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# IMPACT OF VIRTUAL REALITY-BASED IMMERSIVE EXPERIENCE ON SPIRITUAL AWARENESS AND SOCIAL SOLIDARITY: EVIDENCE FROM INDONESIA

## *IMPACTO DA EXPERIÊNCIA IMERSIVA BASEADA EM REALIDADE VIRTUAL NA CONSCIÊNCIA ESPIRITUAL E NA SOLIDARIEDADE SOCIAL: EVIDÊNCIAS DA INDONÉSIA*

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**Abstract**
The rapid advancement of digital technology presents a unique paradox in religious communities: while religious observance remains high, social pathologies such as drug abuse and juvenile delinquency continue to rise. This study explores the potential of Immersive Experience based on Virtual Reality (VR) as an intervention tool to bridge this gap. Specifically, it examines how simulating the history of the Prophet Muhammad SAW through VR affects Spiritual Awareness and Social Solidarity among the youth in Jember, Indonesia. Using a quantitative approach with Partial Least Squares Structural Equation Modeling (PLS-SEM), data were collected from 211 respondents selected via purposive sampling. The results demonstrate that

***Resumo***
*O rápido avanço da tecnologia digital apresenta um paradoxo único nas comunidades religiosas: enquanto a observância religiosa permanece elevada, patologias sociais como o abuso de drogas e a delinquência juvenil continuam a aumentar. Este estudo explora o potencial da Experiência Imersiva baseada em Realidade Virtual (RV) como uma ferramenta de intervenção para preencher essa lacuna.*
*Especificamente, ele examina como a simulação da história do Profeta Maomé SAW por meio da RV afeta a Consciência Espiritual e a Solidariedade Social entre os jovens em Jember, na Indonésia. Utilizando uma abordagem quantitativa com Modelagem de Equações Estruturais de Mínimos Quadrados*

the Immersive Experience has a significant and positive influence on both Spiritual Awareness (T-statistic = 15.512, p < 0.001) and Social Solidarity (T-statistic = 15.288, p < 0.001). Furthermore, the model explains a moderate to substantial amount of variance in the dependent variables (R2 > 0.40), with discriminant validity confirmed by HTMT ratios < 0.90. These findings suggest that VR technology can transcend its entertainment value to become a transformative medium for spiritual and social education, fostering a "Digital Transcendence" that strengthens both vertical and horizontal human relationships.

**Keywords:** Immersive Experience. Virtual Reality (VR). Spiritual Awareness. Social Solidarity.

*Parciais (PLS-SEM), os dados foram coletados de 211 entrevistados selecionados por meio de amostragem intencional. Os resultados demonstram que a experiência imersiva tem uma influência significativa e positiva tanto na consciência espiritual (estatística T = 15,512, p < 0,001) quanto na solidariedade social (estatística T = 15,288, p < 0,001). Além disso, o modelo explica uma variação moderada a substancial nas variáveis dependentes (R2 > 0,40), com validade discriminante confirmada por índices HTMT < 0,90. Essas descobertas sugerem que a tecnologia de RV pode transcender seu valor de entretenimento para se tornar um meio transformador para a educação espiritual e social, promovendo uma "Transcendência Digital" que fortalece as relações humanas verticais e horizontais.*

***Palavras-chave:*** *Experiência imersiva. Realidade virtual (RV). Consciência espiritual. Solidariedade social.*

## 1 INTRODUCTION

Islam, the predominant religion in Indonesia, encompasses doctrines that strike a balance between individual piety and social responsibility. The five daily prayers (Salat), as the central pillar of worship, are designed not merely as a ritual obligation to strengthen the transcendental relationship with God (hablum minallah), but also as an instrument to reinforce social cohesion (hablum minan nas) through congregational practice. However, a striking paradox exists between the high level of ritual observance and the reality of social behavior. This phenomenon indicates a significant gap between cognitive spiritual values and their internalization in daily life, where spiritual awareness has not yet fully succeeded in reducing social pathologies (Wang *et al*., 2024).

This discrepancy is vividly evident in Jember Regency, a region in East Java Province characterized by a strong demographic base of santri (Islamic boarding school students) and a reputation for upholding religious values. Despite this religious identity, Jember faces serious challenges regarding moral degradation. Empirical data reveal an alarming escalation of social pathologies: in 2024, drug abuse cases rose sharply to 267 cases involving 329 suspects, a significant increase from 174 cases in the previous year.

Furthermore, a crisis of adolescent morality is reflected in the high number of child marriage dispensation requests, reaching 1,362 cases in 2023, largely triggered by unwanted pregnancies resulting from promiscuity. Horizontal conflicts among youth groups also remain prevalent, such as the 2024 incident in Kaliwates District, which resulted in damage to public facilities. These statistics confirm that conventional preaching (da'wah) and educational methods have not been entirely effective in fostering spiritual awareness that translates into social solidarity and self-control.

In the era of digital transformation, Virtual Reality (VR) technology offers a novel approach to bridging this gap. VR possesses the unique capability to create an immersive experience that induces a profound sense of telepresence, which can positively manipulate user emotions and cognition. Previous studies have mapped VR utilization into three main clusters (Kokash *et al*., 2024). First, for historical reconstruction and spiritual education, such as simulations of the Prophet's history museums. Second, as a medium for enhancing empathy and social solidarity, for instance, in commemorating humanitarian tragedies or understanding victims' perspectives. Third, the implementation of VR for community development and psychological therapy in remote areas (Yalcinkaya, 2025).

Although the potential of VR has been widely explored, a significant research gap remains. The majority of studies bifurcate the use of VR into either purely spiritual purposes, virtual pilgrimages, or strictly social purposes, conflict resolution. Few studies have integrated these two aspects specifically, how an immersive experience based on the history of the Prophet can simultaneously reconstruct spiritual awareness and strengthen social solidarity, particularly within a heterogeneous and conflict-prone local context like Jember. Literature suggests that immersive environments can enhance spiritual mindfulness and trigger team collaboration (Oh *et al*., 2016), both of which are highly relevant for addressing issues of social disintegration.

This study selects Jember Regency as the research locus due to its unique demographic characteristics (a cultural blend of Javanese and Madurese) and its high population of young people who are adaptive to digital technology yet vulnerable to moral decadence. The utilization of VR based on the history of the Prophet is expected to be an innovative solution that is more relevant to the younger generation compared to conventional methods. Therefore, this study aims to analyze the influence of Virtual

Reality-based Immersive Experience on the enhancement of Spiritual Awareness and Social Solidarity. Specifically, this study examines whether immersive technology interventions can serve as an effective catalyst in transforming historical religious knowledge into living spiritual awareness and tangible solidarity behavior within the community.

This study addresses a fundamental inquiry regarding the efficacy of technology within the psychosocial domain, specifically: does Virtual Reality (VR)-based Immersive Experience significantly influence Spiritual Consciousness and Social Solidarity? Accordingly, the primary objective of this research is to comprehensively analyze the capacity of immersive technology to serve as an effective medium for reinforcing spiritual and social values within the Jember Regency community. This study seeks to elucidate the potential of VR in transforming visual simulations into internalized spiritual experiences. Operationally, the research objectives are delineated into three specific, measurable targets. First, to examine and verify the significant influence of Immersive Experience on the enhancement of Spiritual Consciousness. Second, to determine the magnitude of the impact of Immersive Experience on the strengthening of Social Solidarity. Third, to analyze the simultaneous influence of Immersive Experience on both dependent variables. By achieving these objectives, this study aims to validate the premise that VR interventions can yield a holistic dual impact: deepening the transcendental connection with the Divine while simultaneously fortifying interpersonal bonds of social empathy.

## 2 LITERATURE REVIEW

### 2.1 Virtual reality

Virtual Reality (VR) is a technology that has made a significant impact on the history of human thought and has recently become a growing trend in efforts to enhance performance quality and product development across various sectors. VR, or virtual reality, refers to a technology designed to allow users to interact with environments that are fully simulated by computers, known as computer-simulated environments. These simulated environments can closely resemble the real world or present entirely new

realities, offering immersive experiences that integrate multiple sensory simulations, including visual, auditory, and tactile sensations (Al-Ansi *et al*., 2023). Through the use of advanced computing systems, VR enables the simulation of real-world objects and situations by generating three-dimensional (3D) environments, creating the illusion that users are physically present and actively involved within the virtual space. This immersive quality allows users not only to observe but also to experience and respond to virtual scenarios as if they were part of the real world (Gorodnichev *et al*., 2022).

The term "Virtual Reality" refers to a world that is perceived and believed to be experienced through human sensory skills, even though it does not physically exist in the actual world. In essence, VR functions by creating substitutes for real-world spaces, events, objects, or environments that are accepted by humans as real or authentic experiences. These virtual substitutes are designed to replicate or even enhance reality in ways that are convincing and meaningful to users (Abbas *et al*., 2023). As a result, VR blurs the boundary between what is physically real and what is digitally constructed. In discussions related to this technology, the terms "virtual environments," "artificial environments," and "synthetic environments" are often used interchangeably, as they all describe digitally generated spaces that aim to simulate reality and provide users with a sense of presence and realism within a non-physical environment (Osborne & Jones, 2022).

## 2.2 Spirituality

According to Adler, human beings are conscious creatures, meaning that they are aware of the reasons behind their behaviors, aware of their feelings of inferiority, capable of guiding and directing their own actions, and fully conscious of the meaning of their behaviors to actualize themselves. This awareness allows individuals to reflect on their experiences, understand their personal limitations, and consciously strive toward growth and self-improvement (d'Isa & Abramson, 2025). Adler's perspective emphasizes that human behavior is not driven solely by unconscious impulses, but rather by purposeful actions that are guided by personal meaning and self-awareness. Through this conscious process, individuals are able to shape their lives, overcome feelings of inadequacy, and

move toward self-realization in a meaningful and intentional way (Sebastian & Hühn, 2023).

Spirituality is directed toward subjective experiences related to what is existentially relevant for human beings. It does not merely concern whether life is valuable, but also emphasizes the deeper question of why life holds value and meaning. Being spiritual means having a stronger connection to spiritual or psychological dimensions rather than being solely focused on physical or material aspects of life (de Carvalho & Moreira-Almeida, 2024). Spirituality involves an inner awakening or enlightenment that helps individuals discover purpose, direction, and meaning in their existence. Furthermore, spirituality is considered an essential component of overall health and well-being, as it contributes to emotional balance, psychological resilience, and a deeper sense of fulfillment in life (Monteiro *et al*., 2025).

According to Fontana and Davie, defining spirituality is more complex than defining religion. Compared to the concept of religion, psychologists have proposed various definitions of spirituality, reflecting its broad and multidimensional nature. Essentially, spirituality carries multiple meanings that extend beyond formal religious frameworks. Outside the context of religion, spirituality often refers to the way individuals express their inner spirit or demonstrate spiritually oriented behavior in their daily lives (Sargeant & Yoxall, 2023). In this sense, spirit is frequently associated with personality characteristics, attitudes, and behavioral tendencies that reflect inner values and motivations. Fundamentally, spirit can be understood as a form of energy that operates both physically and psychologically, influencing how individuals think, feel, and act (Paridinova *et al*., 2023).

Terminologically, spirituality is derived from the word “spirit.” Within religious and spiritual literature, the term “spirit” holds two substantial meanings.

a) It refers to the character and essence of the human soul, emphasizing the interconnectedness among individual souls and the lived experience of this interconnectedness, which serves as a foundational element of spiritual belief. In this context, “spirit” represents the deepest part of the human soul and functions as a medium or channel through which humans are able to communicate with God (Sumiaty *et al*., 2023).

b) The term “spirit” also refers to the idea that all interconnected spirits are part of a larger unity, encompassing shared consciousness and intellect. This perspective highlights spirituality as an integrative concept, where individual existence is viewed as inseparable from a greater, universal whole (Trnka & Lorencova, 2022).

### 2.3 Social solidarity

Solidarity is the quality (feeling) of solidarity, the quality of feeling one (shared destiny), and the feeling of camaraderie that members of a group are obligated to possess. Meanwhile, social solidarity pertains to society, the need for communication in efforts to support development, and a willingness to pay attention to the common good. The division of labor has profound implications for the structure of society (Blatterer, 2022). Durkheim was deeply interested in the changing ways in which social solidarity is formed, in other words, how society survives and how its members perceive themselves as part of a whole. To summarize this distinction, Durkheim divided two types of solidarity: mechanical and organic. Societies characterized by mechanical solidarity are unified and cohesive because everyone is a generalist (Cake & Pederson, 2024). Bonds within these communities arise because they engage in the same activities and types of work and share common responsibilities. Conversely, societies characterized by organic solidarity hold together precisely because of their differences, with everyone having different jobs and responsibilities (Bleakley *et al*., 2022).

Durkheim argued that primitive societies possessed a stronger collective consciousness, a shared understanding of norms and beliefs. The increasing division of labor led to a decline in collective consciousness. Collective consciousness is more evident in societies supported by mechanical solidarity than in those supported by organic solidarity (Rimé &Páez, 2023). Modern societies are more likely to survive on a division of labor and require functions performed by others than on collective consciousness. Therefore, although organic societies possess collective consciousness, it is a weak form that does not allow for individual change (Oosthuizen, 2022).

In a society shaped by mechanical solidarity, collective consciousness encompasses the entire community and all its members. It is deeply believed in, deeply ingrained, and deeply religious in nature. Meanwhile, in a society with organic solidarity,

collective consciousness is limited to a small group, is not perceived as binding, is less deeply ingrained, and contains only individual interests that are higher than moral guidelines (Pantelimon, 2024). In a society that adheres to mechanical solidarity, behavior and attitudes are prioritized. Differences are not permitted. According to Durkheim, all members of society are bound by a collective consciousness, a collective conscience, a shared awareness that encompasses the entire group's beliefs and feelings, and is extreme and coercive (Burelli & Camboni, 2023).

Organic solidarity is a form of solidarity that binds complex societies, namely those with a detailed division of labor and held together by interdependence. Each member plays a distinct role, and their interdependence is similar to the relationship between biological organisms. It could be said that organic solidarity creates a society of interdependence (Sevinç, 2022). Because of this interdependence, the absence of certain role holders will disrupt the working system and the continuity of society. In a society with organic solidarity, the main bond that unites society is no longer collective consciousness but rather the agreements established between various professional groups (Ilalokhoin *et al*., 2023).

## 3 METHODS

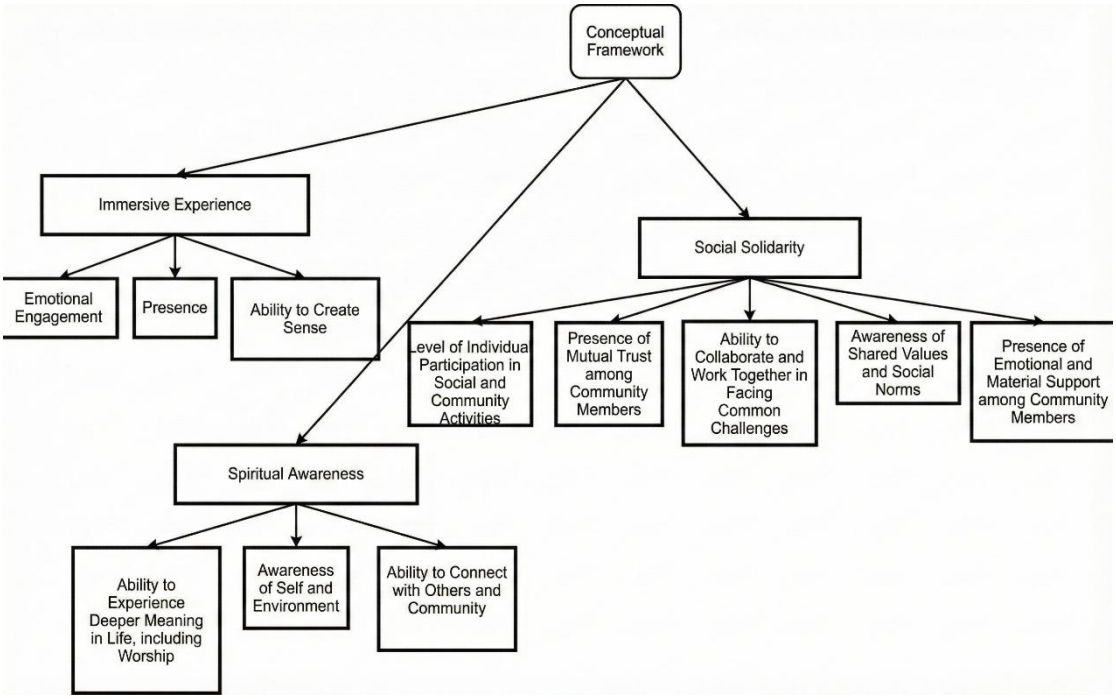
### 3.1 Research framework

Research Approach and Design This study employs a mixed-methods approach utilizing a Sequential Explanatory Design. This design necessitates a two-phase process: an initial quantitative phase followed by a qualitative phase. This methodological framework was selected to achieve a comprehensive understanding of how Virtual Reality (VR)-based Immersive Experiences regarding the history of the Prophet enhance spiritual consciousness and social solidarity. The quantitative phase serves to test hypotheses and objectively measure the effectiveness of the VR intervention. Subsequently, the qualitative phase aims to elaborate on the statistical findings by exploring the participants' subjective experiences and perceptions in greater depth. The study was conducted in collaboration with Yayasan Dana Sosial Al Falah (YDSF)

Jember, a philanthropic zakat institution, ensuring the research was grounded in a tangible socio-religious ecosystem.

**Figure 1**

*Research Framework*




### 3.2 Data collection and instrument

Population and Sampling Technique The target population comprised 446 individuals residing in Jember who participated in the VR-based history of the Prophet program. Given the finite population, the quantitative sample size was determined using Slovin's formula with a margin of error of 5% (0.05). Based on this calculation, a sample of 211 respondents was derived to represent the population. This sample size is considered statistically sufficient to generalize findings regarding the efficacy of VR media on the examined psychosocial variables. Qualitative Informant Selection For the qualitative phase, the study employed purposive sampling to select key informants possessing specific knowledge and authority relevant to the research objectives. The informants included the Chairman of YDSF Jember (representing strategic policy-making), YDSF operational staff (providing insights into technical and field

implementation), and participants/students who underwent the immersive experience. This multi-layered selection allows for data triangulation, ensuring that the qualitative analysis provides a holistic explanation of the statistical results, specifically regarding the emotional and spiritual engagement facilitated by VR technology.

### 3.4 Data analysis procedure

This study employs a mixed-methods approach, comprehensively integrating quantitative and qualitative strategies. Quantitatively, data were collected from 211 selected respondents via a questionnaire utilizing a 1–4 Likert scale to assess the impact of a VR-based immersive experience on spiritual awareness and social solidarity. Concurrently, the qualitative phase involved semi-structured interviews with the Head of YDSF, staff members, and visitors to explore the subjects' experiences and perspectives in depth. The quantitative instrument incorporated specific indicators: immersive experience (emotional engagement, presence, and sense-making capability); spiritual awareness (experiencing deeper life meaning, self and environmental awareness, and community connection) (Bazeley, 2017), and social solidarity (participation levels, mutual trust, collaboration, and emotional-material support).

To ensure data integrity, content validity was evaluated through expert judgment, while construct validity was examined using Exploratory Factor Analysis (EFA). Reliability was established using Cronbach's Alpha, with a coefficient of>0.70 indicating adequate internal consistency. Data analysis commenced with classical assumption tests, including normality, linearity, and multicollinearity checks to verify the suitability of the statistical model. Subsequently, hypothesis testing was conducted using Simple Linear Regression to determine partial effects, and Multiple Linear Regression to analyze the simultaneous influence of the immersive experience on both dependent variables (Bergmann *et al.*, 2025).

## 4 RESULT AND DISCUSSION

Amidst the systemic challenges of poverty and educational disparity, collective altruism emerges as a vital catalyst for social change. Established on March 1, 1987,

Yayasan Dana Sosial Al Falah (YDSF) has expanded its philanthropic reach across more than 25 provinces in Indonesia. As a professionally managed institution specializing in the utilization of Zakat, Infaq, and Shadaqah (ZIS), YDSF has cultivated a reputation for accountability and integrity, positioning itself as a trusted intermediary in the national Islamic philanthropic landscape. The foundation's operations are supported by a robust network of 88,449 consistent donors, a figure that continues to grow monthly. This diverse donor base, comprising bureaucrats, professionals, and the general public, forms a synergistic "pro-poor community" that leverages multi-sectoral expertise and resources for poverty alleviation. Formally recognized as a National Amil Zakat Institution by the Ministry of Religious Affairs of the Republic of Indonesia (SK No. 523, December 10, 2001), YDSF upholds universal humanitarian values. Through its strategic distribution division, the organization ensures that funds are managed in accordance with Sharia principles, focusing on efficiency, effectiveness, and productive outcomes. Consequently, YDSF serves as a strategic partner in fostering sustainable social development and national resilience. In evaluating whether a Virtual Reality (VR)-based immersive experience exerts a significant influence on spiritual consciousness and social solidarity, this research utilizes a concurrent triangulation design, integrating the following qualitative and quantitative data collection methods.

## 4.1 Qualitative analysis

The qualitative phase of this study explored how Virtual Reality (VR) serves as a transformative medium for religious and social philanthropy. By synthesizing data from interviews with the Head of YDSF, facilitators, developers, teachers, and participants, three primary themes emerged: the nature of the Immersive Experience (IE), the development of Social Consciousness, and the manifestation of Social Solidarity.

### *4.1.1 The dimensionality of the immersive experience (IE)*

The immersive experience within the YDSF VR program is a multi-faceted construct formed through the synergy of technical quality, narrative strength, and emotional depth.

a) Technological Immersion: The VR infrastructure was designed to meet educational standards, featuring 360° visuals, high-fidelity audio, and intuitive interactivity. However, field data revealed that technological stability is paramount. Facilitators noted that hardware limitations, such as slow networks or low-spec devices in schools, can disrupt the flow of immersion. As Azis and Cantafio (2023) argue, technical stability is critical to prevent cognitive load and loss of focus in educational settings. While VR offers an optimal learning environment, its effectiveness remains contingent upon robust infrastructure and teacher digital literacy (Wilkerson *et al*., 2022).
b) Narrative Immersion: Beyond the hardware, the narrative arc plays a vital role. Content is translated from school educational needs into a socio-moral storyline. Visual 3D elements and synchronized audio create a sense of being there. Participants reported being deeply absorbed in the narrative, often asking about the long-term outcomes of the characters depicted. Recent research supports this, suggesting that emotional narrative experiences in VR significantly enhance student attention and engagement (Ghanizadeh *et al*., 2024)
c) Emotional Immersion: This dimension manifests through deep empathy. Participants often exhibited physical reactions, such as silence, tears, or shock, as they witnessed the reality of mustahik (zakat recipients). Compared to conventional lectures, the VR experience is transformational rather than merely informative, as it forces a direct encounter with social suffering (Evans, 2019).

*4.1.2 Catalyzing social consciousness*

Social Consciousness emerged as a direct outcome of the immersive technology's ability to transport users into the lived realities of vulnerable groups. By visualizing poverty and injustice in a personal, 360-degree environment, users transcend mere information processing to achieve personal realization.

The Head of YDSF emphasized that the VR program was intentionally designed to foster Critical Social Consciousness. This involves a deep awareness of systemic inequality. Facilitators observed that after the VR session, students were more sympathetic and quicker to grasp the context of social injustice. This presence in a virtual

environment facilitates a deep emotional connection with social contexts, which contributes significantly to empathy and understanding (Wu *et al*., 2023)

Triangulation with teachers confirmed that students became more sensitive to the suffering of others. Unlike traditional methods, VR enables users to experience the presence and emotions of social situations they have not personally encountered (Doğan *et al*., 2025). This indicates that the immersion successfully engaged both the cognitive and affective domains of the students, making the learning process far more profound than traditional pedagogical approaches (Pantović-Stefanović *et al*., 2015).

*4.1.3 From empathy to social solidarity*

Social solidarity in this context is the bridge between internal feeling and external action. The YDSF VR program does not merely stop at increasing empathy; it evolves into a drive for contribution and social action. This transition is analyzed through three lenses

Cognitive Solidarity: Users showed a heightened understanding of the mustahik's condition. They began to perceive poverty and injustice from the victim's perspective. The Head of YDSF noted that participants frequently engaged in reflective discussions regarding human values after the sessions, indicating a shift in their cognitive framework regarding social responsibility (Heryanto & Nurdiansyah, 2025).

Affective Solidarity: VR evokes a powerful emotional bond. Developers noted that users often felt as if they were in the shoes of the mustahik. This emotional attachment is crucial, as it strengthens the bond between the donor community and the marginalized. This reaction aligns with findings that presence in VR correlates strongly with emotional intensity (Diemer *et al*., 2015).

Behavioral Solidarity: The pinnacle of the experience is the transition from feeling to doing. Post-VR, participants expressed a strong desire to donate or volunteer. YDSF channeled this energy through school donation programs and social campaigns. Teachers validated this finding, noting that students were significantly more enthusiastic about participating in social activities than they were before the VR experience. This confirms that social solidarity—across cognitive, affective, and behavioral dimensions- is robustly built through immersive VR experiences (Gainau & Pentury, 2023)

### 4.2 Quantitative analysis

Based on the results of bootstrapping and Structural Equation Modeling (SEM), this study uncovers fundamental empirical evidence regarding the role of technology in character education. The data demonstrate that Virtual Reality (VR) based Immersive Experience (IE) is not merely a visual aid but a sophisticated psychosocial mechanism that exerts a deterministic impact on student character formation. These findings confirm that IE is not only statistically significant but also theoretically and practically substantive within the context of religious and social education.

**Table 1**

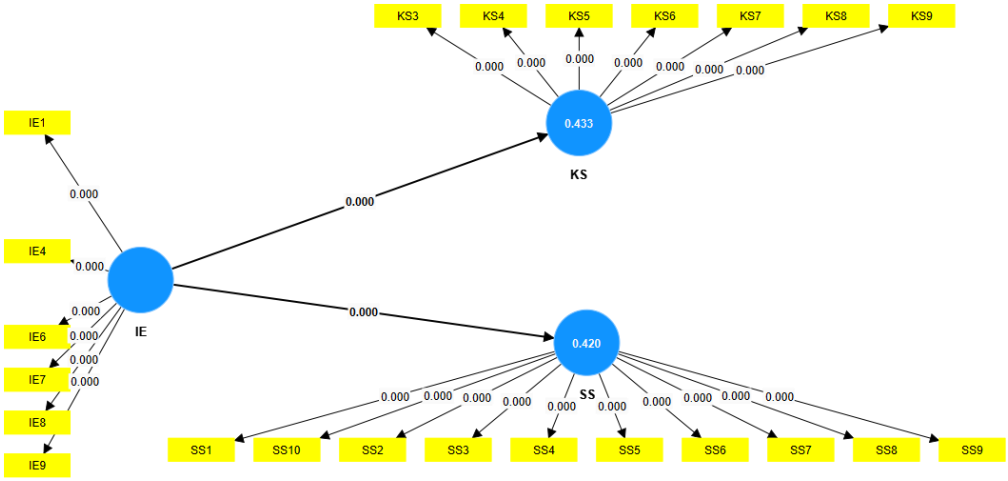
*Structural Model Path Coefficients and Hypothesis Testing Results*

| | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics (\|O/STDEV\|) | P values |
|---|---|---|---|---|---|
| IE ->KS | 0.658 | 0.661 | 0.042 | 15.512 | 0.000 |
| IE ->SS | 0.648 | 0.653 | 0.042 | 15.288 | 0.000 |

The findings confirm that both relationships are highly significant. This significance transcends mere statistical requirements and is classified as exceptionally robust. With T-statistics exceeding 15.0 and an absolute p-value of 0.000, these results effectively eliminate the possibility of random chance. This indicates that VR-based Immersive Experience serves as a stable and consistent predictor: any tangible improvement in the quality of the immersive experience directly and substantially contributes to the enhancement of both Spiritual Consciousness and Social Solidarity.

**Figure 2**

*Structural Model Results of VR-Based Immersive Experience*




The structural model illustrates that VR-based Immersive Experience functions as an independent variable that significantly influences two dependent variables: Spiritual Consciousness and Social Solidarity, demonstrating moderate explanatory power. The R2 value for Spiritual Consciousness (0.433) indicates that approximately 43.3% of its variance is explained by the Immersive Experience. Similarly, the R2 value for Social Solidarity (0.420) reflects a 42% explanatory contribution from the same construct. Every structural path from Immersive Experience to the dependent variables yielded a significance level of p = 0.000, confirming a statistically robust influence. Furthermore, the indicators for each construct exhibited consistent significance, demonstrating that the model is not only conceptually relevant but also empirically effective in fostering spiritual awareness and strengthening social solidarity within the context of this study.

### 4.3 Statistical path analysis and explanatory power

The path analysis provides compelling evidence for the efficacy of this medium. The path coefficients for IE on Spiritual Consciousness (beta = 0.658, T = 15.512, p = 0.000) and Social Solidarity (beta = 0.648, T = 15.288, p = 0.000) indicate a powerful and stable influence. In the discourse of social statistics, a beta coefficient exceeding 0.60, coupled with a T-statistic far surpassing the critical threshold (typically > 1.96), identifies the independent variable (IE) as a primary predictor rather than a secondary support

factor. This implies that any enhancement in the quality of the immersive experience leads directly, linearly, and massively to the strengthening of spiritual awareness and social solidarity.

Furthermore, the $R^2$ values of 0.433 for Spiritual Consciousness and 0.420 for Social Solidarity indicate a moderate to strong explanatory power. In behavioral and social sciences, where dependent variables are frequently influenced by noise from external factors such as family background, peer environments, or socio-economic conditions, the ability of a single variable (IE) to explain over 40% of the variance is a substantial achievement. This suggests that nearly half of the formation of spiritual consciousness and solidarity in this study can be attributed directly to the quality of the immersive experience.

### 4.4 Deconstructing the Immersive Experience (IE)

To understand why the statistical influence is so robust, one must analyze the tripartite structure of the Immersive Experience:

a) Technological Immersion: The effectiveness of VR hinges on its ability to create a sense of presence. 360-degree visuals, which block out the physical world, combined with clear spatial audio, compel the user's brain to process the virtual environment as the primary reality. While technical hurdles such as hardware limitations or varying levels of teacher digital literacy were noted, they did not diminish the core immersive impact. This study identifies technical stability as a "hygiene factor"; while a "break in presence" occurs if visuals lag, once a baseline of technical quality is met, students undergo a suspension of disbelief, accepting the virtual reality as their current location.

b) Narrative Immersion: Technology remains hollow without relevant content. This study found that socio-moral storylines, such as simulations of impoverished families or disaster victims, shift the learning paradigm from "hearing about" poverty to entering it. Unlike linear textbooks, VR narratives are spatial and exploratory. This aligns with Mattsson *et al*. (2024), who assert that emotional narratives in virtual environments significantly enhance cognitive engagement. Students transition from passive observers to active witnesses.

c) Emotional Immersion: This is the vital catalyst for strong statistical influence. Physical and emotional responses, such as reflective silence or profound empathy upon witnessing suffering, indicate that VR bypasses cognitive barriers to reach the affective domain. Conventional media often fail here due to psychological distance. VR collapses this distance, creating a resonance that traditional 2D lectures cannot replicate.

### 4.5 Spiritual consciousness: from dogma to phenomenology

The strong causal link between IE and Spiritual Consciousness (beta = 0.658) marks a paradigm shift in religious pedagogy. While spirituality is often taught through dogmatic memorization of moral obligations, this research proves it can be built through phenomenological experience.

The experience of being present among those in need (*mustahik*) through VR awakens Critical Social Consciousness. In this perspective, spirituality does not retreat from the world but sharpens its focus on worldly inequality. Students perceive poverty and suffering not as abstract social statistics, but as a theological call to action. VR facilitates *tadabbur* (deep contemplation) of social phenomena in a simulated yet impactful manner, rejecting the dichotomy between reason (*akal*) and heart (*hati*).

### 4.6 Social solidarity: bridging the knowing-doing gap

A significant theoretical contribution of this study lies in the Social Solidarity variable (beta = 0.648). In the sociology of education, the knowing-doing gap, the chasm between knowing what is right and being willing to do it, is a persistent challenge. This study confirms that VR effectively bridges this gap by fostering solidarity across cognitive, affective, and behavioral dimensions. The immersive experience transforms abstract concepts of piety and solidarity into concrete, felt experiences. It moves the student from understanding to caring, and finally, to being ready to act.

## 5 CONCLUSIONS

The Significant Impact of Immersive Experience on Spiritual Consciousness. The hypothesis testing in this study reveals compelling empirical evidence: the influence of Virtual Reality (VR)-based Immersive Experience (IE) on Spiritual Consciousness and Social Solidarity is proven to be absolutely significant. The significance of this relationship transcends mere adherence to statistical thresholds, demonstrating an exceptionally robust correlation. With T-statistics exceeding 15.0 for both structural paths and an absolute p-value of 0.000, these findings decisively reject the possibility of random chance. These high statistical values indicate that Immersive Experience functions as a stable and consistent predictor. This suggests that the findings are not sample anomalies but represent a steady pattern: every qualitative enhancement in the immersive experience encompassing visual, auditory, and narrative elements contributes directly and tangibly to the strengthening of students' spirituality and solidarity. Such stability confirms that VR is a reliable instrument for precision interventions in character education. Furthermore, an evaluation of the model's explanatory power through $R^2$ values provides deep insights into variable effectiveness. An $R^2$ value of 0.433 for Spiritual Consciousness indicates that 43.3% of the variance in students' spiritual awareness can be explained directly by their immersive experience. Similarly, an $R^2$ value of 0.420 for Social Solidarity reflects a 42% explanatory contribution. In the context of social and behavioral research, where dependent variables are typically influenced by complex external factors (such as family environment or peer groups), the ability of a single independent variable (IE) to explain over 40% of the variance is considered moderate to strong. This demonstrates that VR technology possesses solid determinative power in shaping students' psychosocial constructs.

The Significant Impact of Immersive Experience on Social Solidarity. This study provides irrefutable empirical evidence regarding the significant influence of VR-based Immersive Experience on Social Solidarity. Data analysis confirms that the relationship between these variables is not only statistically significant but also remarkably persuasive. The T-statistic of 15.288 and a p-value of 0.000 for this path unequivocally dismiss the likelihood of coincidental findings. Consequently, IE serves as a consistent predictor, where improvements in immersive quality directly correlate with the

reinforcement of social bonds among students. The structural model highlights the central role of Immersive Experience as an independent variable with substantial explanatory power. The determination coefficient $R^2$ of 0.420 for Social Solidarity signifies that 42% of the variation in the formation of social solidarity is directly attributable to immersive interventions. This consistency across both dependent variables $R^2$ for Spiritual Consciousness at 0.433) reinforces the model's overall validity.

Statistically, the consistency of indicator significance within each construct further validates the accuracy of the research instrument. Overall, the model demonstrates that VR immersion is not only conceptually relevant as a technological innovation but is also operationally effective in character formation. These findings validate VR as a powerful mechanism for bridging the empathy gap and substantially strengthening social solidarity within the scope of this research.

## REFERENCES

1. Abbas, J. R., O'Connor, A., Ganapathy, E., Isba, R., Payton, A., McGrath, B., ... & Bruce, I. A. (2023). What is virtual reality? A healthcare-focused systematic review of definitions. Health Policy and Technology, 12(2), 100741.

2. Al-Ansi, A. M., Jaboob, M., Garad, A., & Al-Ansi, A. (2023). Analyzing augmented reality (AR) and virtual reality (VR) recent development in education. Social Sciences & Humanities Open, 8(1), 100532.

3. Azis, I. R., & Cantafio, G. (2023). The Role of Virtual Reality in Science and Technology Education. Journal of Training, Education, Science and Technology, 13-18.

4. Bazeley, P. (2017). Integrating analyses in mixed methods research.

5. Bergmann, B., Lutz, P., & Steinmann, J. P. (2025). A Mixed-Methods Study on Out-Group Hostility and Religiosity Among Muslims in German Youth Prisons: The Role of Religious Discrimination and Opportunity Structure. Criminal Justice and Behavior, 00938548251333798.

6. Blatterer, H. (2022). Friendship and solidarity. European Journal of Social Theory, 25(2), 217-234.

7. Bleakley, A., Rough, D., Edwards, J., Doyle, P., Dumbleton, O., Clark, L., ... & Cowan, B. R. (2022). Bridging social distance during social distancing: exploring social talk and remote collegiality in video conferencing. Human–Computer Interaction, 37(5), 404-432.

8. Burelli, C., & Camboni, F. (2023). The function of solidarity and its normative implications. Ethics & Global Politics, 16(3), 1-19.

9. Cake, S. B., & Pederson, J. (2024). 'Kinship like I've never experienced before': Modern mechanical solidarity on the Appalachian trail network. Social Sciences & Humanities Open, 10, 101109.

10. de Carvalho, J. M., & Moreira-Almeida, A. (2024). Existential meaning, spiritual unconscious and spirituality in Viktor Frankl. Journal of religion and health, 63(1), 31-45.

11. Diemer, J., Alpers, G. W., Peperkorn, H. M., Shiban, Y., & Mühlberger, A. (2015). The impact of perception and presence on emotional reactions: a review of research in virtual reality. Frontiers in psychology, 6, 26.

12. d'Isa, R., & Abramson, C. I. (2025). Behavioral cetology in the 19th century: Thomas Beale, Henry Cheever, Thomas Southwell and their role in awakening a cetacean protection consciousness. Journal of the History of the Behavioral Sciences, 61(1), e70005.

13. Doğan, U., Üzmez, H., Dağılgan, E. B., Sarıcaoğlu, H., Acar, S., & Özkaraca, O. (2025). Development of immersive 360 virtual reality videos for intervention with test anxiety. International Journal of Human–Computer Interaction, 41(16), 10512-10525.

14. Evans, L. (2019, January). Barriers to VR use in HE. Swansea University AR/VR conference.

15. Gainau, M. S., & Pentury, D. Y. W. (2023). Implementasi Kode Etik Guru PAK dan Pengaruhnya terhadap Budaya Kerja di Lingkungan Kota Sentani Jayapura-Papua. TELEIOS: Jurnal Teologi dan Pendidikan Agama Kristen, 3(2), 190-201.

16. Ghanizadeh, A., Tabeie, M., & Pourtousi, Z. (2024). The role of university instructor's narrative in students' sustained attention, emotional involvement and cognitive learning. Journal of Applied Research in Higher Education, 16(1), 195-207.

17. Gorodnichev, M., Erokhin, S., Polyantseva, K., & Moseva, M. (2022). On the problem of restoring and classifying a 3D object in creating a simulator of a realistic urban environment. Sensors, 22(14), 5199.

18. Heryanto, D., & Nurdiansyah, F. (2025). Rancang Bangun Virtual Tour Berbasis Web Sebagai Media Promosi: Studi Kasus: Madrasah Tsanawiyah Negeri 2 Garut. Jurnal Algoritma, 22(1), 743-754.

19. Ilalokhoin, O., Pant, R., & Hall, J. W. (2023). A model and methodology for resilience assessment of interdependent rail networks–Case study of Great Britain's rail network. Reliability Engineering & System Safety, 229, 108895.

20. Kokash, H. A., Shah Alam, S., Ahmed, S., Khattak, A. N., & Tariq, B. (2024). Using virtual reality in tourism destination decision: a young saudi tourists' perspective with habit is a mediator. Journal of Quality Assurance in Hospitality & Tourism, 1-34.

21. Mattsson, K., Haavisto, E., Jumisko-Pyykkö, S., & Koivisto, J. M. (2024). Nursing Students' Experiences of Empathy in a Virtual Reality Simulation Game: A Descriptive Qualitative Study. CIN: Computers, Informatics, Nursing, 42(7), 537-545.

22. Monteiro, M., Vitorino, J., Salvetti, M. G., & Laranjeira, C. (2025). Seeking Something Beyond Themselves: A Concept Analysis of Spiritual Awakening Experiences at the End of Life. Nursing Reports, 15(10), 358.

23. Oh, S. Y., Bailenson, J., Krämer, N., & Li, B. (2016). Let the avatar brighten your smile: Effects of enhancing facial expressions in virtual environments. PloS one, 11(9), e0161794.

24. Oosthuizen, R. M. (2022). The fourth industrial revolution–smart technology, artificial intelligence, robotics and algorithms: Industrial psychologists in future workplaces. Frontiers in artificial intelligence, 5, 913168.

25. Osborne, T., & Jones, P. (2022). Embodied virtual geographies: Linkages between bodies, spaces, and digital environments. Geography Compass, 16(6), e12648.

26. Pantelimon, C. B. (2024). The Magical Matriarchy of the Interwar Romanian Village: Ștefania Cristescu-Golopenția's Conception. Transylvanian Review, 33(Suppl. 1), 93-110.

27. Paridinova, B., Sapartayeva, L., Tungatova, N., Tulepbergenova, A., & Kassymbekova, M. (2023). Future teachers' spiritual worldview formation factors. Education Research International, 2023(1), 9972903.

28. Rimé, B., & Páez, D. (2023). Why we gather: A new look, empirically documented, at Émile Durkheim's theory of collective assemblies and collective effervescence. Perspectives on Psychological Science, 18(6), 1306-1330.

29. Sargeant, S., & Yoxall, J. (2023). Psychology and spirituality: Reviewing developments in history, method and practice. Journal of religion and health, 62(2), 1159-1174.

30. Sebastian, A., & Hühn, M. P. (2023). Are Psychological Theories on Self-Awareness in Leadership Research Shaping Masters not Servant Leaders?. Philosophy of Management, 22(4), 571-586.

31. Sevinç, T. (2022). Three approaches to social unity and solidarity. Critical Review of International Social and Political Philosophy, 25(4), 459-479.

32. Stefanović, M. P., Dunjić-Kostić, B., Gligorić, M., Lačković, M., Damjanović, A., & Ivković, M. (2015). Empathy predicting career choice in future physicians.

33. Sumiaty, M. H., Randalele, C. E., Iye, R., & Nur Abida, F. I. (2023). The value of Tallu Lolona and its influence to the life of Toraja people. Cogent Social Sciences, 9(2), 2262775.

34. Tiwari, R., Stephens, J. R., Scott, K. J., Parnell, R., Morrison, J., & Hussein, F. F. M. (2024). Commemorating Stolen Generation experiences through virtual reality. AlterNative: An International Journal of Indigenous Peoples, 20(3), 339-350.

35. Trnka, R., & Lorencova, R. (2022). Indigenous concepts of consciousness, soul, and spirit: A cross-cultural perspective. Journal of Consciousness Studies, 29(1-2), 113-140.

36. Wang, Z., Luo, Y., Cao, X., & Jiang, J. (2024). The twisted path to sacredness: a grounded theory study of irrational religious orientation and its psycho-sociological implications. BMC psychology, 12(1), 360.

37. Wilkerson, M., Maldonado, V., Sivaraman, S., Rao, R. R., & Elsaadany, M. (2022). Incorporating immersive learning into biomedical engineering laboratories using virtual reality. Journal of biological engineering, 16(1), 20.

38. Wille, L., Lohse, L., Jelinek, L., Moritz, S., Schultz, J., Borsutzky, S., ... & Miegel, F. (2025). Enhancing Insight in Patients With Obsessive Compulsive Disorder: A Case Study on Avatar Therapy Using Virtual Reality. Journal of Clinical Psychology, 81(5), 355-365.

39. Wu, J. G., Miller, L., Huang, Q., & Wang, M. (2023). Learning with immersive virtual reality: An exploratory study of Chinese college nursing students. RELC Journal, 54(3), 697-713.

40. Yalcinkaya, A. E. (2025). A Shelter for the Spirit: Ken ʻān Rifā ʻī's Practical Theology and Adaptive Sufi Praxis in Early 20th-Century Istanbul. Religions, 16(8), 1039.

## Authors' Contribution

All authors contributed equally to the development of this article.

## Data availability

All datasets relevant to this study's findings are fully available within the article.

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