

A Preliminary Evaluation of Virtual Reality-Assisted Strength-Based Creative Guided Imagery Counseling for Islamic Positive Self-Talk: A Mixed-Methods Study among Muslim Students

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Abstract

Mental health and self-development among university students have become important concerns in higher education, particularly among Muslim students who face academic, religious, and social expectations. Although previous studies have examined negative self-talk and conventional counseling approaches, limited empirical attention has been given to interventions integrating virtual reality, strength-based counseling, creative guided imagery, and Islamic psychological values. This preliminary study aimed to examine the feasibility and potential effects of Virtual Reality-Assisted Strength-Based Creative Guided Imagery Counseling, namely KKBK-SHINE, in improving positive self-talk among Muslim university students. The present study adopted an explanatory sequential mixed-methods framework. The initial quantitative phase utilized a quasi-experimental pretest-posttest control group design, followed by a qualitative phase aimed at elucidating participants' subjective experiences post-intervention. A purposive sample of twelve individuals, identified with moderate to low levels of positive self-talk, was recruited and evenly allocated into an intervention and a control group. The intervention cohort underwent four sessions of the KKBK-SHINE program, whereas the control group received treatment as usual (TAU). Quantitative outcomes were assessed using a validated Positive Self-Talk Scale and evaluated via Analysis of Covariance (ANCOVA). Subsequently, qualitative insights were gathered through interviews with the intervention participants and rigorously examined using thematic analysis. The results showed that the KKBK-SHINE group demonstrated greater improvement in positive self-talk than the control group. Qualitative findings revealed four themes: Islamic self-assessment, Islamic self-reinforcement, transformation of self-criticism, and Islamic self-management. Participants reported increased self-awareness, reduced self-blame, stronger emotional regulation, and spiritual coping through *muhasabah*, *istighfar*, and positive meaning-making. These findings suggest that KKBK-SHINE is a feasible and potentially beneficial intervention for enhancing positive self-talk among Muslim university students.

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INTRODUCTION

Mental health and self-development among university students have become important concerns in higher education, particularly for Muslim students who navigate academic pressures alongside social expectations and religious identity. The combination of academic

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demands, future uncertainty, and efforts to maintain spiritual values can significantly influence students' psychological well-being and academic adjustment (Syafii et al., 2025).

Previous research indicates that Islamic spirituality can function as a protective factor for psychological well-being. Religious practices such as prayer and *dhikr*, along with the internalization of values such as *tawakkal* (trust in God) and *sabr* (patience), contribute to resilience, emotional stability, and subjective well-being among Muslim students (Hapsari et al., 2021; Rutledge, 2025). In this context, Islamic spirituality provides a meaningful framework that enables individuals to interpret life challenges as opportunities for personal and spiritual growth (Susanti et al., 2025).

Nevertheless, university students often experience academic stress and anxiety due to performance pressure and uncertainty about the future (Aryani & Rahman, 2025; Quansah et al., 2022). Such conditions are frequently associated with negative self-talk, characterized by internal dialogue involving self-doubt, pessimism, and excessive self-criticism (Ratanasiripong, 2012). Among Muslim students, these cognitive patterns may conflict with Islamic values that emphasize *husnuzan* (positive thinking toward God), self-compassion, and trust in divine guidance (El-Matory et al., 2022).

Islamic positive self-talk refers to internal dialogue grounded in Islamic values, emphasizing trust in God, meaningful effort, and constructive self-reflection. Strengthening this form of self-talk has been shown to enhance self-acceptance, self-efficacy, and psychological resilience among Muslim students (Sasferi, 2022; Siti Lutfiah et al., 2025).

Recent developments in counseling have introduced immersive technologies such as virtual reality (VR), which enable multisensory and reflective experiences that enhance emotional engagement in psychological interventions (Dzene-Lekse et al., 2025; Honeycutt, 2020). Integrating VR with strength-based creative guided imagery offers a promising approach to strengthening positive internal dialogue while incorporating spiritual reflection.

However, empirical research integrating immersive technology, strength-based counseling approaches, and Islamic psychological values remains limited. Therefore, this study examines the effectiveness of the Virtual Reality-Assisted Strength-Based Creative Guided Imagery Counseling (KKBK-SHINE) intervention in improving Islamic positive self-talk among Muslim university students using a mixed-methods approach. This study contributes to the emerging literature on spiritually integrated counseling by combining immersive technology, strength-based intervention, and Islamic psychological principles in a single therapeutic framework.

METHODS

Design

This study employed an explanatory sequential mixed-methods design, where quantitative data were collected and analyzed first, followed by qualitative data to explain the quantitative findings (Creswell, 2017). The study was conducted in two interconnected phases. In Phase 1, a quantitative approach was employed to examine the potential effects of the KKBK-SHINE intervention on participants' positive self-talk. Building upon the quantitative results, Phase 2 utilized a qualitative approach to explore participants' perceptions of the intervention, the processes through which changes occurred, and the factors they believed contributed to the development of more positive self-talk patterns.

The integration of quantitative and qualitative findings occurred at the interpretation stage through meta-inference. Meta-inference refers to the process of synthesizing evidence from both datasets to generate a comprehensive understanding of the phenomenon under investigation. In this study, quantitative findings regarding the effectiveness of KKBK-SHINE were interpreted alongside qualitative insights into participants' lived experiences and perceived mechanisms of change. This integrative process enabled the researchers to address

the third research aim, namely, to explain how the intervention facilitated improvements in positive self-talk and to identify the underlying processes through which these changes occurred. The study was conducted over a seven-month period, from June to December 2025.

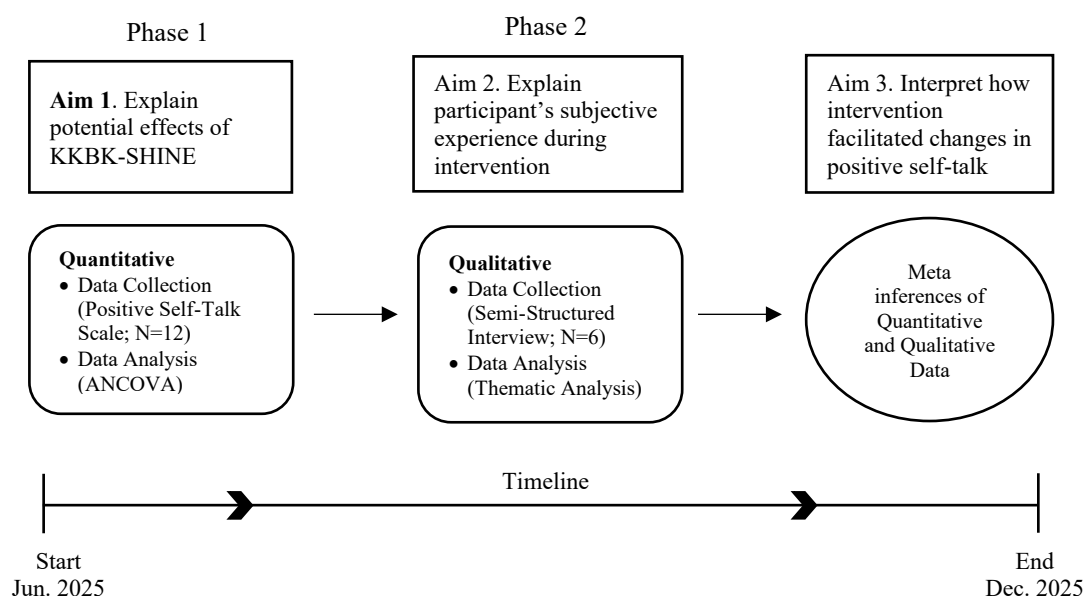


Figure 1. Preliminary Evaluation of KKBK-SHINE Intervention: An Explanatory Sequential Mixed-Method Design (Diagram adapted from Creswell, 2022)

Participants

Participants were recruited from two Indonesian universities, Universitas Negeri Semarang (UNNES) and Universitas Ahmad Dahlan (UAD), using purposive sampling. Inclusion criteria were active Muslim students with moderate to low levels of positive self-talk based on screening results. Twelve students met the criteria and agreed to participate, consisting of an intervention group ($n = 6$) and a control group ($n = 6$). Participation was voluntary and informed consent was obtained from all participants. The small sample size is consistent with exploratory mixed-method intervention studies.

Instruments

Positive self-talk was measured using the 31-item Positive Self-Talk Scale adapted from Brinthaup et al. (2009), which assesses four dimensions: social assessment, self-criticism, self-reinforcement, and self-management. Responses were rated on a five-point Likert scale ranging from 1 (never) to 5 (very often). The instrument demonstrated good internal consistency ($\alpha = 0.889$). Following the completion of the experimental phase, qualitative data were collected from the intervention group participants through semi-structured interviews. These interviews focused on exploring the changes experienced as a result of the treatment, specifically examining how these outcomes manifested into Islamic-based coping mechanisms.

Procedure

The research began with filling out the Positive Self-Conversation Scale as a pre-test. At the beginning of the questionnaire, informed consent is obtained, including an explanation of the purpose of the research, the principle of data confidentiality, the rights that the respondent can obtain, and the final agreement to confirm the respondent's willingness to participate in the research. Those who met the inclusion criteria were assigned to the intervention group or to the control group. The intervention group participated in a structured counseling protocol

designated as KKBK-SHINE (*Konseling Kreatif Berbasis Kekuatan—Self-talk Healing through Imagery in New Experience*), which was delivered across four 90-minute sessions. Meanwhile, the control group received treatment as usual (TAU). After the intervention, both groups completed a post-test to assess changes in positive self-talk. A detail of intervention activities can be described in Table 1.

Table 1. KKBK-SHINE Intervention Activities

Session	Stages	Description of Activities
1	Preparation & Incubation	• Identification of negative self-talk patterns • Formulation of specific counseling goals to cultivate positive self-talk • Orientation to the therapeutic process and safety protocols, followed by a hands-on VR simulation trial to ensure user comfort.
2	Ideation	• Evaluation of past coping efficacy • Introduction of alternative coping mechanisms via four distinct VR-assisted positive self-affirmation activities: cooling and calming self-talk, coaching self-talk, goal-setting self-talk, and corrective self-talk.
3	Illumination & Evaluation	• Retrospective reflection guided by the VR-induced insights from the previous session • Discussion on the transferability, feasibility, and perceived efficacy of the four self-affirmation strategies when applied to daily life stressors
4	Verification	• Summative evaluation of therapeutic progress • Co-designing action plans to promote sustainable integration of positive self-talk into daily routines

Data Analysis

The Quantitative data were analyzed using IBM SPSS Statistics 29. The analysis began with descriptive statistics in the form of means and standard deviations to describe the pre-test and post-test scores of positive self-talk in the KKBK-SHINE group and the control group. Equivalence of initial conditions was assessed by comparing pre-test scores between groups. It was considered equivalent if $p > 0.05$. Homogeneity of variance was tested using Levene's test and the null hypothesis was rejected if $p > 0.05$. The main analysis used ANCOVA to test differences in post-test scores for positive self-talk between the KKBK-SHINE group and the control group, controlling for pre-test scores. The results of the analysis were reported as estimates of marginal means and standard errors, adjusted mean differences, F values, p-values, and partial eta squared (η^2_p). To strengthen the conclusions on a limited sample size, the analysis was confirmed using bootstrapping with 5,000 re-samples. The results are considered significant if $p < 0.05$, with η^2_p interpreted as follows: 0.01 = small, 0.06 = medium, and 0.14 = large.

Post-intervention qualitative data were collected from the experimental group using semi-structured interviews to explore the underlying mechanisms of change. Following Cernasev and Axon's framework (2023), data were analyzed in NVivo via thematic content analysis, progressing from initial coding to theme refinement. Methodological rigor was ensured through independent double-coding, with discrepancies resolved via peer debriefing. Emergent themes are substantiated with direct participant quotations to maximize transparency and credibility.

Moreover, to effectively integrate the quantitative and qualitative findings, a joint display was utilized, allowing for a side-by-side comparison of the statistical outcomes and the participants' in-depth narratives. Finally, meta-inferences were drawn from this integrated analysis to provide a comprehensive understanding of how the KKBK-SHINE intervention facilitated changes in positive self-talk and coping strategies.

RESULTS

Quantitative Results

Examination of Baseline Condition Equivalence

Before the intervention was administered, an examination of pre-test score equivalence was conducted between the KKBK-SHINE group and the control group. The analysis results showed that there were no significant differences in the total positive self-talk score or in all of its dimensions. In addition, Levene's test indicated that the assumption of variance homogeneity was met for all variables ($p > .10$). Thus, both groups can be stated to have relatively comparable baseline conditions before the intervention was implemented, as shown in Table 2.

Table 2. Equivalence Test of Positive Self-Talk Pre-test Scores

Outcome	$F(1, 6)$	η^2_p	p
Total Positive Self-Talk	0.02	.003	.901
Self-Assessment	0.02	.003	.901
Self-Reinforcement	1.85	.236	.222
Self-Criticism	1.96	.246	.211
Self-Management	0.43	.067	.536

Note. H^2_p = partial eta squared. Levene's test showed that the assumption of variance homogeneity was met for all variables ($p > .10$).

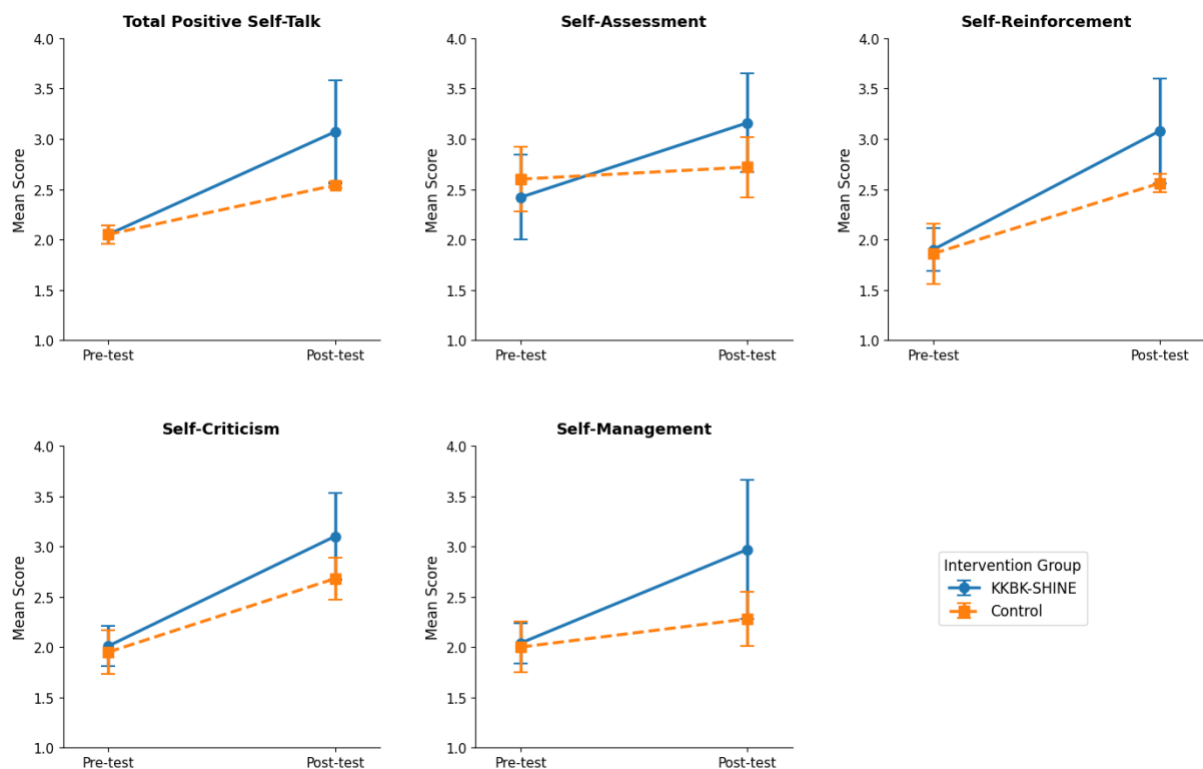


Figure 2. Changes in positive self-talk outcomes between intervention and control groups.

Descriptive Changes in Positive Self-Talk

Descriptive analysis indicated that the KKBK-SHINE intervention group exhibited a more pronounced improvement in positive self-talk scores relative to the control group. Specifically, the total positive self-talk score for the KKBK-SHINE cohort increased substantially (from $M = 2.05$, $SD = 0.09$ to $M = 3.07$, $SD = 0.51$), whereas the control group demonstrated only a marginal gain (from $M = 2.05$, $SD = 0.09$ to $M = 2.54$, $SD = 0.03$).

Intervention Effect of KKBK-SHINE on Positive Self-Talk

Preliminary assumption testing with Shapiro-Wilk (Table 3) demonstrated that the residuals of the ANCOVA model were normally distributed ($W = .915$, $p = .278$). In addition, Levene's test (Table 2) indicated that the assumption of homogeneity of variances was met ($p > .10$). Accordingly, the data satisfied the necessary assumptions for ANCOVA analysis.

ANCOVA was conducted to examine differences in post-test positive self-talk scores between the KKBK-SHINE group and the control group after controlling for pre-test scores. The analysis results showed that the KKBK-SHINE group had significantly higher post-test scores than the control group, both on the total positive self-talk score, $F(1, 6) = 730.70$, $p < .001$, $\eta^2_p = .99$, and on all dimensions, with $F(1, 6)$ values ranging from 20.33 to 107.39, $p \leq .004$, and η^2_p ranging from .77 to .95. These findings indicate that KKBK-SHINE has initial potential effectiveness in improving students' positive self-talk, as shown in Table 4.

Table 3. ANCOVA Results of Positive Self-Talk After Controlling for Pre-test Scores

Outcome	KKBK-SHINE M (SE)	Control M (SE)	ΔM (Adjusted)	F(1, 6)	p	η^2_p
Total Positive Self-Talk	3.52 (0.02)	2.54 (0.03)	0.98	730.70	< .001	.99
Self-Assessment	3.54 (0.11)	2.74 (0.13)	0.80	20.33	.004	.77
Self-Reinforcement	3.50 (0.06)	2.55 (0.07)	0.95	107.39	< .001	.95
Self-Criticism	3.41 (0.08)	2.74 (0.09)	0.67	27.46	.002	.82
Self-Management	3.54 (0.09)	2.27 (0.10)	1.27	91.03	< .001	.94

Note. M = estimated marginal means; SE = standard errors; ΔM = adjusted mean difference (KKBK-SHINE – Control). Inference was confirmed using 5,000 bootstrap resamples.

Experimental Results Based on Institution

Additional analysis was conducted to determine whether the intervention outcomes differed based on the students' institution of origin. The results showed that the institution effect was not significant, $F(1, 6) = 0.44$, $p = .534$, $\eta^2_p = .07$. The group $\times$ institution interaction was also not significant, $F(1, 6) = 0.40$, $p = .549$, $\eta^2_p = .06$. Thus, there is no evidence that the effectiveness of KKBK-SHINE differed based on students' institution of origin, as shown in Table 4.

Table 4. Additional Analysis of Institutional Effect on Intervention Outcomes

Outcome	F(1, 6)	η^2_p	p
Institution	0.44	.07	.534
Group $\times$ Institution	0.40	.06	.549

Note. Institution refers to the student's institution of origin, namely UNNES and UAD

Qualitative Results

To complement the quantitative findings, semi-structured interviews were conducted with participants from the intervention group. Thematic analysis identified four themes describing changes in internal dialogue and emotional regulation during the counseling process (Figure 3). Figure 3 explains that Islamic positive self-talk and coping strategies emerged through four interrelated themes: Islamic self-assessment, Islamic self-reinforcement, transformation of self-criticism, and Islamic self-management. These themes show how participants reframed effort,

accepted limitations, found meaning in failure, transformed self-blame into *muhasabah*, and used spiritual-psychological strategies such as *istighfar* (seeking forgiveness from God) self-care, and emotional pause to cope more adaptively. Examples of participants' Islamic positive self-talk expressions after the intervention are presented in Table 5.

Mixed Results

Integration of quantitative and qualitative findings suggests that the VR-assisted Strength-Based Creative Guided Imagery Counseling (KKBK-SHINE) intervention facilitated improvements in positive self-talk through three interconnected mechanisms. First, immersive virtual reality scenarios supported guided imagery that helped students visualize personal strengths and positive future outcomes. Second, counselors facilitated strength-based reflective dialogue that enabled participants to reinterpret self-critical thoughts and develop supportive internal narratives. Third, the intervention incorporated spiritual meaning-making, allowing participants to internalize positive self-talk as a strategy for emotional regulation and self-acceptance. The convergence between quantitative improvements and qualitative experiences is summarized in Table 6 using a joint display approach.

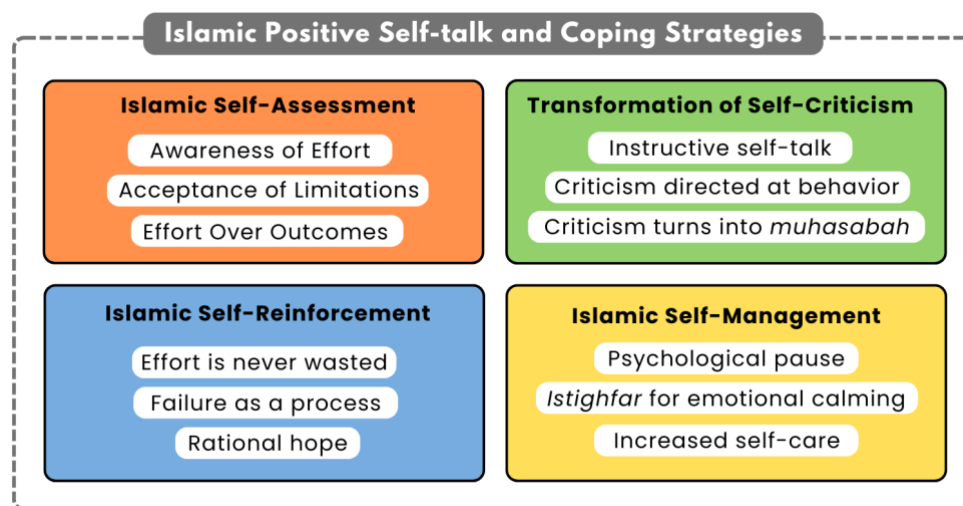


Figure 3. Islamic Positive Self-Talk and Coping Strategies

Table 5. Example of Islamic Positive Self-Talk and Coping Strategies After the Intervention

Theme	Sub-theme	Example of Counselee's Quotes
Islamic Self-Assessment	Awareness of effort	"I realize that I have actually tried my best, even though the results do not always meet my expectations. But that does not mean I am completely incapable." (C03)
Islamic Self-Reinforcement	Spiritual re-interpretation of failure	"When I fail, I think that maybe this is not the right time yet. Later, Allah will prepare something better and more beautiful." (C01)
Islamic Self-Criticism	Mild self-blame still occurs	"Sometimes I still feel annoyed with myself for being less careful, but it doesn't make me deeply discouraged." (C05)
Islamic Self-Management	<i>Istighfar</i> as emotional regulation	"When I start to feel irritated or extremely tired, I do <i>istighfar</i> , and that makes me feel calmer." (C04)
	Relaxation	"I take a deep breath first to calm myself, and only then do I start thinking again." (C02)

DISCUSSION

The present experimental study provides empirical evidence supporting the effectiveness of Virtual Reality-Assisted Strength-Based Creative Guided Imagery Counseling (KKBK-SHINE) in enhancing Islamic positive self-talk among Muslim university students. Improvements across overall positive self-talk and its dimensions indicate that the intervention influenced core intrapersonal cognitive processes rather than merely producing general emotional improvements. These findings align with the strengths-based counseling paradigm, which emphasize activating individuals' psychological resources and personal strengths as a foundation for therapeutic change (Harris et al., 2007; Smith, 2006).

Table 6. Quantitative and Qualitative Results

Quantitative Results	Qualitative Results	Convergent Results
No significant differences between intervention and control groups at pre-test (all $p > .10$).	Participants described similar levels of self-doubt and negative self-talk prior to the intervention.	Baseline equivalence indicates that later changes can be attributed to the intervention rather than initial differences.
Positive self-talk increased substantially in the intervention group ($M = 2.05 \rightarrow 3.07$), while the control group showed smaller gains.	Participants reported increased awareness of their internal dialogue and reduced self-blame after counseling.	Quantitative improvement aligns with qualitative reports of more adaptive internal dialogue.
ANCOVA showed a significant group effect on total positive self-talk, $F(1,6) = 730.70$, $p < .001$, partial $\eta^2 = .99$.	Participants described a shift toward more reflective and compassionate self-talk grounded in faith and <i>muhasabah</i> .	The intervention produced strong statistical and experiential changes in positive self-talk.
Significant effects were found across all dimensions ($p < .01$).	Themes reflected improvements in self-assessment, self-reinforcement, transformation of self-criticism, and self-regulation.	Findings indicate multidimensional changes in positive self-talk.
No significant institutional effects were found ($p > .05$).	Participants from different universities described similar experiences during counseling.	The intervention effect appears consistent across institutional contexts.
The largest gains occurred in self-management and self-reinforcement	Participants emphasized improved emotional regulation, spiritual coping, and clearer self-priorities.	Self-regulation and reinforcement emerged as central outcomes of the intervention.
Effect sizes were large to very large ($\eta^2 = .77-.99$).	Participants described the changes as gradual but meaningful.	Statistical effects correspond with meaningful experiential changes.

Strength-based counseling promotes psychological change by shifting internal dialogue from deficit-oriented thinking toward capability-focused self-talk. In this study, such transformation occurred during reflective counseling sessions where participants examined academic stressors, identified coping patterns, and practiced four forms of positive self-talk: cooling and calming self-talk, coaching self-talk, goal-setting self-talk, and corrective self-talk. These strategies enabled participants to reinterpret self-critical thoughts and develop more supportive internal narratives.

Self-talk plays a central role in shaping how individuals interpret experiences and regulate emotional responses (Brinthaupt, 2019; Hatzigeorgiadis, 2004). Neurocognitive research suggests that self-referential processing involves regions such as the medial prefrontal cortex

and anterior cingulate cortex, which regulate self-evaluation and responses to perceived self-threat (Bricio-Barrios et al., 2022; D'Argembeau, 2013). At the broader network level, positive self-talk strengthens connections among motivational, self-referential, and executive control systems, thereby supporting resilience and adaptive self-regulation (Dar et al., 2025; Kim et al., 2021).

In this study, the development of positive self-talk was facilitated through guided imagery, a technique that uses structured mental visualization to promote relaxation, emotional regulation, and cognitive restructuring (Krau, 2020; Wood & Patricolo, 2013). By encouraging participants to imagine constructive future scenarios, guided imagery can enhance coping capacity, self-efficacy, and adaptive emotional responses (Menzies et al., 2014; Velikova et al., 2017). Previous studies also indicate that positive imagery strengthens adaptive self-referential processing compared with neutral cognitive tasks (Dainer-Best et al., 2018).

The therapeutic process was further strengthened through virtual reality, which enhanced participants' engagement during guided imagery exercises. VR-based environments have been shown to facilitate relaxation and emotional regulation by simulating calming visual and auditory contexts (Diyana et al., 2018; Lui et al., 2012). Consistent with this literature, the present findings suggest that VR-assisted guided imagery can intensify experiential involvement and strengthen the development of positive self-talk among university students.

Qualitative findings further revealed that spiritual meaning-making played an important role in shaping participants' internal dialogue. Participants described reframing academic failure as part of a meaningful spiritual learning process, transforming self-criticism into reflective *muhasabah*, and using practices such as *istighfar* to regulate emotional responses. These findings support previous research indicating that spirituality can function as a cognitive framework for interpreting adversity and supporting psychological adjustment (Krok, 2008).

Within Islamic psychology, *muhasabah* represents a reflective process associated with *tazkiyatun nafs* (purification of the soul), where personal shortcomings are interpreted as opportunities for spiritual growth. In this framework, Islamic positive self-talk integrates self-reflection, religious meaning-making, and emotional regulation (Rothman & Coyle, 2018). Instead of engaging in punitive self-judgment, participants reframed self-critical thoughts as opportunities for self-improvement and spiritual development (Wahyudi et al., 2025). Similarly, *istighfar* functioned as both a spiritual practice and a reflective cognitive strategy that reduced emotional tension and encouraged self-forgiveness (Costa et al., 2021; Skalski-Bednarz, 2024; Village & Francis, 2023).

However, spirituality does not always function as a uniformly protective factor. Previous research indicates that individuals may experience spiritual struggles, such as feelings of divine punishment or spiritual abandonment, which can negatively affect psychological well-being (Grossoehme & Fitchett, 2013; Upenieks, 2022). In such cases, spiritual interpretations of failure may reinforce self-blame rather than constructive reflection. Therefore, spiritually integrated counseling should carefully facilitate reflective meaning-making processes to prevent maladaptive interpretations of religious beliefs.

The distinction between spirituality and religiosity is also important in understanding spiritually grounded self-talk. Spirituality generally refers to the search for meaning and connection, whereas religion involves structured beliefs and communal practices (Aranda, 2008). Recognizing this distinction allows counselors to adapt spiritually integrated interventions in ways that respect individuals' belief systems without imposing rigid doctrinal interpretations.

Overall, these findings highlight the potential of integrating immersive technology, strength-based counseling, and spiritually grounded cognitive processes in psychological interventions for Muslim students. By combining virtual reality with guided imagery and Islamic reflective practices, the KKBK-SHINE intervention facilitates not only cognitive

restructuring but also spiritually meaningful reinterpretations of academic challenges. This integrative approach extends existing counseling frameworks by demonstrating how technological immersion and spiritual meaning-making can jointly support the development of adaptive self-talk, emotional regulation, and psychological resilience in higher education contexts.

Implications

This study offers both theoretical and practical implications for counseling research and practice. The findings extend existing understandings of self-talk by demonstrating that internal dialogue can be shaped not only through cognitive restructuring but also through spiritually grounded meaning-making processes. Spiritual concepts such as *muhasabah* and *istighfar* may transform negative self-evaluation into reflective internal dialogue.

Practically, the findings highlight the potential of integrating spirituality with immersive technologies in counseling interventions. VR-assisted guided imagery provides an experiential approach that enhances therapeutic engagement and emotional reflection. For counselors in educational settings, this approach offers a culturally responsive strategy to support students' psychological well-being through experiential learning and spiritually relevant values.

Limitations and Future Directions

Several limitations should be acknowledged. First, the small sample size limits the generalizability of the findings. Future research should examine this intervention with larger and more diverse samples. Second, spirituality may also involve spiritual struggle or negative religious coping that influences psychological adjustment differently. Future studies should explore these dynamics to better understand when spiritually grounded self-talk promotes resilience and when it may contribute to maladaptive self-evaluation. Third, this study focuses on an Islamic framework of spiritual self-talk, which may limit its applicability across different spiritual traditions. Finally, cultural context may shape how spiritual beliefs influence self-

CONCLUSION

The development of Islamic positive self-talk among university students remains underexplored, particularly within strength-based counseling frameworks. This study addressed this gap by implementing Virtual Reality-Assisted Strength-Based Creative Guided Imagery Counseling (KKBK-SHINE). The findings demonstrate that the intervention significantly improved positive self-talk across multiple dimensions, including self-assessment, self-reinforcement, transformation of self-criticism into *muhasabah*, and self-management. Qualitative results further revealed meaningful psychological and spiritual transformations in how students interpret failure, evaluate themselves, and regulate emotions. Overall, integrating virtual reality, strength-based counseling, and Islamic spiritual values represents a promising approach for promoting adaptive self-dialogue and psychological resilience among Muslim university students.

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AUTHOR CONTRIBUTION STATEMENT

MN conceptualized the study, designed the methodology, conducted the investigation, performed the data analysis, and prepared the original draft of the manuscript. AM, NS, SH contributed to the research design, data collection, and data analysis. EP, GP, GN, RN supervised the research process and contributed to the critical revision of the manuscript. AS, AW, AA, NH, and IZ assisted in data collection, validation of the findings, and manuscript review and editing. All authors read and approved the final version of the manuscript.

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