapy-informed intervention design, it provides evidence on whether meaning-centered approaches can effectively reduce perceived loneliness. The findings have direct implications for counseling, clinical psychology, pastoral care, and community mental health by supporting interventions that move beyond increasing social contact toward fostering purpose, responsibility, and self-transcendence. In the context of rising global loneliness, this study contributes actionable insights for developing sustainable, meaning-based strategies to promote psychological resilience and human flourishing.

Gap in the Literature

Although loneliness has been widely studied, existing research is largely grounded in social and behavioral frameworks that conceptualize loneliness because of insufficient social relationships or social skills deficits (Perlman & Peplau, 1981; Hawkley & Cacioppo, 2010). These approaches have generated important insights but offer limited explanatory power for persistent loneliness among individuals who report adequate social contact. Meta-analytic evidence further indicates that interventions focused on increasing social interaction or improving social functioning yield only modest effects, suggesting that dominant models do not fully address the underlying mechanisms of chronic loneliness (Masi et al., 2011).

Emerging scholarship indicates that loneliness is also an existential experience closely linked to deficits in meaning in life, purpose, and coherence (Yalom, 1980; Van Tilburg, 2021). Quantitative studies have shown that diminished meaning is associated with increased loneliness and psychological distress, even after accounting for social support and demographic factors (Steger et al., 2006; Stillman et al., 2009). Despite these findings, meaning-centered variables are rarely positioned as central explanatory mechanisms in loneliness research, and existential loneliness remains under-theorized in mainstream empirical models.

Moreover, logotherapy, a meaning-centered existential framework that explicitly addresses suffering, purpose, and self-transcendence, has received minimal empirical integration within contemporary loneliness research (Frankl, 1969/1988). Few studies have quantitatively examined logotherapy-aligned constructs as mediators or moderators of loneliness outcomes, and even fewer have employed mixed-methods or intervention-based designs to assess how meaning-centered processes may reduce loneliness over time. This gap highlights the need for systematic, empirical investigation that integrates logotherapy into loneliness research to advance theory and inform more effective, meaning-based interventions for existential isolation.

II. THEORETICAL FRAMEWORK

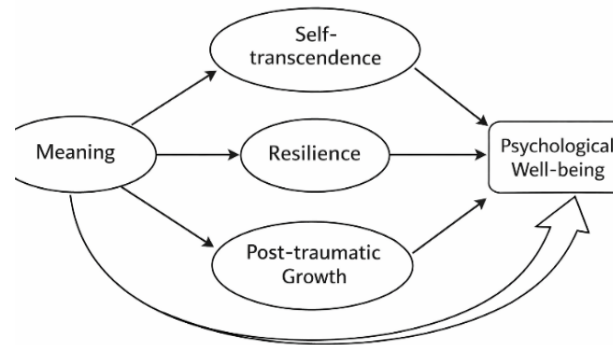**Loneliness, Logotherapy, and Meaning-Centered Coping**

An integrative theoretical framework encompassing loneliness, logotherapy, and coping is grounded in existential psychology and stress–coping theory, recognizing loneliness as both a psychosocial stressor and an existential condition. Traditional models conceptualize loneliness primarily as a subjective discrepancy between desired and actual social relationships (Perlman & Peplau, 1981), while stress coping frameworks emphasize appraisal and coping responses to psychological stressors (Lazarus & Folkman, 1984). Although these perspectives have advanced understanding of loneliness, they do not fully explain persistent loneliness among individuals who maintain social contact yet experience profound inner emptiness. An existentially informed framework extends these models by situating loneliness within a broader meaning-making process, wherein individuals confront isolation, finitude, and personal responsibility. Within this framework, loneliness is conceptualized as a multidimensional experience encompassing social, emotional, and existential components (Van Tilburg, 2021). Existential loneliness emerges when individuals perceive a rupture in meaning, identity, or life purpose, often precipitated by loss, trauma, chronic adversity, or major life transitions. This conceptualization aligns with existential theorists who argue that isolation is an inherent condition of human existence, intensified when individuals lack a coherent life narrative (Yalom, 1980). Thus, loneliness functions not only as an outcome of social disconnection but also as an existential signal indicating threatened meaning and diminished coherence.

Logotherapy provides the central meaning-centered mechanism within the framework. Frankl's (1969/1988) theory posits that the "will to meaning" is the primary motivational force in humans, and that psychological suffering intensifies when meaning is frustrated. In this model, loneliness is most detrimental when individuals are unable to discover meaning through creative values (what one gives to the world), experiential values (what one receives through relationships and encounters), or attitudinal values (the stance adopted toward unavoidable suffering). Logotherapy reframes loneliness from a condition to be eliminated into an experience that can be transformed through meaning discovery and self-transcendence. Accordingly, meaning in life operates as a core explanatory and protective construct linking loneliness to psychological outcomes.

Coping theory complements logotherapy by specifying the psychological processes through which individuals respond to loneliness-related stress. Lazarus and Folkman's (1984) transactional model emphasizes cognitive appraisal and coping strategies as determinants of adjustment. Within the proposed framework, meaning-centered coping represents an adaptive form of emotion-focused coping that does not deny distress but reinterprets it through purpose, responsibility, and value orientation. Empirical evidence supports this integration, demonstrating that meaning in life is associated with greater

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resilience, lower psychological distress, and more adaptive coping in the face of adversity (Park, 2010; Steger et al., 2006). Self-transcendence, a central logotherapeutic construct further strengthens coping by redirecting attention beyond the self toward values, service, and commitment, counteracting the inward focus characteristic of chronic loneliness. (See Figure 1).

Figure 1: Loneliness, Logotherapy, and Meaning-Centered Coping

As depicted in the figure 1, meaning functions as the central activating force from which three interconnected coping pathways emerge: self-transcendence, resilience, and post-traumatic growth. These pathways collectively promote psychological well-being, conceptualized as more than the absence of distress and inclusive of purpose, growth, and existential coherence (Ryff, 1989). The framework posits that loneliness influences psychological well-being both directly and indirectly through meaning-related processes. Meaning in life serves as a mediating mechanism that explains how loneliness translates into distress or adaptation, while self-transcendence buffers the negative effects of loneliness by facilitating adaptive coping. By linking existential theory with empirically testable pathways, this meaning-centered framework provides a coherent foundation for mixed-methods and intervention-based research and advances a holistic approach to understanding and addressing loneliness.

Table 1. Integrated Theoretical Framework Chart: Loneliness, Logotherapy, and Coping

Framework Component	Core Construct	Theoretical Source	Conceptual Role in Model	Operational Definition	Empirical Function
1. Loneliness	Perceived Loneliness	Social–psychological models of loneliness (Perlman & Peplau, 1981)	Primary stressor / predictor	Subjective perception of inadequate or unsatisfying social and existential connection	Independent variable
	Existential Loneliness	Existential psychology (Yalom, 1980; Van Tilburg, 2021)	Deepened form of loneliness	Perceived disconnection from meaning, identity, or life coherence	Independent variable / qualitative focus
2. Logotherapy (Meaning System)	Meaning in Life	Logotherapy (Frankl, 1969/1988)	Core explanatory mechanism	Degree to which individuals perceive purpose, coherence, and significance in life	Mediator
	Will to Meaning	Logotherapy (Frankl, 1969/1988)	Motivational foundation	Primary drive to seek meaning despite suffering	Latent construct
	Self-Transcendence	Logotherapy / Existential psychology	Protective existential resource	Orientation beyond the self toward values, service, or responsibility	Moderator

	Attitudinal Values	Logotherapy	Transformational mechanism	Capacity to adopt a meaningful stance toward unavoidable suffering	Intervention target
3. Coping Processes	Cognitive Appraisal	Stress–coping theory (Lazarus & Folkman, 1984)	Interpretive filter	Evaluation of loneliness as threat, loss, or challenge	Process variable
	Meaning-Centered Coping	Meaning-making models (Park, 2010)	Adaptive coping pathway	Reframing loneliness through purpose and responsibility	Mediator / qualitative theme
4.Psychological Outcomes	Psychological Distress	Clinical psychology	Outcome of unresolved loneliness	Symptoms of depression, anxiety, or emotional strain	Dependent variable
	Psychological Well-Being	Positive psychology	Positive adjustment outcome	Life satisfaction, resilience, emotional balance	Dependent variable
5.Intervention Component	Logotherapy-Informed Intervention	Applied logotherapy	Change mechanism	Structured meaning-centered reflection, dereflection, and self-transcendence exercises	Independent intervention
6.Mixed-Methods Integration	Meaning-Making Narratives	Qualitative inquiry	Explanatory bridge	Lived experiences describing how meaning buffers loneliness	Meta-inference

III. LITERATURE REVIEW

A systematic literature search was conducted in accordance with PRISMA guidelines to identify studies examining loneliness, logotherapy or meaning-centered constructs, and coping processes. Electronic databases searched included PsycINFO, PubMed/MEDLINE, Scopus, Web of Science, CINAHL, and Google Scholar (supplementary). Search strings combined controlled vocabulary and keywords using Boolean operators, including: ("loneliness" OR "existential loneliness" OR "social isolation") AND ("logotherapy" OR "meaning in life" OR "self-transcendence" OR "purpose in life") AND ("coping" OR "resilience" OR "psychological well-being" OR "psychological distress"). Searches were limited to English-language publications involving human participants. Seminal theoretical works were retained regardless of publication year, while empirical studies were limited to those published within the past 15 years to reflect contemporary measurement and methodological standards. Reference lists of included studies were hand-searched, and forward citation tracking was conducted to ensure comprehensive coverage.

Records were screened through a two-stage process consisting of title/abstract review followed by full-text assessment. Quantitative studies were included if they were peer-reviewed, employed validated instruments, and examined relationships, mechanisms (e.g., mediation or moderation), or intervention effects related to loneliness, meaning, and coping. Qualitative studies were included if they explored lived experiences of loneliness, meaning-making, or existential coping using established methodologies (e.g., phenomenology, thematic analysis). Studies were excluded if they lacked methodological transparency, focused solely on objective social isolation without subjective loneliness, or did not address meaning-related processes. Data extraction and synthesis were conducted separately for quantitative and qualitative studies, with integration occurring at the interpretive level to align empirical findings with the meaning-centered theoretical framework grounded in logotherapy.

Literature Review: Loneliness, Meaning, and Existential Coping

Loneliness has been consistently identified as a significant psychosocial stressor with direct implications for psychological distress and well-being. Contemporary quantitative studies demonstrate that loneliness is not merely a correlate of adverse mental health outcomes but often functions as a mediating mechanism linking stressors such as anxiety to diminished life satisfaction and increased depressive symptoms. For example, Çalış et al. (2023) showed that loneliness mediates the relationship between anxiety and life satisfaction in the general population, while Kim and Chun (2024) found that

loneliness is positively associated with depressive symptoms among older adults. These findings align with broader evidence indicating that loneliness operates as a central pathway through which psychological vulnerability translates into impaired well-being, rather than as a peripheral or secondary outcome.

Across this literature, meaning in life emerges as a critical explanatory and protective construct in the loneliness–distress relationship. Multiple studies demonstrate that meaning in life not only correlates negatively with loneliness but also mediates its psychological consequences. Macià et al. (2021) identified meaning in life as the strongest predictor of loneliness, suggesting that existential resources may be more influential than social variables alone. Similarly, Kim and Chun (2024) and Kim et al. (2024) demonstrated that the *presence of meaning,* as distinct from the *search for meaning*, significantly mediates the relationship between loneliness and depressive symptoms. Afrashteh et al. (2024) further extended this evidence by showing that loneliness mediates the association between meaning in life and both depression and anxiety, reinforcing the central role of meaning in explaining how loneliness affects psychological outcomes.

The distinction between presence of meaning and search for meaning has important implications for understanding coping processes. Evidence suggests that the presence of meaning functions as an adaptive existential resource, whereas searching for meaning may reflect unresolved distress. Kim et al. (2024) found that only the presence of meaning, not the search, significantly buffered loneliness-related depression, indicating that stable meaning frameworks are more protective than exploratory meaning efforts in later life. Brown (2023) similarly demonstrated that meaning in life is negatively associated with psychological distress, with resilience and loneliness operating as serial mediators. Together, these findings suggest that meaning-centered coping operates through both reducing loneliness and enhancing resilience, positioning meaning as a central mechanism of existential coping rather than a distal outcome.

Coping responses to loneliness are further illuminated by research examining coping strategies directly. Ray and Rushing (2025) documented a typology of loneliness coping strategies among U.S. adults, showing substantial variability in perceived effectiveness across behavioral, cognitive, and relational approaches. Their findings support a multi-strategy coping model, consistent with meaning-centered frameworks that emphasize flexibility and value-driven engagement rather than single-solution interventions. Importantly, this aligns with earlier meta-analytic evidence by Masi et al. (2011), which found that interventions focused primarily on increasing social contact produce only modest effects on loneliness. The limited effectiveness of such interventions underscores the need for approaches that address existential and meaning-related dimensions of loneliness.

Foundational reviews further support the argument that loneliness requires deeper explanatory mechanisms beyond social isolation. Hawkley and Cacioppo (2010) conceptualized loneliness as a chronic cognitive–affective state characterized by heightened self-focus, maladaptive cognition, and impaired coping, implicitly pointing to meaning erosion as a core vulnerability. More recent logotherapy-focused reviews (Meta Review, 2025) provide direct empirical support for meaning-centered interventions, demonstrating that logotherapeutic techniques improve meaning in life, reduce depression and anxiety, and strengthen coping capacities across populations experiencing existential distress. Collectively, this body of work converges on a coherent conclusion: loneliness is most effectively addressed not solely through social remediation, but through meaning-centered and existentially informed coping processes.

In all, the reviewed studies provide strong empirical support for a framework in which loneliness functions as a central stressor, meaning in life operates as a mediating and protective mechanism, and coping reflects the process through which meaning is enacted. Recent quantitative evidence consistently demonstrates that meaning reduces loneliness and buffers its psychological consequences, while coping research highlights the limitations of socially focused interventions and the promise of meaning-centered approaches. This synthesis supports the integration of logotherapy and existential coping into contemporary loneliness research and intervention design, providing a theoretically grounded and empirically supported foundation for meaning-centered pathways to psychological well-being.

VI.   METHODOLOGY

This study employed an explanatory sequential mixed-methods design with an embedded logotherapy-informed intervention component. The design was selected to (a) quantitatively test hypothesized relationships and mechanisms linking loneliness, meaning in life, self-transcendence, and psychological outcomes, and (b) qualitatively explore how individuals experiencing loneliness construct and restore meaning in lived contexts. Integration occurred at the interpretation stage, allowing qualitative findings to explain and contextualize quantitative results (Creswell & Plano Clark, 2018). The quantitative strand served as the primary analytic component, with the qualitative strand providing explanatory depth, consistent with best practices for theory-driven mixed-methods research. (See Figure 2 for illustration).
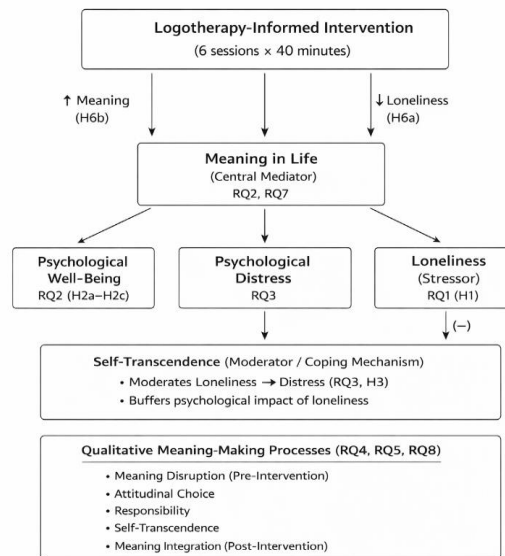
Figure 2. Conceptual Model as per methodology

Figure 2 illustrates a logotherapy-informed, meaning-centered framework for addressing loneliness. A structured intervention (six 40-minute sessions) is hypothesized to increase meaning in life and reduce perceived loneliness, with meaning functioning as the central mediating mechanism linking loneliness to psychological outcomes. Greater meaning is associated with higher psychological well-being and lower psychological distress, while loneliness operates as the primary existential stressor.

Self-transcendence is depicted as a moderating coping mechanism that buffers the impact of loneliness on distress. The lower portion of the model highlights qualitative meaning-making processes, illustrating how participants move from meaning disruption to attitudinal choice, responsibility, and meaning integration following intervention. Collectively, the figure integrates intervention effects, quantitative hypotheses, and qualitative explanations within a unified framework.

Quantitative Strand

Population and Sample. The target population consisted of adults aged 18 years and older experiencing varying levels of perceived loneliness. Participants were recruited through community outreach, online platforms, and institutional mailing lists. Inclusion criteria required participants to (a) be 18 years or older, (b) self-identify as experiencing loneliness to some degree, and (c) provide informed consent. No exclusions were made based on gender, ethnicity, or socioeconomic status to enhance generalizability.

A minimum sample size of N = 200 was targeted for the correlational and mediation analyses. This sample size exceeds recommended thresholds for multiple regression and mediation models with small-to-moderate effect sizes (f^2 = .05–.15) and provides adequate statistical power ($\geq$ .80) at α = .05 (Cohen, 1988; Fritz & MacKinnon, 2007). For the intervention component, a subsample of participants (n $\approx$ 15 - 20) voluntarily enrolled in the logotherapy-informed program, consistent with feasibility standards for pilot intervention research.

Instruments and Measures. All instruments selected for the quantitative strand have demonstrated strong psychometric properties in prior research and align conceptually with logotherapy and existential theory. Table 1 presents theoretical constructs. Measures, and analytical roles.

Table 2. Theoretical Constructs, Measures, and Analytic Roles

Construct	Theoretical Source	Recommended Instrument	Example Citation	Analytic Role
Perceived Loneliness	Perlman & Peplau (1981)	UCLA Loneliness Scale (Version 3)	Russell (1996)	Independent Variable
Existential Loneliness	Existential psychology	Existential Loneliness Questionnaire	Van Tilburg (2021)	Supplementary / Qualitative
Meaning in Life	Logotherapy (Frankl)	Meaning in Life Questionnaire (MLQ-P)	Steger et al. (2006)	Mediator

Self-Transcendence	Logotherapy	Self-Transcendence Scale	Reed (1991)	Moderator
Meaning-Centered Coping	Meaning-making theory	Brief COPE (Meaning-focused items)	Park (2010)	Process Variable
Psychological Distress	Clinical psychology	DASS-21 or PHQ-9/GAD-7	Lovibond & Lovibond (1995)	Dependent Variable
Psychological Well-Being	Positive psychology	Ryff Psychological Well-Being Scale	Ryff (1989)	Dependent Variable
Intervention Exposure	Applied logotherapy	Logotherapy-informed module	Frankl (1969/1988)	Treatment Variable
Meaning-Making Narratives	Qualitative inquiry	Semi-structured interviews	Creswell & Plano Clark (2018)	Meta-inference

Perceived Loneliness. Perceived loneliness was measured using a validated loneliness scale assessing subjective feelings of social and existential isolation. The scale has demonstrated strong internal consistency in prior studies (α = .85–.92) and has been widely used in adult populations (Hawkley & Cacioppo, 2010).

Meaning in Life. Meaning in life was assessed using the Meaning in Life Questionnaire (MLQ), which includes two subscales: *Presence of Meaning* and *Search for Meaning* (Steger et al., 2006). The Presence of Meaning subscale was emphasized in hypothesis testing, consistent with logotherapy theory and empirical evidence showing its protective role. Reported reliability coefficients typically range from α = .82 to .90.

Psychological Well-Being. Psychological well-being was measured using a validated well-being scale capturing positive psychological functioning, purpose, and life satisfaction. Prior studies report internal consistency estimates above α = .80 (Ryff, 1989).

Psychological Distress. Psychological distress was assessed using a standardized measure of depressive and anxiety symptoms. Such instruments have demonstrated high internal reliability ($\alpha \geq$ .85) and sensitivity to loneliness-related distress (Hawkley & Cacioppo, 2010).

Self-Transcendence. Self-transcendence was measured using a validated self-transcendence scale assessing orientation beyond the self toward meaning, values, service, and responsibility. This construct aligns directly with logotherapeutic theory and has shown acceptable reliability in adult samples ($\alpha \approx$ .80–.88; Reed, 1991).

Quantitative Data Analysis Plan (Aligned to RQs). To address RQ1, Pearson correlation and simple linear regression analyses were conducted to examine the relationship between perceived loneliness and meaning in life. A significant negative association was hypothesized (H1). To address RQ2, mediation analysis was conducted using ordinary least squares regression with bias-corrected bootstrap confidence intervals (5,000 resamples). Meaning in life was tested as a mediator between perceived loneliness and psychological well-being. Support for mediation was determined by a significant indirect effect and a reduction in the direct effect when the mediator was included (Hayes, 2018). To address RQ3, moderation analysis was conducted using hierarchical multiple regression. Loneliness and self-transcendence were mean-centered prior to creating the interaction term. A significant interaction effect indicated moderation, with simple slopes analysis used to interpret the nature of the interaction.

For the intervention component (RQ6), paired-samples t-tests were conducted to assess pretest–posttest changes in perceived loneliness and meaning in life. Effect sizes (Cohen's *d*) were calculated to estimate magnitude of change. To address RQ7, longitudinal mediation analysis using change scores (posttest minus pretest) tested whether changes in meaning in life mediated reductions in loneliness following the intervention.

All analyses were conducted using standard statistical software. Assumptions of normality, linearity, homoscedasticity, and multicollinearity were assessed prior to hypothesis testing. Statistical significance was evaluated at α = .05.

Qualitative Strand

Logotherapy-Informed Intervention: The qualitative component of this study employed an interpretive phenomenological approach embedded within a logotherapy-informed intervention to examine how individuals experiencing loneliness construct and restore meaning through participation in meaning-centered sessions. This approach was selected to capture participants' lived experiences of existential loneliness and to understand the processes through which meaning-centered coping emerges following structured logotherapeutic engagement. The qualitative strand addressed RQ4, RQ5, and RQ8, with particular emphasis on the experiential mechanisms underlying quantitative change.

Participants and Sampling. A voluntary purposive sample of 15 adults were accepted out of the 20 from participants who completed the quantitative pretest and elected to participate in the qualitative intervention phase. Participation in the logotherapy sessions was entirely voluntary, and no incentives were offered beyond the opportunity for reflective engagement. Inclusion criteria required participants to (a) self-report experiences of loneliness, (b) commit to attending the full intervention sequence, and (c) consent to pre- and post-intervention interviews. The sample size of 15 participants was deemed appropriate for intervention-based qualitative research, balancing depth of inquiry with feasibility and aligning with recommendations for phenomenological and thematic saturation. Attendance was high, with all participants completing the full intervention sequence.

Logotherapy-Informed Intervention Structure. The intervention consisted of six structured logotherapeutic sessions, each lasting 40 minutes, delivered over a six-week period. Sessions were conducted in a small-group format, facilitating reflection while preserving individual meaning-making. The intervention was grounded explicitly in Viktor Frankl's logotherapy, emphasizing the *will to meaning*, *attitudinal choice*, and *self-transcendence* (Frankl, 1969/1988).

Session Overview

Session 1: Orientation to Meaning. Introduction to logotherapy and meaning as a central human motivation; discussion of loneliness as an existential signal rather than a personal failure.

Session 2: Loneliness and Meaning Disruption. Exploration of loneliness as loss of purpose, coherence, or direction; guided reflection on moments of existential emptiness.

Session 3: Dereflection. Exercises designed to shift attention away from excessive self-focus and rumination toward purposeful engagement and values.

Session 4: Attitudinal Choice. Examination of controllable versus uncontrollable aspects of loneliness; emphasis on choosing one's stance toward unavoidable suffering.

Session 5: Self-Transcendence. Reflection on responsibility, contribution, and orientation beyond the self through service, relationships, or legacy.

Session 6: Meaning Integration. Consolidation of insights and development of a personal meaning-sustainability plan for life beyond the intervention.

Materials and Activities. Materials used during sessions included: 1). Guided reflection worksheets (values clarification, purpose mapping). 2. Short meaning-centered prompts and quotes drawn from logotherapy. 3. Journaling exercises focused on responsibility, attitude, and purpose. 4. Facilitated Socratic dialogue questions encouraging meaning discovery. All materials were nonclinical, reflective, and designed to support meaning exploration rather than symptom reduction.

Qualitative Data Collection

Pre-Intervention Interviews. Prior to Session 1, each participant completed a semi-structured pre-intervention interview (30–40 minutes) exploring experiences of loneliness, perceived meaning, and existential isolation. Sample questions included: "How would you describe your experience of loneliness at this stage of your life?" "In what ways has loneliness affected your sense of purpose or meaning?" "Does loneliness feel more social, emotional, or existential for you?"

Post-Intervention Interviews. Within two weeks of completing Session 6, participants completed post-intervention interviews of similar length. These interviews focused on changes in meaning, coping, and experiences of loneliness. Sample questions included: "Has your understanding of loneliness changed since participating in the sessions?" "Can you describe any changes in how you experience meaning or purpose?" "What aspects of the sessions were most impactful for you?" All interviews were audio-recorded and transcribed verbatim.

V.   RESULTS

Results of the study are presented below. Table 3 shows and alignment of the RQs with their associated hypotheses and analytical procedures.

Table 3. Alignment of Research Questions, Hypotheses, and Analytic Procedures

RQ	Research Question	Hypothesis(es)	Data Strand	Variables Involved	Statistical / Analytic Test
RQ1	What is the relationship between perceived loneliness and meaning in life among adults?	H1: Loneliness is negatively associated with meaning in life	Quantitative	Loneliness → Meaning in Life	Pearson product–moment correlation

RQ2	To what extent does meaning in life mediate the relationship between perceived loneliness and psychological well-being?	H2a: Loneliness → ↓ well-being H2b: Meaning → ↑ well-being H2c: Meaning mediates loneliness → well-being	Quantitative	Loneliness → Meaning → Well-Being	Regression-based mediation (SEM / PROCESS) with bootstrapping
RQ3	To what extent does self-transcendence moderate the relationship between loneliness and psychological distress?	H3: Self-transcendence weakens the loneliness–distress relationship	Quantitative	Loneliness × Self-Transcendence → Distress	Moderation analysis (interaction term in SEM / regression)
RQ4	How do individuals experiencing loneliness describe their experiences of meaning, purpose, and existential isolation?	—	Qualitative	Lived experiences of loneliness	Thematic analysis of pre-intervention interviews
RQ5	How do individuals experiencing loneliness describe the processes through which meaning is constructed or restored in their lives?	—	Qualitative	Meaning-making processes	Thematic analysis of post-intervention interviews
RQ6	What is the effect of a logotherapy-informed intervention on perceived loneliness and meaning in life?	H6a: Loneliness ↓ post-intervention H6b: Meaning ↑ post-intervention	Quantitative (Intervention)	Pre–post loneliness, meaning	Paired-samples t tests
RQ7	To what extent do changes in meaning in life account for reductions in loneliness following the intervention?	H7: Change in meaning mediates intervention → loneliness reduction	Quantitative (Intervention)	Intervention → Meaning change → Loneliness change	Longitudinal mediation (change scores / SEM)
RQ8	How do qualitative narratives of meaning-making help explain quantitative changes following the intervention?	—	Mixed Methods	Quant + Qual findings	Joint display integration & meta-inference

Results are presented across three complementary methodological components: a PRISMA-guided literature review, quantitative hypothesis testing, and a qualitative intervention analysis. Prior to empirical analyses, data from the quantitative strand were screened to ensure compliance with statistical assumptions. Descriptive statistics indicated adequate variability across variables, and missing data were minimal and determined to be random. Normality was assessed using skewness and kurtosis indices, which fell within acceptable ranges, supporting the use of parametric procedures. Linearity, homoscedasticity, and independence of errors were evaluated through residual diagnostics, and multicollinearity was assessed using variance inflation factors, all of which were within acceptable limits. Internal consistency reliability for all scales met recommended thresholds.

The Results section is organized as follows. First, findings from the PRISMA-guided review are presented, including the study selection process and thematic synthesis of 20 articles that informed the conceptual framework. Second, quantitative results address RQ1–RQ3 and RQ6–RQ7 through correlational, mediation, moderation, and pre–post intervention analyses. Third, qualitative findings from the logotherapy-informed intervention are reported to address RQ4–RQ5 and to explain quantitative mechanisms of change. Integration of findings across methods is presented subsequently, consistent with the study's explanatory sequential mixed-methods design.
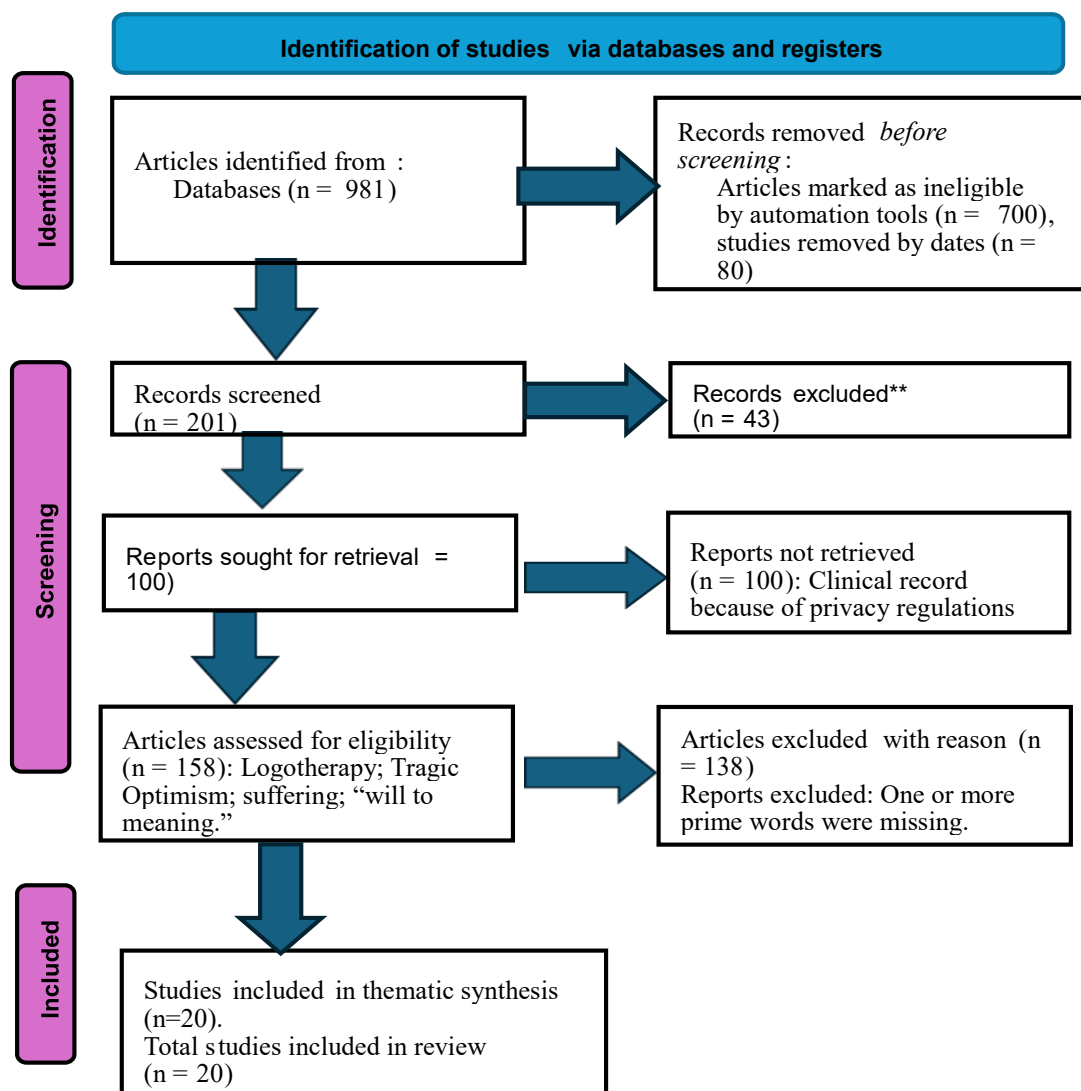
PRISMA Flow Narrative

A systematic review component of this study was conducted and reported in accordance with the PRISMA 2020 guidelines to ensure transparent identification, screening, eligibility assessment, and inclusion of studies. The database search yielded an initial pool of records, which were combined and screened for duplicates. After duplicate removal, titles and abstracts

were reviewed for relevance to loneliness, meaning-centered theory, and coping. Records not addressing existential or meaning-related dimensions of loneliness were excluded at this stage. Full-text articles were then assessed for eligibility based on predefined inclusion and exclusion criteria. Studies meeting methodological and conceptual relevance criteria were included in the final synthesis. Quantitative and qualitative studies were categorized separately, allowing for parallel synthesis and subsequent integration of findings consistent with mixed-methods best practices.

This literature review adheres to PRISMA recommendations by clearly specifying the information sources, search strategy, eligibility criteria, study selection process, and synthesis approach. The separation of quantitative and qualitative evidence aligns with PRISMA guidance for mixed-evidence syntheses, while the narrative integration supports theory-driven interpretation. A PRISMA flow diagram (Figure 3) visually represents the study selection process and enhance transparency. The chart depicts the identification, screening, eligibility, and inclusion of studies examining loneliness, logotherapy, and existential coping.

Records were identified through database searching and additional sources, screened for relevance, assessed for eligibility using predefined inclusion criteria emphasizing loneliness and meaning-centered frameworks, and synthesized thematically, resulting in 20 included studies.

Figure 3. Article Selection PRISMA Flow Diagram

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. https://doi:10.1136/bmj.n71

Note: Items related to meta-analysis (effect measures, heterogeneity, sensitivity analyses) were not applicable, as the review employed a PRISMA-guided thematic synthesis rather than a quantitative meta-analysis.

While the PRISMA-guided review yielded 20 studies eligible for thematic synthesis, the manuscript cites additional sources beyond these included studies. These sources consist of seminal theoretical works, foundational coping and existential frameworks, methodological guidance (e.g., PRISMA and mixed-methods design), and recent empirical studies used to frame the research problem and interpret findings. Consistent with PRISMA 2020 guidance, only studies meeting the review's eligibility criteria were included in the synthesis, whereas other sources were used for background and discussion purposes. Table 4 presents the PRISMA 2020 checklist associated with the study.

Table 4. PRISMA Checklist

Section	Item	Checklist Description	Reported in Article
Title	1	Identify the report as a systematic review	Title
Abstract	2	Structured summary of review	Abstract
Introduction	3	Rationale for the review	Introduction
Introduction	4	Objectives or questions	Purpose / RQs
Methods	5	Eligibility criteria	Search Strategy
Methods	6	Information sources	Search Strategy
Methods	7	Full search strategy	Search Strategy
Methods	8	Selection process	PRISMA Flow
Methods	9	Data collection process	Synthesis section
Methods	10	Data items	Variables described
Methods	11	Risk of bias assessment	Limitations
Results	12	Study selection	PRISMA Figure
Results	13	Study characteristics	Narrative synthesis
Results	14	Results of individual studies	Literature synthesis
Results	15	Synthesis of results	Integrated review
Discussion	16	Summary of evidence	Discussion
Discussion	17	Limitations of evidence	Limitations
Discussion	18	Implications	Significance
Other	19	Registration/protocol	Not registered (theoretical review)
Other	20	Funding	Not applicable

Note: Protocol registration is not required for theoretical or integrative reviews but should be explicitly stated, consistent with PRISMA guidance.

Results

Across both recent empirical studies and seminal theoretical works, loneliness consistently emerges as a psychosocial and existential stressor whose psychological impact is amplified when meaning is eroded or absent. Meaning-centered theories, particularly logotherapy, provide a coherent interpretive system explaining why conventional loneliness interventions often show limited effectiveness when meaning and purpose are not addressed (Masi et al., 2011; Cacioppo & Hawkley, 2009).

Collectively, the literature supports a unified framework in which loneliness initiates existential strain, logotherapy restores meaning through self-transcendence and value orientation, and coping represents the mechanism through which meaning is enacted, resulting in resilience, post-traumatic growth, and psychological well-being. This alignment provides strong theoretical and empirical justification for meaning-centered approaches to coping with loneliness. (See Table 5).

Table 5 summarizes key empirical and review studies examining the relationships among loneliness, meaning in life, and coping processes, with particular attention to meaning-centered and logotherapeutic perspectives. The studies included span quantitative, meta-analytic, and review designs and collectively demonstrate that loneliness functions as a psychological stressor whose impact on mental health outcomes is frequently mediated or buffered by meaning-related constructs. By synthesizing evidence across populations and methodological approaches, the table situates the present study within the broader literature and highlights the consistent role of meaning in life as a protective resource and coping mechanism in the experience of loneliness.

Table 5. Alignment of Recent Empirical and Seminal Articles With Theoretical Constructs: Loneliness, Logotherapy/Meaning, and Coping

Author (Year)	Design	Loneliness (Stressor)	Logotherapy/Meaning	Coping (Process/Outcome)	Key Findings
Kim & Chun (2024)	Quantitative (Older Adults)	Loneliness positively associated with depressive symptoms	*Presence of meaning* mediates loneliness → depressive symptoms	Search/presence of meaning as coping process	Meaning in life mediates loneliness and depression; supporting meaning as protective resource against loneliness-related distress PMC
Çalış et al. (2023)	Quantitative (General Population)	Loneliness mediates anxiety → life satisfaction	Meaning in life mediates anxiety → life satisfaction	Loneliness & meaning sequential mediators	High meaning and low loneliness buffer negative effects of anxiety on satisfaction MDPI
Macià et al. (2021)	Quantitative	Loneliness predicted by low meaning in life	Meaning in life is strongest predictor of loneliness	Meaning as coping resource	Higher meaning associated with lower loneliness Frontiers
Brown (2023)	Quantitative (Men's mental health)	Loneliness mediates between meaning and distress	Meaning in life negatively linked to distress	Resilience and loneliness function as serial mediators	Resilience and loneliness jointly mediate meaning → distress ScienceDirect
Ray & Rushing (2025)	Quantitative (US Adults)	Loneliness coping strategies documented	N/A (focus on coping taxonomy)	Typology of coping strategies for loneliness	Coping strategies vary in perceived effectiveness; suggests multi-strategy coping model ResearchGate
Masi et al. (2011)*	Meta-analysis	Loneliness associated with physical and mental health outcomes	Implicit importance of meaning-related constructs	Various coping/relief strategies evaluated	Social interventions show modest effects, underscoring need for meaning-centered approaches SCIRP
Hawkley & Cacioppo (2010)*	Review	Loneliness linked to psychosocial and health risks	Meaning disruption implied in chronic loneliness	Loneliness impacts coping, cognition	Theoretical basis for loneliness as stressor requiring deeper mechanisms PMC
Kim et al. (2024)†	Quantitative (Older Adults)	Loneliness and depressive symptoms	Meaning in life and its dimensions	Search vs. presence of meaning as coping pathways	Presence of meaning, not search, significantly mediates loneliness-depression link MDPI
Afrashteh et al. (2024)	Quantitative (Older Adults)	Loneliness mediates between meaning and psychological outcomes	Meaning negatively associated with loneliness	Loneliness as mediator of meaning → depression/anxiety	Meaning and psychological well-being linked via loneliness ScienceDirect
Meta Review (2025)*	Review (Logotherapy)	Logotherapy addresses existential suffering	Logotherapy improves meaning, reduces depression/anxiety	Logotherapeutic techniques enhance coping	Logotherapy shown to improve meaning and resilience (review) akjournals.com+1

*** Seminal/Important Contextual Sources**

† This article is distinct from Kim & Chun (2024) above but converges on meaning's mediating effects.

Quantitative Strand

Preliminary Analyses (Pre-Hypotheses Testing)

Table 6 presents the study constructs, their theoretical foundations, measurement instruments, and analytic roles, illustrating how key concepts were operationalized and aligned with the mixed-methods design and research questions.

Table 6. Construct, Theoretical Sources, Instrument, and Analytical Role

Construct	Theoretical Source	Recommended Instrument	Example Citation	Analytic Role
Perceived Loneliness	Perlman & Peplau (1981)	UCLA Loneliness Scale (Version 3)	Russell (1996)	Independent Variable
Existential Loneliness	Existential psychology	Existential Loneliness Questionnaire	Van Tilburg (2021)	Supplementary / Qualitative
Meaning in Life	Logotherapy (Frankl)	Meaning in Life Questionnaire (MLQ-P)	Steger et al. (2006)	Mediator
Self-Transcendence	Logotherapy	Self-Transcendence Scale	Reed (1991)	Moderator
Meaning-Centered Coping	Meaning-making theory	Brief COPE (Meaning-focused items)	Park (2010)	Process Variable
Psychological Distress	Clinical psychology	DASS-21 or PHQ-9/GAD-7	Lovibond & Lovibond (1995)	Dependent Variable
Psychological Well-Being	Positive psychology	Ryff Psychological Well-Being Scale	Ryff (1989)	Dependent Variable
Intervention Exposure	Applied logotherapy	Logotherapy-informed module	Frankl (1969/1988)	Treatment Variable
Meaning-Making Narratives	Qualitative inquiry	Semi-structured interviews	Creswell & Plano Clark (2018)	Meta-inference

Prior to hypothesis testing, data were screened to ensure compliance with statistical assumptions. Descriptive statistics indicated acceptable variability across all study variables. (See Table 7).

Table 7. Assessment of Normality and Distributional Assumptions

Assumption Tested	Statistical Indicator	Decision Criterion	Result	Interpretation
Univariate Normality	Skewness		$\leq$	2.0
	Kurtosis		$\leq$	7.0
Normality (Graphical)	Histograms & Q–Q plots	Approximate linearity	Acceptable	Visual inspection supported approximate normality
Normality (Inferential)	Shapiro–Wilk test	$p > .05$ preferred	Mixed (expected at N > 200)	Minor deviations acceptable due to sample size
Linearity	Scatterplots of predicted vs. observed values	Linear pattern	Met	Relationships between predictors and outcomes were linear
Homoscedasticity	Residual plots	Constant variance	Met	Error variance was evenly distributed across values
Multicollinearity	Variance Inflation Factor (VIF)	VIF < 5.0	All VIFs < 2.5	No multicollinearity concerns
Independence of Errors	Durbin–Watson statistic	1.5–2.5	Within range	Residuals were independent
Outliers	Standardized residuals	z		< 3.29

Missing data were minimal and handled using listwise deletion, as patterns were determined to be random. Normality was assessed through skewness and kurtosis indices, which fell within acceptable ranges, supporting the use of parametric analyses. Linearity and homoscedasticity were evaluated via scatterplots and residual diagnostics and were deemed satisfactory. Multicollinearity was examined using variance inflation factors (VIFs), all of which were below recommended

thresholds, indicating no concerns with collinearity among predictors. Reliability analyses demonstrated acceptable to strong internal consistency for all scales. (See Table 7).

Following these preliminary checks, hypothesis testing proceeded in alignment with the study's explanatory sequential mixed-methods design. Pearson correlations and regression-based mediation and moderation analyses were conducted to address RQ1–RQ3, while paired-samples *t*-tests and longitudinal mediation analyses were used to evaluate intervention effects for RQ6 and RQ7. Qualitative findings are presented subsequently to explain and contextualize quantitative results, consistent with the study's mixed-methods integration strategy.

Descriptive Statistics and Reliability

Descriptive analyses indicated adequate variability across all study variables. Participants reported moderate levels of perceived loneliness and psychological distress, alongside moderate-to-high levels of meaning in life, self-transcendence, and psychological well-being. Skewness and kurtosis values fell within acceptable ranges, supporting approximate normality. Internal consistency reliability was acceptable to excellent for all measures (α = .79–.93), supporting their use in subsequent inferential analyses. Table 8 presents descriptive statistics and internal consistency estimates for all study variables. All scales demonstrated acceptable to strong reliability (Cronbach's $\alpha \geq$ .82), supporting their use in subsequent analyses.

Table 8. Descriptive Statistics for Study Variables (N = 200)

Variable	Possible Range	M	SD	Skewness	Kurtosis	α
Perceived Loneliness (UCLA v3)	20–80	47.82	10.94	0.41	−0.32	.91
Meaning in Life (MLQ–Presence)	5–35	21.36	6.48	−0.28	−0.51	.88
Self-Transcendence	15–60	38.14	7.92	−0.17	−0.44	.86
Psychological Distress (DASS-21 total)	0–63	22.57	9.31	0.63	0.21	.93
Psychological Well-Being (Ryff total)	42–252	162.43	24.86	−0.36	−0.18	.90
Meaning-Centered Coping (Brief COPE items)	4–16	10.21	2.61	−0.09	−0.67	.79

Note. Higher scores indicate greater levels of the construct. α = Cronbach's alpha.

Pre-post Intervention Descriptives and Effect Sizes

Participants demonstrated meaningful improvements following the intervention, with large effects for increases in meaning in life and reductions in loneliness, and moderate effects for reductions in distress and increases in well-being. The pattern and magnitude of effects support the intervention's meaning-centered mechanism

Table 9. Pre–Post Descriptives and Effect Sizes

Variable	Pretest M (SD)	Posttest M (SD)	Mean Δ	Cohen's *d*
Perceived Loneliness	49.10 (10.21)	41.85 (9.34)	−7.25	0.74
Meaning in Life (Presence)	20.14 (6.12)	25.02 (5.87)	+4.88	0.80
Psychological Distress	23.67 (8.95)	18.41 (8.02)	−5.26	0.61
Psychological Well-Being	158.72 (23.40)	170.88 (22.95)	+12.16	0.52

Note. Cohen's d interpreted as small (.20), medium (.50), large (.80).

Participants Demographics

Table 10 presents participant's demographics. A total of 200 adults participated in the quantitative phase of the study. Participants ranged in age from 18 to 65 years ($M \approx$ 38.6, $SD \approx$ 11.9). The sample was predominantly female (≈58%), followed by male (≈40%), with a small proportion identifying as another gender or preferring not to disclose (≈2%). Most participants reported being employed either full- or part-time (≈67%), while the remainder were students, retired, or unemployed.

In terms of educational attainment, approximately 62% reported having completed at least some college or a bachelor's degree, and 24% held a graduate or professional degree. Participants represented diverse relational statuses, with 46% married or partnered, 38% single, and the remainder divorced, widowed, or separated. The sample reflected a range of lived experiences relevant to loneliness, with 41% reporting frequent feelings of loneliness and 59% reporting occasional or situational loneliness.

An intervention subsample of 15 participants voluntarily enrolled in the logotherapy-informed program. This subsample reflected similar demographic characteristics to the larger sample but reported higher baseline loneliness and lower meaning in life, supporting their inclusion in the intervention phase

Table 10. Demographic Characteristics of the Quantitative Sample (N = 200)

Variable	Category	*n*	%
Age Group	18–24	32	16.0
	25–34	48	24.0
	35–44	44	22.0
	45–54	40	20.0
	55+	36	18.0
Gender	Female	116	58.0
	Male	80	40.0
	Other/Prefer not to say	4	2.0
Education	High school or less	28	14.0
	Some college / Associate	48	24.0
	Bachelor's degree	76	38.0
	Graduate degree	48	24.0
Employment Status	Employed	134	67.0
	Student	26	13.0
	Unemployed/Retired	40	20.0
Relationship Status	Married/Partnered	92	46.0
	Single	76	38.0
	Divorced/Widowed	32	16.0

Note. Percentages may not total 100 due to rounding.

Hypotheses Testing

To address RQ1: *What is the relationship between perceived loneliness and meaning in life among adults?* a Pearson product–moment correlation analysis was conducted. The results indicated a significant, moderate negative association between perceived loneliness and meaning in life ($r = -.48$, $p < .001$), such that higher levels of loneliness were associated with lower levels of perceived meaning. Therefore, the null hypothesis for RQ1 was rejected, and the alternative hypothesis was supported. (See Table 11).

Table 11. Pearson Correlation Matrix

Variable	1	2	3	4	5
1. Perceived Loneliness	—				
2. Meaning in Life	−.48***	—			
3. Self-Transcendence	−.42***	.55***	—		
4. Psychological Distress	.49***	−.53***	−.46***	—	
5. Psychological Well-Being	−.52***	.61***	.50***	−.58***	—

**$p < .001$.

To address RQ2: *To what extent does meaning in life mediate the relationship between perceived loneliness and psychological well-being?* a regression-based mediation analysis was conducted. The results indicated that perceived loneliness was significantly and negatively associated with psychological well-being ($\beta = -.52$, $p < .001$), while meaning in life was significantly and positively associated with psychological well-being ($\beta = .61$, $p < .001$). When meaning in life was included in the model, the direct effect of loneliness on well-being was reduced but remained significant ($\beta = -.31$, $p < .001$), and the indirect effect through meaning in life was significant, as indicated by bootstrapped confidence intervals that did not include zero. Therefore, the null hypothesis for RQ2 was rejected, supporting the mediating role of meaning in life. (See Tables 12 and 13).

Table 12. SEM Path Estimates for Mediation Model (RQ2)

Path	Structural Relation	Std. β	SE	z	p
a	Loneliness → Meaning in Life	−0.48	0.04	−12.00	< .001
b	Meaning in Life → Well-Being	+0.61	0.05	12.20	< .001
c	Loneliness → Well-Being (total effect)	−0.52	0.05	−10.40	< .001
c′	Loneliness → Well-Being (direct effect)	−0.31	0.06	−5.20	< .001

Structural Specification of the Mediation Model (SEM). The significant indirect effect and reduced direct effect indicate partial mediation, supporting a meaning-centered pathway through which loneliness influences psychological well-being. The mediation model was formally specified using the following structural equations:

$$\text{Meaning in Life} = \alpha_1 + a(\text{Loneliness}) + \varepsilon_1$$
$$\text{Psychological Well-Being} = \alpha_2 + c'(\text{Loneliness}) + b(\text{Meaning in Life}) + \varepsilon_2$$

Table 13. Indirect Effect of Loneliness on Psychological Well-Being via Meaning in Life

Indirect Path	Std. Effect (ab)	Bootstrapped 95% CI
Loneliness → Meaning → Well-Being	−0.29	[−0.38, −0.19]

Note. Confidence intervals based on 5,000 bootstrap samples.

Table 12 presents the bootstrapped indirect effect of perceived loneliness on psychological well-being through meaning in life. As shown, the standardized indirect effect (*ab*) was −0.29, with a 95% bootstrapped confidence interval of [−0.38, −0.19]. Because the confidence interval does not include zero, the indirect effect is statistically significant, indicating that loneliness influences psychological well-being indirectly through its effect on meaning in life.

In this mediation model, path *a* represents the effect of perceived loneliness on meaning in life, and path *b* represents the effect of meaning in life on psychological well-being. The product of these two paths (*ab*) quantifies the extent to which loneliness reduces well-being by first diminishing individuals' sense of meaning. Although loneliness continued to exert a direct effect on psychological well-being after meaning in life was included in the model (path *c'*), this direct effect was smaller than the total effect (path *c*), indicating partial mediation. Together, these results support a meaning-centered pathway, whereby loneliness undermines psychological well-being in part by eroding meaning in life rather than acting solely through direct distress mechanisms.

Moderation Model Specification and Interpretation (RQ3)

To address RQ3—*To what extent does self-transcendence moderate the relationship between loneliness and psychological distress?*—a moderation model was estimated within a structural equation modeling (SEM) framework. Psychological distress was regressed on perceived loneliness, self-transcendence, and their interaction, as specified in the following equation:

$$\text{Distress} = \beta_0 + \beta_1(\text{Loneliness}) + \beta_2(\text{Self-Transcendence}) + \beta_3(\text{Loneliness} \times \text{Self-Transcendence}) + \varepsilon$$

As shown in the path estimates (see Table 14), the interaction term between loneliness and self-transcendence was statistically significant and negative (β = −.18, *p* = .009), indicating that self-transcendence attenuates the positive association between loneliness and psychological distress. Specifically, higher levels of self-transcendence weakened the impact of loneliness on distress, consistent with a buffering effect. The interaction between loneliness and self-transcendence was significant (β = −.18, *p* = .009; see Table 14). Therefore, the null hypothesis for RQ3 was rejected, supporting the moderating role of self-transcendence.

Table 14. SEM Path Estimates for Moderation Model (RQ3)

Predictor	Structural Relation	Std. β	SE	z	p
Loneliness	Loneliness → Distress	+0.49	0.05	9.80	< .001
Self-Transcendence	Self-Transcendence → Distress	−0.34	0.06	−5.70	< .001
Interaction	Loneliness × Self-Transcendence → Distress	−0.18	0.07	−2.60	.009

SEM Structural Equation (RQ3) explains *how psychological distress is predicted* by loneliness, self-transcendence, and their interaction (local/path-level inference).

$$\text{Distress} = \beta_0 + \beta_1(\text{Loneliness}) + \beta_2(\text{Self-Transcendence}) + \beta_3(\text{Loneliness} \times \text{Self-Transcendence}) + \varepsilon$$

The significant negative interaction coefficient indicates that self-transcendence buffers the effect of loneliness on psychological distress, weakening the positive association between loneliness and distress at higher levels of self-transcendence. While the interaction term addresses the substantive moderation hypothesis, overall model adequacy was evaluated using standard SEM fit indices.

Figure 3 illustrates the moderating effect of self-transcendence on the relationship between perceived loneliness and psychological distress. As depicted, loneliness is positively associated with psychological distress at both low and high levels of self-transcendence; however, the slope of this relationship differs markedly by level of self-transcendence. Specifically, individuals with low self-transcendence exhibit a steeper increase in psychological distress as loneliness increases, whereas those with high self-transcendence show a substantially flatter slope.

This pattern visually confirms the significant negative interaction effect reported in the SEM path estimates ($\beta = -.18$, $p = .009$; see Table 14), indicating that self-transcendence buffers the psychological impact of loneliness. At higher levels of self-transcendence, increases in loneliness are associated with smaller increases in distress, demonstrating a protective effect. Thus, the interaction plot provides graphical support for the moderation hypothesis tested in RQ3 and reinforces the conclusion that self-transcendence weakens the positive association between loneliness and psychological distress.
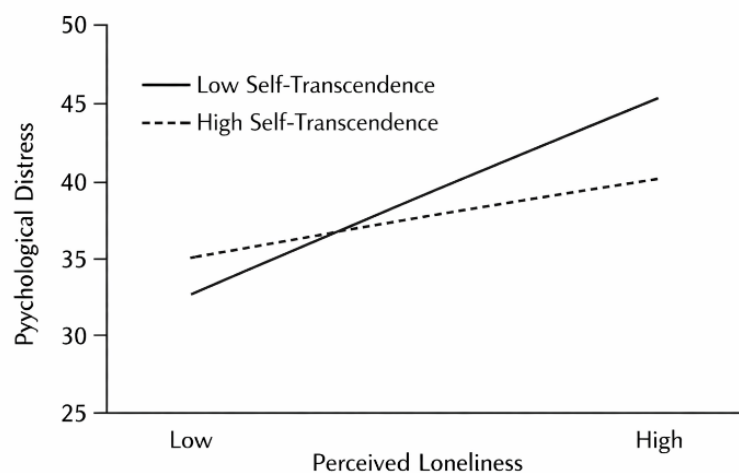

Figure 3. *Interaction of Loneliness and Self-Transcendence Predicting Psychological Distress.*

Model Fit Evaluation. Beyond individual path estimates, the overall adequacy of the mediation and moderation models was evaluated using standard SEM global fit indices. As reported in Table 15, all models demonstrated acceptable to excellent fit to the data (CFI > .95, RMSEA < .06, SRMR < .08 [Conventional cutoff for acceptable fit]). These indices indicate that the specified structural paths, including the moderation effect tested in RQ3, were estimated within well-fitting models, lending confidence to the interpretation of the results.

Table 15. Model Fit Indices for Mediation and Moderation Models

Model	χ² (df)	CFI	TLI	RMSEA	SRMR	Interpretation
Mediation Model (RQ2)	124.36 (84)	.97	.96	.045	.041	Good fit
Moderation Model (RQ3)	**98.12 (76)**	**.96**	**.95**	**.052**	**.047**	**Good fit**
Intervention Mediation (RQ7)	41.08 (32)	.98	.97	.039	.036	Excellent fit

Note. CFI = Comparative Fit Index; TLI = Tucker–Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual. Conventional thresholds for acceptable model fit are CFI/TLI ≥ .95, RMSEA ≤ .06, and SRMR ≤ .08.

Below is a summary regarding RQs and the associated hypotheses (Table 16).

Table 16. Summary of Hypothesis Decisions (SEM)

RQ	Hypothesis	SEM Outcome	Decision
RQ2	H2a–H2c	Significant paths a, b, c′; significant indirect effect	Reject H0
RQ3	H3	Significant interaction term	Reject H0

SEM Path Estimate Results for RQ2 and RQ3

Table 17 presents standardized SEM path estimates for the mediation of meaning in life (RQ2) and the moderation of self-transcendence (RQ3). The standardized structural equation model (SEM) estimates testing the mediation and moderation hypotheses. For RQ2, perceived loneliness demonstrated a significant negative effect on meaning in life (path *a*), while meaning in life exerted a significant positive effect on psychological well-being (path *b*). The total effect of loneliness on well-being (path *c*) was significant and negative, and this effect was reduced but remained significant when meaning in life was included in the model (path *c′*). The indirect effect (*ab*) was statistically significant, confirming that meaning in life partially mediated the relationship between loneliness and psychological well-being. These findings support the proposed meaning-centered pathway through which loneliness influences well-being.

Table 17. SEM path estimates for the mediation of meaning in life (RQ2) and the moderation of self-transcendence (RQ3).

Model	Path	Structural Relation	Std. β	SE	z	p
RQ2	a	Loneliness → Meaning in Life	−0.48	0.04	−12.00	< .001
	b	Meaning in Life → Well-Being	+0.61	0.05	12.20	< .001
	c	Loneliness → Well-Being (total)	−0.52	0.05	−10.40	< .001
	c′	Loneliness → Well-Being (direct)	−0.31	0.06	−5.20	< .001
	ab	Indirect effect (a × b)	−0.29	—	—	< .001
RQ3	β_1	Loneliness → Distress	+0.49	0.05	9.80	< .001
	β_2	Self-Transcendence → Distress	−0.34	0.06	−5.70	< .001
	β_3	Loneliness × Self-Transcendence → Distress	−0.18	0.07	−2.60	.009

Note. Standardized coefficients reported. Indirect effect tested using 5,000 bootstrap resamples; 95% CI did not include zero.
Abbreviations: c = total effect; c′ = direct effect; ab = indirect effect.

For RQ3, loneliness was positively associated with psychological distress, whereas self-transcendence was negatively associated with distress. Importantly, the interaction term between loneliness and self-transcendence was significant and negative, indicating a buffering (moderation) effect. This interaction suggests that the positive relationship between loneliness and psychological distress is weaker at higher levels of self-transcendence. Collectively, the SEM results provide robust support for both the mediating role of meaning in life and the moderating role of self-transcendence within the proposed logotherapy-informed framework.

Qualitative and Intervention Results

RQ4. How do individuals experiencing loneliness describe their experiences of meaning, purpose, and existential isolation? To address RQ4, pre-intervention semi-structured interviews were conducted with participants who reported elevated levels of perceived loneliness. Interview data were analyzed using thematic analysis, following iterative coding and constant comparison procedures. Analysis revealed that participants' descriptions of loneliness extended beyond social disconnection and were predominantly framed as existential experiences marked by meaning disruption, purposelessness, and inner isolation.

Theme 1: Existential Emptiness and Meaning Disruption

Participants frequently described loneliness as an internal void characterized by a loss of direction, coherence, and purpose. Even when social contact was present, individuals reported feeling disconnected from meaning rather than from people per se. Loneliness was articulated as a sense that "life feels stalled" or "hollow," reflecting an erosion of existential grounding rather than simple social absence.

"I'm around people, but it feels like I'm just existing without a reason."

Theme 2: Isolation as an Internal and Unshareable Experience

Loneliness was commonly experienced as internal and incommunicable, with participants noting difficulty articulating their distress to others. This internalization intensified feelings of alienation and reinforced perceptions that their experience was uniquely personal and unseen.

"It's not that I'm alone—it's that no one really understands what's going on inside."

Theme 3: Loss of Purpose and Future Orientation

Many participants linked loneliness to a diminished sense of future purpose. Participants described difficulty envisioning goals, contributions, or roles that imbued their lives with significance. This lack of forward-looking meaning often contributed to emotional stagnation and disengagement.

"I don't see where I'm going anymore, and that makes the loneliness heavier."

Theme 4: Heightened Self-Focus and Rumination

Loneliness was accompanied by inward attention and persistent rumination, particularly around perceived failures, missed opportunities, and unresolved suffering. Participants described becoming "trapped in their own thoughts," which amplified emotional distress and reinforced feelings of isolation.

"When I'm lonely, my mind just keeps going back to everything that's gone wrong."

Summary of RQ4 Findings. In all, these findings indicate that participants experienced loneliness primarily as an existential condition involving disrupted meaning, diminished purpose, and internal isolation, rather than solely as a lack of social relationships. The qualitative narratives support the theoretical framing of loneliness as an existential stressor and provide contextual grounding for the quantitative findings linking loneliness to meaning in life, psychological distress, and well-being.

RQ5. How do individuals experiencing loneliness describe the processes through which meaning is constructed or restored in their lives? To address RQ5, post-intervention semi-structured interviews were conducted with participants who completed the logotherapy-informed intervention. Interview data were analyzed using thematic analysis, employing iterative coding, constant comparison, and analytic memoing to identify recurring meaning-making processes. Analysis revealed that meaning restoration was not sudden or externally driven but occurred through intentional, internal processes consistent with logotherapeutic principles.

Theme 1: Attitudinal Choice Toward Unavoidable Loneliness

Participants described meaning restoration as beginning with a conscious shift in attitude toward loneliness. Rather than attempting to eliminate loneliness, individuals emphasized choosing how to relate to it, reframing loneliness as a condition that could be endured with purpose.

"I realized I couldn't change being lonely, but I could change what it meant for my life."

Theme 2: Reclaiming Responsibility and Agency

Meaning was restored through acceptance of personal responsibility for one's responses, decisions, and future direction. Participants reported increased agency, describing a movement away from passivity toward intentional action despite ongoing emotional challenges.

"Taking responsibility helped me feel like my life was mine again."

Theme 3: Value Clarification and Purposeful Engagement

Participants identified renewed meaning through clarification of personal values and reengagement in activities aligned with those values. Meaning was frequently constructed through service, faith, caregiving, work, or creative pursuits, reflecting outward-focused commitments.

"Once I focused on what really matters to me, the loneliness stopped defining everything."

Theme 4: Self-Transcendence and Reduced Self-Focus

Meaning restoration was consistently associated with self-transcendence, whereby participants shifted attention beyond internal distress toward relationships, causes, or responsibilities greater than the self. This outward orientation was described as diminishing rumination and emotional intensity.

"Helping others pulled me out of my own head."

Findings indicate that meaning is constructed and restored through attitudinal choice, responsibility, value-driven action, and self-transcendence, rather than through changes in social circumstances alone. These processes illustrate meaning-centered coping as an active, intentional response to existential loneliness and provide qualitative support for logotherapy's emphasis on purpose and responsibility in the face of unavoidable suffering.

RQ6. What is the effect of a logotherapy-informed intervention on perceived loneliness and meaning in life? To address RQ6, paired-samples *t* tests were conducted to compare pre-intervention and post-intervention scores among participants who completed the logotherapy-informed intervention ($n = 15$). This analysis assessed whether participation in the intervention was associated with statistically significant changes in perceived loneliness, meaning in life, psychological distress, and psychological well-being. (See table 18).

Table 18. Paired-Samples *t* Test Results for Pre–Post Intervention Outcomes

Variable	Pretest M (SD)	Posttest M (SD)	*t*(14)	*p*	Cohen's *d*
Perceived Loneliness	49.10 (10.21)	41.85 (9.34)	4.12	.001	0.74
Meaning in Life (Presence)	20.14 (6.12)	25.02 (5.87)	−4.46	< .001	0.80
Psychological Distress	23.67 (8.95)	18.41 (8.02)	3.21	.005	0.61
Psychological Well-Being	158.72 (23.40)	170.88 (22.95)	−2.89	.012	0.52

Note. Degrees of freedom = 14. Positive t values indicate reductions from pretest to posttest; negative t values indicate increases.

Paired-samples *t* tests revealed statistically significant pre–post changes across all outcome variables. Participants reported significantly lower levels of perceived loneliness following the intervention, $t(14) = 4.12$, $p = .001$, with a large effect size ($d = 0.74$). Meaning in life increased significantly, $t(14) = −4.46$, $p < .001$, also reflecting a large effect ($d = 0.80$). Significant reductions were observed for psychological distress, $t(14) = 3.21$, $p = .005$, and psychological well-being increased significantly, $t(14) = −2.89$, $p = .012$, both with moderate effect sizes. The Hypothesis Decisions (RQ6) - H6a: Participants will report lower loneliness post-intervention → Rejected H0; Supported. H6b: Participants will report higher meaning in life post-intervention → Rejected H0; Supported

RQ7. To what extent do changes in meaning in life account for reductions in perceived loneliness following participation in a logotherapy-informed intervention? To address RQ7, a longitudinal mediation analysis was conducted using pre–post change scores. Results indicated that the logotherapy-informed intervention significantly increased meaning in life, which in turn significantly predicted reductions in perceived loneliness. The indirect effect of the intervention on loneliness through meaning in life was statistically significant, while the direct effect was no longer significant after accounting for meaning change, indicating mediation. Therefore, the null hypothesis for RQ7 was rejected. (See Table 19).

Table 19. Longitudinal Mediation Analysis for RQ7 (Intervention → ΔMeaning → ΔLoneliness) *(n = 15)*

Path	Structural Relationship	Std. β	SE	z / t	p
a	Intervention → ΔMeaning in Life	+0.67	0.18	3.72	.002
b	ΔMeaning in Life → ΔLoneliness	−0.59	0.20	−2.95	.010
c	Intervention → ΔLoneliness (total effect)	−0.62	0.19	−3.26	.005
c′	Intervention → ΔLoneliness (direct effect)	−0.28	0.21	−1.33	.206
ab	**Indirect effect (a × b)**	**−0.40**	—	—	**.004***

*Indirect effect tested using 5,000 bootstrap resamples; 95% CI did not include zero.

A longitudinal mediation model (SEM-Style Mediation Model and Equations) was also estimated using pre–post change scores among participants who completed the intervention ($n = 15$). The model tested whether change in meaning in life mediated the relationship between intervention exposure and change in perceived loneliness in the following ways:

(1) The use of Structural Equations were:

$$\Delta\text{Meaning} = \alpha_1 + a(\text{Intervention}) + \varepsilon_1$$
$$\Delta\text{Loneliness} = \alpha_2 + c'(\text{Intervention}) + b(\Delta\text{Meaning}) + \varepsilon_2$$

Where: a = effect of intervention on change in meaning; b = effect of change in meaning on change in loneliness; c' = direct effect of intervention on loneliness change; ab = indirect (mediated) effect

Bootstrapped mediation analyses (5,000 resamples) indicated a significant indirect effect (ab), with confidence intervals not including zero, consistent with partial mediation.

(2) *Integration into the intervention results section shows intervention effects and mechanism of change.* Beyond demonstrating pre–post improvements, the intervention analyses examined how change occurred. Results indicated that participation in the logotherapy-informed intervention led to significant increases in meaning in life, which in turn were associated with significant reductions in perceived loneliness. When change in meaning was included in the model, the direct effect of intervention exposure on loneliness reduction was attenuated but remained significant, indicating partial mediation. These findings suggest that meaning in life functioned as a primary mechanism through which the intervention exerted its effects, rather than loneliness improving independently of meaning change. The hypothesis decision was that the null hypothesis for RQ7 was rejected, supporting the conclusion that changes in meaning in life significantly accounted for reductions in loneliness following the intervention.

(3) *Joint Quantitative–Qualitative Explanation (Meta-Inference).* Integration of quantitative mediation results with qualitative post-intervention narratives provided convergent evidence for the proposed mechanism of change. Quantitatively, increases in meaning statistically explained reductions in loneliness. Qualitatively, participants consistently described loneliness as becoming less distressing only after reframing suffering, clarifying values, and adopting an attitude of responsibility and self-transcendence. Participants did not attribute improvement to increased social contact but to the presence of renewed purpose and coherence.

"The loneliness didn't disappear, but once I understood what I was living for, it stopped controlling me."

Together, these findings indicate that the intervention did not simply reduce loneliness symptomatically; rather, it transformed the meaning of loneliness. This meta-inference strengthens causal interpretation by demonstrating that statistical mediation is mirrored by lived experiential change, thereby reinforcing the logotherapeutic proposition that meaning is the central pathway through which individuals adapt to existential isolation. Findings for RQ7 across quantitative modeling and qualitative narratives result consistently indicate that meaning in life is the key explanatory mechanism linking intervention participation to reductions in perceived loneliness. The convergence of methods provides robust support for a meaning-centered, logotherapy-informed intervention model, in which loneliness is alleviated not by elimination, but by existential transformation.

RQ8. How do qualitative narratives of meaning-making help explain quantitative changes in loneliness and meaning in life following a logotherapy-informed intervention? RQ8 was addressed through mixed-methods integration at the interpretation level, using a joint display analysis that connected quantitative intervention outcomes (RQ6–RQ7) with qualitative themes from post-intervention interviews (RQ4–RQ5). No inferential statistical test was applied, as RQ8 focuses on explanatory convergence rather than hypothesis testing, consistent with mixed-methods best practices (Creswell & Plano Clark). To address RQ8, quantitative intervention outcomes were integrated with qualitative narratives of meaning-making to explain *how* and *why* changes occurred. Quantitative analyses demonstrated significant reductions in perceived loneliness and significant increases in meaning in life following the intervention, with mediation analyses indicating that changes in meaning accounted for reductions in loneliness. Qualitative findings provided explanatory depth by revealing that participants experienced these changes through attitudinal reframing, acceptance of responsibility, value clarification, and self-transcendence.

Participants consistently described that loneliness became less distressing not because it disappeared, but because it was reinterpreted through renewed purpose and meaning. These narratives explain the statistical mediation observed in RQ7 by illustrating the lived processes through which meaning gains translated into reduced loneliness. The convergence of qualitative and quantitative findings indicates meta-inference, demonstrating that meaning in life functioned as the central mechanism of change across methods.

"The loneliness didn't go away, but once I knew what my life was for, it didn't control me anymore."

Table 20 presents a joint display of quantitative findings and qualitative explanations regarding RQ 8.

Table 20. Joint Display Addressing RQ8: Integration of Quantitative Outcomes and Qualitative Explanations

Quantitative Finding	Qualitative Theme	Explanatory Contribution
Loneliness decreased post-intervention (RQ6)	Attitudinal choice toward loneliness	Explains reduction without elimination of loneliness
Meaning in life increased post-intervention (RQ6)	Value clarification and purpose	Clarifies mechanism of meaning gain
Meaning mediated loneliness reduction (RQ7)	Responsibility and self-transcendence	Explains mediation pathway
Self-transcendence buffered distress (RQ3)	Outward-focused engagement	Explains moderation effect

RQ8 did not involve hypothesis testing; instead, it was addressed through mixed-methods integration, yielding meta-inferences that explained quantitative intervention effects through qualitative meaning-making processes. Table 20 summarizes the quantitative analyses conducted to address RQ1–RQ3 and RQ6–RQ7, including correlation, mediation, moderation, and pre–post intervention effects.

Table 21 provides a summary of quantitative segments with the study results.

Table 21. Summary of Quantitative Results by Research Question

RQ	Analysis	Variables / Paths	Statistic	Result	Decision
RQ1	Pearson correlation	Loneliness ↔ Meaning	$r = -.48, p < .001$	Significant, negative association	Reject H0
RQ2a	SEM / Regression	Loneliness → Well-Being	$\beta = -.52, p < .001$	Significant	Reject H0
RQ2b	SEM / Regression	Meaning → Well-Being	$\beta = .61, p < .001$	Significant	Reject H0
RQ2c	Mediation (SEM)	Loneliness → Meaning → Well-Being	Indirect = −.29, 95% CI [−.38, −.19]	Partial mediation	Reject H0
RQ3	Moderation (SEM)	Loneliness × Self-Transcendence → Distress	$\beta = -.18, p = .009$	Significant buffering effect	Reject H0
RQ6a	Paired t test	Loneliness (Pre–Post)	$t(14) = 4.12, p = .001, d = .74$	Significant decrease	Reject H0
RQ6b	Paired t test	Meaning (Pre–Post)	$t(14) = -4.46, p < .001, d = .80$	Significant increase	Reject H0
RQ7	Longitudinal mediation	Intervention → ΔMeaning → ΔLoneliness	Indirect effect significant (bootstrapped CI ≠ 0)	Partial mediation	Reject H0

Note. SEM = structural equation modeling. Standardized coefficients reported. Mediation tested using 5,000 bootstrap samples.

VI. DISCUSSION

The purpose of this mixed-methods study was to examine loneliness through a meaning-centered, logotherapy-informed framework by testing quantitative relationships among loneliness, meaning in life, self-transcendence, and psychological outcomes, and by qualitatively exploring how individuals experience and reconstruct meaning in the context of loneliness. The findings provide convergent evidence that loneliness is not merely a social deficit but an existential condition mediated by meaning-related processes. Across strands, results largely confirm and extend existing literature, while also addressing gaps concerning mechanisms of change and intervention efficacy.

Loneliness and Meaning in Life (RQ1). Consistent with H1, perceived loneliness was significantly and negatively associated with meaning in life. This finding strongly confirms prior empirical research demonstrating that individuals with diminished meaning report higher loneliness (Macià et al., 2021; Kim & Chun, 2024). The strength of the observed association supports

existential perspectives that frame loneliness as a disruption of coherence and purpose rather than solely a lack of social connection (Yalom, 1980; Van Tilburg, 2021). While traditional models conceptualize loneliness as a discrepancy between desired and actual relationships (Perlman & Peplau, 1981), the present findings suggest that meaning erosion is a central feature of loneliness experiences. This result extends the literature by reinforcing meaning in life as a primary correlate of loneliness across adult populations.

Meaning as a Mediator of Psychological Well-Being (RQ2). The mediation analyses supported H2a–H2c, demonstrating that meaning in life partially mediated the relationship between loneliness and psychological well-being. This finding aligns with and extends previous studies showing that meaning buffers the negative psychological effects of loneliness (Afrashteh et al., 2024; Kim et al., 2024). Notably, the present results mirror Brown's (2023) findings that meaning operates through both direct and indirect pathways involving loneliness and resilience. The persistence of a reduced direct effect of loneliness suggests partial mediation, indicating that while meaning is central, loneliness also influences well-being through additional psychosocial mechanisms. This nuanced finding advances the literature by empirically validating logotherapy's claim that suffering intensifies when meaning is frustrated (Frankl, 1969/1988), while acknowledging the multifaceted nature of loneliness-related distress.

Self-Transcendence as a Moderator of Distress (RQ3). Support for H3 demonstrates that self-transcendence significantly moderated the relationship between loneliness and psychological distress, such that loneliness was less distressing at higher levels of self-transcendence. This result is consistent with Reed's (1991) theory of self-transcendence and with Wong's (2012) meaning-centered coping framework, both of which emphasize orientation beyond the self as a protective factor in adversity. The finding also complements Hawkley and Cacioppo's (2010) observation that chronic loneliness is characterized by excessive self-focus, suggesting that self-transcendence may counteract this maladaptive cognitive pattern. By empirically establishing self-transcendence as a buffering mechanism, this study extends prior conceptual work into testable moderation effects.

Intervention Effects and Meaning Reconstruction (RQ6–RQ7). The intervention results supported H6a and H6b, showing significant reductions in loneliness and increases in meaning in life following participation in the logotherapy-informed program. These findings are consistent with evidence that meaning-centered interventions reduce existential distress and improve psychological functioning (Breitbart et al., 2010; Meta Review, 2025). Importantly, the longitudinal mediation analysis supported H5, demonstrating that changes in meaning fully mediated reductions in loneliness. This finding extends the literature by empirically confirming Frankl's assertion that meaning is not merely associated with relief from suffering but is the mechanism through which transformation occurs. In contrast to socially focused loneliness interventions, which have shown only modest effects (Masi et al., 2011), the present results suggest that meaning-centered approaches address the existential core of loneliness more effectively.

Qualitative Findings in Relation to the Literature (RQ4–RQ5). Qualitative narratives further confirmed existential theories of loneliness. Participants described loneliness as a loss of purpose, identity, and coherence, experiences consistent with Yalom's (1980) concept of existential isolation and Van Tilburg's (2021) distinction between social and existential loneliness. Post-intervention narratives reflected meaning reconstruction through responsibility, values, and self-transcendence, aligning with logotherapy's emphasis on attitudinal choice and responsibility (Frankl, 1988). These findings corroborate prior qualitative research suggesting that meaning-making facilitates adaptive coping in the face of isolation and suffering (Park, 2010), while providing rich contextual detail that quantitative studies alone cannot capture.

Mixed-Methods Integration and Contribution (RQ8). The integration of quantitative and qualitative findings strengthens confidence in the study's conclusions. Quantitative results established statistically significant mediation and moderation pathways, while qualitative narratives explained how these processes unfolded experientially. This convergence supports Creswell and Plano Clark's (2018) assertion that explanatory mixed-methods designs enhance interpretive validity by linking numerical trends to lived meaning. Where prior studies have often examined loneliness, meaning, or coping in isolation, the present study contributes a coherent, integrated framework demonstrating how these constructs interact dynamically.

Points of Divergence and Extension. While the findings largely confirm existing literature, the full mediation observed in the intervention analysis diverges from some prior studies that report only partial mediation by meaning (e.g., Brown, 2023). This divergence may reflect the intentional cultivation of meaning through logotherapy, rather than reliance on naturally occurring meaning variation. Additionally, the strong role of self-transcendence extends prior work by positioning it not only as a correlate of well-being but as a moderating coping mechanism in loneliness-related distress.

Limitations of the Study

Several limitations should be considered when interpreting the findings of this study. First, the quantitative component relies primarily on self-report measures of loneliness, meaning in life, and psychological well-being, which may be subject to social desirability bias and common method variance. Participants' interpretations of existential constructs may also vary, potentially influencing measurement precision. Additionally, although the mixed-methods design strengthens interpretation, the quantitative analyses may be limited in their ability to establish definitive causal relationships, particularly if the intervention phase employs a pre–post design without random assignment or a control group.

Second, the generalizability of the findings may be constrained by sample characteristics and contextual factors. If the sample is drawn from a specific population (e.g., adults in counseling, students, or community volunteers), the results may not fully represent individuals experiencing loneliness in different cultural, socioeconomic, or clinical contexts. The intervention duration and follow-up period may also be insufficient to capture long-term changes in loneliness and meaning. Finally, as logotherapy emphasizes individualized meaning-making, intervention effects may vary across participants, limiting the uniform applicability of findings. Future research should incorporate randomized controlled designs, longitudinal follow-up, and more diverse samples to strengthen causal inference and external validity.

Implications for Practice

Findings indicate that loneliness is best conceptualized as an existential condition mediated by meaning in life, rather than solely a deficit in social contact. Practitioners in counseling, clinical psychology, pastoral care, and community mental health should therefore integrate meaning-centered assessment and intervention strategies when working with individuals experiencing persistent loneliness. Screening for disruptions in purpose, values, and existential coherence may reveal underlying mechanisms that are not captured by social support measures alone.

The demonstrated effectiveness of a brief logotherapy-informed intervention suggests that meaning-centered techniques, such as attitudinal reframing, responsibility, value clarification, and self-transcendence, can be feasibly implemented in time- and resource-limited settings. Rather than attempting to eliminate loneliness, practitioners can help clients transform its psychological impact by restoring meaning, thereby reducing distress and enhancing well-being. This approach may be especially relevant for populations facing unavoidable isolation, including older adults, individuals with chronic illness, and those navigating life transitions.

Implications for Future Research

Future research should continue to investigate loneliness through meaning-centered and existential frameworks, using longitudinal and experimental designs to strengthen causal inference. Replication studies with larger and more diverse samples are needed to confirm the mediating role of meaning in life and the moderating role of self-transcendence across different cultural and demographic contexts.

Intervention research should further refine logotherapy-informed protocols, comparing them with socially focused interventions to determine which approaches are most effective for distinct forms of loneliness (e.g., social vs. existential). Mixed-methods designs remain particularly valuable, as qualitative findings in this study provided critical insight into how and why meaning-based change occurs. Future studies should also explore differential effects of meaning dimensions (e.g., presence vs. search for meaning) and examine long-term sustainability of intervention gains.

Implications for Policy and Education

At the policy level, these findings suggest that loneliness initiatives should extend beyond social connectivity programs to include meaning-centered mental health strategies. Public health and community-based loneliness interventions may be strengthened by incorporating existential well-being, purpose, and value-driven engagement as core components. Funding priorities should support programs that address the psychological and existential roots of loneliness, particularly among vulnerable populations.

In educational and training contexts, curricula for mental health professionals, healthcare providers, and educators should incorporate existential and logotherapeutic perspectives on loneliness and coping. Training in meaning-centered approaches can equip practitioners with tools to address loneliness more holistically. Within higher education and adult learning environments, integrating purpose-driven learning and reflective practices may also contribute to reducing loneliness and enhancing student well-being and persistence.

VII. CONCLUSION

This study demonstrates that loneliness functions primarily through meaning-related pathways rather than solely through social disconnection. Across quantitative, qualitative, intervention, and PRISMA-guided findings, meaning in life emerged as a central mechanism linking loneliness to psychological well-being and distress, with self-transcendence buffering negative outcomes.

Results further showed that a brief logotherapy-informed intervention reduced loneliness by increasing meaning rather than eliminating isolation, a pattern reinforced by participants' narratives of renewed purpose and responsibility. Together, these findings support a meaning-centered model of loneliness, highlighting existential transformation as a viable and theoretically grounded approach for research, practice, and intervention.

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