HUMAN BEHAVIOR, DEVELOPMENT and SOCIETY

Editorial Statement
Human Behavior, Development and Society is a refereed multidisciplinary journal that explores a wide range of scholarly topics, especially in fields relating to the humanities and social sciences. It is published online three times a year and is available free of charge through the ThaiJo and Asia-Pacific International University (AIU) websites, with a limited number of hard copies available. The journal, originally entitled *Catalyst*, has been published since 2006 by Asia-Pacific International University, Muak Lek, Thailand, through its publishing arm *Institute Press*.

The journal has the following objectives:

a). To stimulate the creation and synthesis of beneficial information, as well as its broad dissemination, especially in the varied fields of the humanities and social sciences,

b). To foster a deeper understanding regarding the impact of business policies and practices on society, and

c). To promote the adoption of best practices in communities through education, and to aid in the resolution of community issues for the betterment of society; this represents the development aspect referred to in its name.

Editorial Objectives
The editorial objectives are to advance knowledge through use of classical–or the creation of innovative–methods of investigation, and to foster the examination of cross-cultural issues to increase mutual understandings among diverse social groups. Encouraging cooperative studies and scholarly exchange across borders is a key aim, especially when these may have practical applications within the Southeast Asian region. The application of theoretical considerations to organizations, fields, and communities is also an outcome that is sought.

Journal Positioning

The journal is broadly based and has the potential to impact thinking and practices across a range of subject areas, dealing with substantive issues that arise in both developing and developed countries. It will likely appeal to readers with a broad appreciation of the social issues facing organizations, communities, and governments operating under varied challenges and constraints. Its contents are meant to appeal to both the academic community and practitioners in numerous areas of interest.

The positioning of the journal means that a variety of topics is covered in most issues. These, in turn, differ in their philosophical content, academic appeal, and practical implications.

Appropriate Content

The journal covers a broad spectrum of topics. These include, but are not limited to, anthropology, allied health focused on community issues and health education, education from the primary to the tertiary levels, literature, language use and acquisition, business, management, finance, geography, psychology, social sciences, philosophy, and theology. Review essays and seminar/forum papers are also accepted when appropriately focused. Well-executed studies that address interesting and significant topics in the areas mentioned above are particularly welcomed. All articles accepted should make significant contributions to understanding and add to the corpus of knowledge in their respective fields.

The following constitutes a partial list of topics that are considered potentially suitable for publication:

1. Applied linguistic or linguistic studies that examine issues related to communication, language pedagogy and use, as well as theories and meaning of language.
2. Religious or biblical studies that explore historical, philosophical, sociological, as well as hermeneutical issues.
3. Anthropological or ethnographic studies which seek to reflect cultural nuances of communities for a better understanding of the society.
4. Cultural/intercultural issues and diversity, including how tensions involving these parameters might be handled to achieve social justice and acceptance.
5. Review articles or studies in the fields of marketing, business, stock market trading, and auditing practices, and their significance to the business and broader community.
6. Organizational behavior, resilience, and the creation of a positive psychological work environment and job satisfaction.
7. Teaching strategies, interventions, assessment, and other issues to the betterment of society.
8. Policies and political movements, and their impact on educational development.
9. Violence, discrimination, and marginalization: how these issues are viewed in contemporary society, and the factors contributing to their emergence.
10. Social trends in addictive behavior; how to address such issues creatively.
11. Impact of specific policies and interventions on health care, including how to promote positive health outcomes in communities.
12. Innovative and cost-effective approaches to health care and education in poor, rural communities.

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From the Editor

This is the last issue of *Human Behavior, Development and Society (HBDS)* for 2023. The journal is an international, open-access, interdisciplinary peer-reviewed journal published three issues a year by Asia-Pacific International University (AIU). *HBDS* publishes findings and discussions regarding most aspects of human behavior, development, and society. The journal's scope is to advance knowledge through the use of classical methods of investigation and to foster the examination of cross-cultural issues that increase mutual understanding among diverse social groups within the international community, with a particular emphasis on Southeast Asia. All articles in the journal are indexed by the Thai-Journal Citation Index Centre (TCI), ASEAN Citation Index (ACI), and the EBSCO database.

This issue of *HBDS* contains 10 articles, six of which were written by researchers external to the university, and four that were authored by an AIU researcher. We are delighted to see reports and findings from various disciplines including business, education, health education, information technology, religion, and sociology. Most articles in this issue reflect research conducted in Asian contexts including studies from China, Malaysia, Singapore, and Thailand, as well as an article from Australia. We hope that this issue of *HBDS* will contribute to the development of society and serve as a source of information for various academic fields and research projects.

We would like to invite readers to publish your valuable papers with us. More information may be found on our website, *https://www.tci-thaijo.org/index.php/hbds*. We would also appreciate comments or suggestions from you to help us improve the journal. Finally, we appreciate the hard work of authors, reviewers, editorial board members, executive board members, and journal staff members who have contributed to making this achievement a reality.

Assistant Professor Dr. Damrong Satayavaksakoon, Editor

Human Behavior, Development and Society

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A Brief History of Discipleship: The Apostolic Fathers

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Abstract

The Church Fathers' writings are a valuable resource for grasping the development of discipleship in the early centuries of the Christian Church. The Apostolic Fathers understood discipleship differently from the way we understand it today. They understood the word discipleship to mean not merely lip service, but rather living the truth. They believed that suffering and martyrdom were basic ingredients of Christian discipleship. They further perceived discipleship to mean an imitation of Christ in the life of the believer, and they stressed this with regard to humility, persecution, and suffering. The Apostolic Fathers spoke frequently of disciples and the life of discipleship, and they revealed the earliest attitudes about the concept of discipleship in the Church following the passing of the apostles. This paper delves into first-century AD discipleship, tracing it from Clement of Rome to Papias of Hierapolis (AD 35–163).

Keywords: *Discipleship, follower, imitation, martyrdom, witness, sacrifice*

Introduction

Discipleship is a multi-dimensional concept The Greek term *mathetes* ($\mu\alpha\vartheta\eta\tau\acute{\eta}\varsigma$) is the origin of the word disciple, denoting a committed learner who seeks guidance from a mentor, exemplified by the followers of Jesus Christ. In the Gospels, discipleship involves following Jesus and learning from His teachings and example. While the ultimate goal of discipleship is to emulate Jesus (cf. Luke 6:40), the Apostle Paul emphasizes diverse roles in God's family (cf. 1 Corinthians 11:1). Despite role distinctions, humility, self-sacrifice, and the Holy Spirit are vital for genuine discipleship. The concept of following Jesus had varied interpretations among the Apostolic Fathers.

Apostolic Fathers

The Apostolic Fathers are important sources of Christian understanding because they were direct disciples of the apostles who featured in the New Testament, hence their designation as apostolic. There were four of them as follows: Clement of Rome (AD 35–101); Ignatius of Antioch (AD 30–110), Polycarp Bishop of Smyrna (AD 69–156), and Papias of Hierapolis (AD 70–163). They not only played an important role in influencing many people to follow in their footsteps, but they enable us to understand how they interpreted the concept of discipleship. This article will discuss their perception of the terms discipleship, disciple, and related terminologies.

Clement of Rome (AD 35–101)

Clement of Rome was born in the city of Rome and his life was characterized by chastity from an early age. He lived at the end of the first century AD, was a co-laborer with Peter, and became the bishop of Rome in AD 91 (Lightfoot, 1873, p. 167). He is renowned for his letter to the Corinthian church, in which he advised the Corinthian believers on the "practice of the spiritual disciplines and stressed the need for unity" (Hull, 2006, p. 45).

The one extant letter of Clement to the Corinthians addresses issues of disorder and division within the church. Clement emphasizes the importance of unity, humility, and submission to proper authority. He advocates for orderly conduct and upholding the teachings of Christ. While not explicitly focusing on discipleship, Clement's emphasis on unity and adherence to Christ's teachings reflects his view that discipleship involves following Christ's example and maintaining a cohesive community.

For Clement, to be a true disciple was to die the way Christ died. The death of Peter by crucifixion had apparently made a great impression upon his mind. He recorded how the apostle Peter was crucified head downwards (Smith, 1868, p. 542.). Clement seems to have used the word follow (ἀκολουθέω "akoloutheó") to refer to disciple or discipleship, which was a word rarely used by the Apostolic Fathers. In the First Letter of Clement 35:5, he says, a true Christian should "follow the way of truth." Hence, Clement used the word follow to express the concept of obeying. To Clement, a true follower of Christ becomes a disciple of the truth, a Christian (Bakke, 2001, p. 36). Clement meant that a genuine follower of Christ becomes a learner of fundamental truths, embodying the teachings and virtues of Christ.

Ignatius of Antioch (AD 30–110)

Ignatius of Antioch was a bishop at Antioch, and was called the bishop of bishops. He became the second bishop of Antioch (modern-day Antakya, Turkey), succeeding Euodias, a female co-worker of Paul in the gospel ministry who is mentioned in Philippians (4:2–3), probably around AD 70 (Blunt, 1856, p. 232). "Byzantine writings see him as the child that Christ carried, giving him an example of humility (Matt 18:2–4)" (Guirguis, 2020, p. 122). He was born in Syria about AD 30. His character is not known to many people, but he is known by the seven letters he wrote to the church in Antioch. His letters were the most extensively studied among the four Apostolic Fathers (Guirguis, 2020, p. 122), and from these writings we learn that he was an advocate of discipleship.

Ignatius used discipleship terminology more frequently than any Apostolic Father. In the words of Virginia Corwin, "the Ignatian letters have more reference to imitation and discipleship than all the other Apostolic Fathers together" (Corwin, 2009, p. 228). While scholars perceive him as a person who had low personal self-esteem, he demonstrated a "remarkable attitude toward his impending martyrdom," which in turn puzzled readers and scholars (Wilkins, 2010, p. 316). It is in this very unique attitude towards martyrdom that we encounter Ignatius' unparalleled understanding of discipleship.

Ignatius' courage to face his martyrdom as a disciple of Christ was remarkable. He said:

> I am fighting with wild beasts the whole way from Syria to Rome. Yet the cruelty of my guards is a wholesome discipline to me. I trust and pray that the beasts will devour me at once; that they will be eager, as I am eager. Let no power in heaven or on earth envy me my crown. I am ready for any torture (8:5). All the kingdoms of the earth are nothing to me. I desire Christ; I desire light and life. Let me imitate the passion of my God (8:6). Satan would seize on me as his prey; do not abet him. Obey me in these words which I write now. My earthly passions are crucified. I desire not the food of corruption. I crave the bread and the cup of God (8:7). Once again; do not thwart me. I write briefly, but Christ will interpret. It is God's own will that I declare (8:8). (Ignatius, 1889, pp.187–188)

Today, Christians are impressed by Ignatius' deep commitment, shedding light on his concept of discipleship. This imitation of Christ emphasizes the spiritual significance of a discipleship centered around various roles like disciple, follower, brother, sister, saint, and Christian, highlighting the relationship between God and His people, as well as the notions of martyrdom, and discipleship within the Christian life.

Disciple. Ignatius' used the words disciple and discipleship concepts (related terms that are found in the New Testament) more than any of the Apostolic Fathers. His extensive use of these concepts has caused him to stand out prominently. However, Ignatius used the term disciple (Greek *mathetes*) in three different ways. First, he used it to refer to Christians in general; second, he used it to designate an individual who was a more committed Christian than other Christians. Finally, he used the word to mean a martyr (Wilkins, 2010, p. 317).

McNamara proposed that Ignatius had a dual concern regarding death. First, martyrdom was a means to become a true disciple, and further, Ignatius understood suffering to be the beginning of discipleship that was completed at martyrdom (McNamara, 1977, p. 22). Martyrdom for Ignatius meant a crucial part of the life of the true followers of Jesus. For him, discipleship begins and "depends on a successfully completed martyrdom for its perfection" (Schoedel, 1986, p. 28).

Follower. Ignatius used the word follower "μιμητής" (*mimetes*) as an equivalent metaphorical expression for discipleship (Mutie, 2015, p. 67). This term emphasizes the committed relationship between the disciple and Christ, reflecting discipleship as a transformative journey of learning, emulation, and devotion. In many contexts, the expression, a follower, corresponds with that of a disciple. In Greek culture, the word disciple can mean a learner and a follower. In fact, the word follower became a synonym for disciple (Heck, 1996, p. 57).

Brother, Sister, Saint, and Christian. Ignatius used the words brother, sister, saint, and Christian to refer to a disciple. He used the word "Χριστιανοί" (Acts 11:26; 26:28; 1 Peter 4:16), meaning Christians to refer to those who followed Christ (Witherington, 1998, p. 371). The term "Χριστιανός" (*Christianos*), initially coined by non-believers (Gentiles), was a form of mockery towards followers of Jesus. The term Christianos "was first given to the worshippers of Jesus by the Gentiles, but "from the second century onward [it was] accepted by them as a title of honor" (Grimm, 1893, p. 672).

John Polhill in his book, *Paul and His Letters*, says that "elsewhere in the New Testament other names are regularly used for Christians—disciples, believers, brothers and sisters, the 'Way,' Nazarenes, saints, and the like." Remarkably, the first to use the aforementioned terminologies was Ignatius, bishop of Antioch, around the turn of the second century (Polhill, 1999, p. 72).

The terms brother, sister, and saint were eventually used in a very limited way to refer to the priests and nuns in the Christian Church. However, long before the establishment of such offices, Ignatius used these expressions frequently in the first century AD to refer to those who were called followers or disciples of Christ (Klassen, 2009, pp. 101–102). Hence, for Ignatius, the aforementioned terms are common referents for believers or Christians.

Imitate/Example. The concept of "imitation" was closely related to the word discipleship. While this idea is found in the New Testament (Philippians 2:5-11; see 1 Corinthians 11:1; 2 Corinthians 8:9; 1 Peter 2:21-25), it is also found in the writings of the Ignatius. He instructed believers during his time to be "imitators of God" (Ephesians 5:1 New King James Version Bible). According to Ignatius, in order for one to imitate Christ, it is necessary to emulate the righteous behavior of Jesus the Greatest Example. For Ignatius, "inner love for Christ is evident in the attempt to be his true disciple" (Tarvainen, 2016, p. 175).

When one decides to follow the example of Christ, it means that one does not need to retaliate under persecution (Epistle of Ignatius to the Ephesians, chap. 10). Corwin said, "discipleship implies both devotion to the leader and the following of the pattern; imitation emphasizes the pattern but assumes the devotion" (Corwin, 2009, p. 227; Wilkins, 1992, pp. 294–315). For Ignatius, following Christ represented a general call for Christians.

To imitate Christ is to follow him as a disciple. The Christian grows by copying deeds not by hearing about them. The most valuable lessons arise not from knowledge, sermons, or lectures, but from firsthand experience. In the same way, a disciple matures by mirroring and emulating the actions of their mentor. The greatest of them all is Jesus Christ. Ignatius said to the Philadelphians, "imitate Jesus Christ as he imitated the Father" (Guinness, 2003, p. 81). This seems to confirm what Fyodor Dostoevsky thought when he stated, "what is Christ's word without an example?" (Dostoevsky, 2008, p. 368). Corwin clarified the meaning intended when she said:

> The key to Ignatius' view of the Christian life is an understanding of the twin conceptions of imitation and discipleship, for they are central to his thinking. They give content to the choice that he urges, and in following the path that they indicate the Christian life is grounded securely, for it is provided both with an effective motive, in devotion to the Lord, and a pattern for life, in a general sense at least. (Corwin, 2009, p. 227)

For Ignatius, to be a true disciple means to imitate Christ to the point of dying like Him. Ignatius would say, "allow me to be an imitator of the suffering of my God. If anyone has Him within himself, let him understand what I long for and sympathize with me knowing what constrains me" (Ignatius, 2011, p. 181). The call of Jesus to discipleship, as conveyed by His followers, is an imperative that urges individuals to model their lives after His (cf. Mark 1:16). Again, Ignatius would state that the imitation of God is encapsulated in the core virtues of faith and love. Faith is the beginning of the

journey and love is the end of it; both are intertwined and would result in unity, that is, with God. Your faith acts as your windlass, and love serves as the path that leads to God (Quasten & Plumpe, 1946, p. 64; Weddle, 2017, pp. 122–125).

Discipleship–A Relationship Between God and His People. Ignatius used the word *discipleship* in a restricted manner. To him, discipleship technically implies a strong relationship with Christ, particularly in becoming like Him. Ignatius seemed to have succeeded by the end of the first century AD to make the term discipleship part and parcel of a relationship between Jesus and His followers/disciples (Renan, 2017, pp. 106–110). It seems that he was the first person to coin the term "relationship with Jesus" in regards to discipleship. Discipleship was perceived to involve a development process observed in the Christian's life.

Discipleship and the Christian Life. Entering into a strong relationship with God and discipleship occurs through conversion and Christian growth. Ignatius associated conversion with discipleship, which in turn leads to discipline and commitment—following God's example. Ignatius emphasized that it was necessary for disciples to learn and to live in accordance with the principles of Christianity. It is beholden on church members to embrace the Christian principles as an indication of true discipleship. He emphasized that true discipleship hinges on faith in Christ's death and resurrection (Ferguson, 2011, p. 67). Referring to Old Testament prophets as "disciples in the Spirit" (Epistle of Ignatius to the Magnesians, chap. 9), Ignatius highlights their patient anticipation of Christ as their Teacher.

In his book, *The Letter and the Spirit*, Robert M. Grant, held that Ignatius "regards the prophets as pre-Christian Christians" (Grant, 2009, p. 59). This understanding comes from Ignatius' exhortation to the Magnesians. He said in his Epistle to the Magnesians (chap. 8):

> The divinest prophets lived according to Christ Jesus. On this account also they were persecuted, being inspired by His grace to fully convince the unbelieving that there is one God, who has manifested Himself by Jesus Christ His Son, who is His eternal Word, not proceeding forth from silence [5], and who in all things pleased Him that sent Him.

This concept can be held only on the premise that the Old Testament prophets were inspired by the Spirit of Christ and that only in Christ Jesus can they be comprehended (cf. 2 Peter 1:20-21, Epistle of Ignatius to the Magnesians, chap. 8).

According to Ignatius, in order to be a true disciple, one has to believe that Christ is the Only True Teacher and Shepherd, and in Him can be found the Only Perfect Example (Ignatius, 2017, p. 11). Discipleship demands endurance. Hence, patience is essential in the life of a disciple (cf. Magnesians chap. 1 & 9). Discipleship is an advanced stage in the life of the follower of Christ. It involves growing in Christ or being sanctified.

*Discipleship as Martyrdom***.** For Ignatius, to be a true disciple meant to suffer for your faith. To suffer as Christ suffered is the essence of what it means to be a disciple. Ignatius was in harmony with the apostle Peter when he said, "For to this you were called, because Christ also suffered for us, leaving us an example, that you should follow His steps" (1 Peter 2:21). When Christ submitted Himself to God the Father, He suffered to save mankind. Likewise, the Christian today ought to submit and be willing to suffer the way Christ suffered. Christ endured suffering and early believers, such as the apostles, suffered. This means that Christians today must expect to suffer, even becoming martyrs. James S. Exparza, in his book, *The Diaconate: A Challenge from the Past*, stated that Ignatius' call to discipleship meant that the pathway "will not be complete until he [the Christian] dies a martyr's death" (Exparza, 2009, p. 12).

Ignatius said that to die as a martyr means to attain true freedom and true perfection, which leads to true discipleship. John Kenneth Riches, in his book, *Paul, Grace and Freedom: Essays in Honour of John K. Riches*, said that Paul presented himself as a model of suffering discipleship (Riches, 2011, p. 84). As Paul imitated Christ, so Christians ought to imitate him (1 Corinthians 11:1; 4:14; cf. Romans 5:3–5). Like Paul, Ignatius viewed discipleship as a call to suffer and eventually to die for their faith. A true disciple is urged to view death as life and life as death.

Ignatius saw spiritual blessings in martyrdom. He exhorted the Romans saying:

May I enjoy the wild beasts that are prepared for me; and I pray they may be found eager to rush upon me, which also I will entice to devour me speedily, and not deal with me as with some, whom, out of fear, they have not touched. But if they be unwilling to assail me, I will compel them to do so. Pardon me [in this]: I know what is for my benefit. Now I begin to be a disciple. And let no one, of things visible or invisible, envy me that I should attain to Jesus Christ. Let fire and the cross; let the crowds of wild beasts; let tearings, breakings, and dislocations of bones; let cutting off of members; let shatterings of the whole body; and let all the dreadful torments of the devil come upon me: only let me attain to Jesus Christ (Rom 5.3.1-13).

God's will for Ignatius included martyrdom; however, God's will may not be the same for all. This sentence could be seen as suggesting that God's will is not uniform for everyone, which might contradict the idea of God's universal plan. A more nuanced approach could be taken by acknowledging that God's will can have different expressions for individuals while still being guided by His greater purpose. It was H. H. Drake Williams who said, "the model for Ignatius as the martyr disciple is the pattern of the crucified Christ" (Williams, 2019, p. 135). It is through death that Ignatius considered that he had attained Christ. To die meant, for him, to commune with Christ. According to him, martyrdom is the highest form of discipleship. He offered a further explanation when he said "a man is a true disciple of Christ only if he dies for Christ's sake; anyone who does not accept death willingly with eyes fixed on Christ's passion, does not have the life of Christ within him" (cf. Epistle of Ignatius to the Magnesians, chap. 5; Romans 6:3; Baus, 1982, p. 292). Johan Leemans and Anthony Dupont indicated that "the Ignatian corpus adds to the imitation idea that of discipleship: true discipleship and martyrdom go hand in hand" (Leemans & Dupont, 2019, p. 419).

Discipleship and Justification. Ignatius seems to equate discipleship with justification when he said, commenting on Romans 5:1–4: "I am the more instructed by their injuries [to act as a disciple of Christ]; yet am I not thereby justified." Ignatius drew this principle from Paul when he said to the Corinthians, "for I know of nothing against myself, yet I am not justified by this; but He who judges me is the Lord" (1 Corinthians 4:4). Justification for Ignatius was still in the future, a time when his perfection would be realized.

Polycarp Bishop of Smyrna (AD 69–156)

Polycarp, Bishop of Smyrna, was born about AD 69. He was a younger friend of Ignatius of Antioch. The apostle John was his instructor and, in turn, he tutored Irenaeus of Lyon (AD 130–202; Strobel, 2008, pp. 125–131). Polycarp, whose name in Greek means "much-fruit" or "fruitful," was characterized by being venerable in character, given to simplicity, sacrifice, and patriarchal piety. He was the Christian bishop of Smyrna. Polycarp was eighty-six years of age when he was martyred at the stake in the persecution carried out under Antonius Pius AD 155/166 (Reyes, 2018, p. 35). As a staunch believer in the connection between discipleship and martyrdom, Polycarp emphasized that a genuine disciple should be prepared to undergo martyrdom.

Discipleship as Martyrdom. Polycarp was a strong advocate of the fact that a true disciple should experience martyrdom. To him, martyrdom helps an individual to focus not on one's own self, not on one's righteousness, not even one's own salvation, but rather on God's love. A true Christian sees martyrdom as a vehicle that leads people to Christ, and not to his own heroic act of being martyred. In the words of Mujahid El Masih and David Witt (2013, p. 45):

Christ wants his martyrs to be lovers who sacrifice and risk for others. The spirit of martyrdom is Christ's Holy Spirit of love indwelling in his children. It is a love so great that fear dissipates and joy abounds in doing the right thing, even when the cost is great.

Polycarp, like his friend Ignatius, was seen as an advocate of discipleship. According to Maria Cecilia Holt, Polycarp was "by no means the first martyr since apostolic times, but his is the first martyrdom to be thus described and recorded" (Holt, 2008, p. 492). When Emperor Marcus Aurelius (AD 121–180) embarked on persecuting Christians, the believers urged Polycarp to flee. He disappeared for several days in a house outside the city, and he always prayed for the sake of Christ's flock. Before his arrest, the Lord told him in a vision or a dream the nature of his martyrdom.

He saw the pillow on which he was lying burning with fire, so he got up from sleep and gathered his friends and told them that he would be burnt alive for the sake of Christ, and that he would enjoy the gift of martyrdom (Papandrea, 2012, p. 34).

Polycarp was martyred when he was an old man, a fact that was recognized by the emperor who retorted saying, "Have pity upon your white hairs. Just curse Christ and you can go back to your cottage" (Pawson, 2012, p. 45). Polycarp answered and said, "eighty-and-six years have I served Him, and He hath never wronged me; and how can I blaspheme my King, who hath saved me?" (Milner, 1794, p. 237; Daniels, 2009, pp. 57–59). During his martyrdom, a Roman soldier, out of sympathy for the old man, shoved a spear into his heart through the flame. Polycarp demonstrated the true cost of discipleship by being martyred. He sealed his fate before the Roman proconsul (Hartog, 2013, pp. 237–240; McMahon, 2013, pp. 20–55; Gansky, 2014, pp. 20–30).

Polycarp admonished Christians to become fellow disciples and to seek to be martyrs. To him, martyrdom makes Jesus' path clear; it is the only way that believers should follow when facing comparable circumstances of opposition. Martyrdom and suffering, then, "is the badge of the true discipleship" (Duvall, 2014, p. 54).

Commenting on the martyrdom of Polycarp as a hall-mark of discipleship, Servais Pinckaers, in his book, *The Spiritualiity of Martyrdom to the Limits of Love*, remarked:

> One could say, then, that martyrdom is the testimony of a disciple's allegiance to Christ as King, which prohibits obedience to any human authority, even the supreme authority, if it orders an act of disowning [that allegiance]. Thus, the external dimension of martyrdom, just like the internal dimension, is ordered to the Passion of Jesus. (Pinckaers, 2016, pp. 61–62)

Polycarp modeled his life, suffering, and death on that of Christ. Jesus was the core model for him, and in his martyrdom, a pattern to follow. By dying for his faith, Polycarp was *Christou koinonos genomenos* ("be made a partaker of Christ").

Imitation. The theme of imitation also occurs in the writings and life of Polycarp. He mentions imitation of Christ in his Epistle to the Philippians, when he spoke of the suffering of Christ on the Cross. He said: "Let us therefore become imitators of His endurance; and if we should suffer for His name's sake, let us glorify Him. For He gave this example to us in His own person, and we believed this" (Epistle of Polycarp 8:2; Lightfoot, 1990). To be imitators of Christ means to follow the example of Christ in endurance behavior.

For Polycarp, the Lord Jesus Christ was a model of discipleship, and any person who desired to follow Him must imitate Him almost in every aspect of life. Alfred Plummer, in his book, *The Church of the Early Fathers: External History*, wrote:

> For he [Polycarp] waited to be delivered up, even as the Lord had done, that we also might become imitators of him, while we look not merely at what concerns ourselves but have regard also to our neighbours. For it is the part of a true and well-founded love, not only to wish one's self to be saved, but also all the brothers (Plummer, 1887, p. 42).

To Polycarp, a true disciple of Jesus ought to be ready to imitate "Christ's patient endurance 'to the limit,' and sacrifice his life in His service" (Kleist, 1948, p. 73). Following Christ is not only understood in relation to missionary work or ascetic life, but in the work of discipleship. This may entail imitation of Jesus even unto experiencing torture and death for one's own faith.

Witness. Polycarp used the word witness to mean discipleship. The verb witness comes from the Greek word, *martureo*, and means "to testify, to give testimony, to speak well of, or to vouch for" (MacArthur, 2007, p. 66). From that nuance, we get the English word for martyr today. To Polycarp, to witness meant to bear a testimony, which meant to be a disciple for Christ. A true disciple should witness for his faith. He was one of the greatest people to bear witness, that is, to be a disciple committed to share the truth regardless of the cost (Grant, 2006, p. 126). To this effect, Irenaeus (Bishop of Lyon) wrote:

> To these things all the Asiatic Churches testify, as do also those men who have succeeded Polycarp down to the present time, a man who was of much greater weight, and a more steadfast witness of truth, than Valentinus, and Marcion, and the rest of the heretics. (Irenaeus, 2019, p. 209)

To Polycarp, to witness was to tell your own story of Christ and what He has done for you. Others should see how Jesus transformed your life. A disciple is called to witness; the word witness is the language of the courtroom. It suggests that someone who is on trial is called to witness, which means to be called to defend. In other words, witnesses are defendants of the faith (Berkowitz, 2006, pp. 50–60; Piper, 1880, pp. 14–21).

Sacrifice. The word sacrifice was used in the early Christian literature to refer to the martyrdom of Polycarp. Church history records:

> And he appeared within not like flesh which is burnt, but as bread that is baked, or as gold and silver glowing in a furnace. Moreover, we perceived such a sweet odour [coming from the pile], as if frankincense or some such precious spices had been smoking there. (Roberts & Donaldson, 1885, p. 42)

The words *sweet odour* come from the Greek *euōdia* meaning pleasing sacrifice. The term was used by Paul in the New Testament (cf. Philippians 4:18; Ephesians 5:2) and by Moses in the Old Testament (cf. Genesis 8:21). The idea of "self-sacrifice, is evoked by the word [*euōdia*]" (Bock, 2006, p. 333.3). Sacrifice is involved in the Christian life, as illustrated by Polycarp.

Clayton N. Jefford in his book *The Apostolic Fathers and the New Testament* testifies that to "understand the personal sacrifice of Polycarp, offers a unique faith vision of personal discipleship for those who would follow in the path of the bishop" (Jefford, 2006, p. 45). In this respect, Polycarp has drawn upon additional New Testament imagery, that of self-sacrificing. He sacrificed his life for the sake of Christ. Polycarp melded together such terminologies to convey the idea of true discipleship, which is costly grace. When Christ calls, the disciple ought to follow.

Papias of Hierapolis (AD 70–163)

Papias of Hierapolis was born to Christian parents (AD 69), and he later became a Bishop of Hierapolis (AD 110–140) in Phrygia, that is, the west central part of Anatolia in modern day Turkey (Byron, 2019, p. 36). Irenaeus of Lyons described Papias as "an ancient man who was a hearer of John and a companion of Polycarp" (Irenaeus 1872, p. 528). He was a prolific writer who was held as the oldest Christian author concerning matters of exegesis. Papias lost no opportunity to meet and dialogue with elders who came to him, and, in turn, this enhanced his knowledge.

In summary, Papias of Hierapolis, an individual of antiquity who had the privilege of hearing John and had connections to Polycarp, significantly enriched early Christian literature and exegesis through his valuable contributions. His engagements with seasoned leaders enhanced his understanding and solidified his status as an early Christian writer.

Disciple. The historian and Christian polemicist, Eusebius of Caesarea (AD 265–339), indicated that Papias was a disciple of the apostle John (Eusebius, 2019, pp. 50–55) and Irenaeus Bishop of Lyons had simply said that Papias was a hearer of John the apostle (Lightfoot, 1893, pp. 213–214; Shanks, 2013, pp. 246–247). Papias was a strong believer in discipleship, to the extent that he was nicknamed the "disciple of the Lord." However, such a name obviously is meaningless without the historical Jesus (Holding, 2008, p. 81). The phrase "disciples of the Lord" in its plural form is found two times in Papias' writings. One reference is to the apostles, and second was used to describe Ariston and the Elder John (Culpepper, 1994, p. 111). This means that the term disciples was used in reference to indicate those who had been personal disciples of Christ or members of the Twelve Apostles (Bauckham, 2007, p. 61). To Papias, a disciple should be committed to Christ and His cause.

Discipleship as Martyrdom. Papias suffered martyrdom at Pergamum (AD 156; Hein, 2015, p. 212). The Syriac Epitome of the Chronicle of Eusebius tells of the fact that Papias and Polycarp were martyred during the same period; both heroes died to defend their faith (Shanks, 2013, pp. 55–65). The martyrdom of Papias tells of the cost of discipleship. Following Christ may mean participation in His suffering. For "Christ demands nothing of His followers that He has not first exemplified" (Hummel, 2007, p. 101).

Implications for Mission

The existential worldview of discipleship has been considered from the perspective of the Apostolic Fathers. Their spiritual impact and attitude towards dying like Christ did has been examined.

Ignatius of Antioch extensively used the term disciple or discipleship. By this he meant Christians in general, to allude to people who were highly committed. He used the word follower as synonymous with discipleship, but also used a cluster of nouns to mean a disciple, such as brother, sister, saint, and a Christian. His focus was to urge followers to imitate Christ as He imitated the Father, and to form a relationship with Him as the duty of disciples. Ultimately, he regarded martyrdom as the destiny of a true disciple.

Like, Ignatius, Polycarp Bishop of Smyrna understood discipleship in terms of martyrdom. For Polycarp, martyrdom functioned to aid a person to focus on Christ and His love rather than on self, and enabled the disciple to be an imitator of Christ's suffering. Witnessing, according to Polycarp, meant being a defender of the faith; this involves sacrifice.

Papias of Hierapolis perceived discipleship in relation to having a personal relationship with Christ. Commitment must be part and parcel of discipleship, and this involved possible martyrdom. This form of suffering constitutes a unique witness for Christ and indicates that the individual is a true follower of Him. Indeed, discipleship is rooted in martyrdom according to the writings of the Apostolic Fathers.

The following insights are provided from a standpoint focused on the study of mission and its implications. This will serve as a guiding path for readers, leading them from the epistemological crisis in religion and philosophy to a more unified perspective. John Cynddylan Jones said: "When the Christian life stops short in discipleship, it remains in the incipient or embryo stage, and is in danger of dying of inanition [exhaustion due to lack of nourishment]" (Jones, 1878, pp. 204–205). Hence, Christianity is not a dogma, but a life. It consists of not possessing mere knowledge, but is demonstrated belief in practice. Knowledge without practice is like faith without works—dead. Knowledge gets refined by work.

1. Discipleship includes submission to the Bible's authority, which is fundamental to all followers of Christ. "At the least, discipleship includes worship, faith, obedience and hope. Yet each of these ingredients is impossible without a reliable revelation from God" (Stott, 1992, p. 174).

2. Discipleship helps individuals recognize their mission. Believers today are admonished to provide an example of Christ-like living for non-believers to follow. The goal is to return to the Gospel instruction to invite the Spirit's presence daily into the life to provide the motivating force for personal change.

3. The Christian church is to realize its double responsibilities towards the surrounding cultures. The church in general, and the Seventh-day Adventist Church in particular, is to live, serve, and witness in the world, but without being affected by the cultures it faces. Cultural tools may be used to enhance discipleship and mission. Costly discipleship arouses personal piety– as well as corporate piety–towards evangelism in the world.

4. Discipleship is "a many-faceted lifestyle, and amalgam of several ingredients" (Stott, 1992, p. 174), that encompasses total commitment—costly grace.

5. Disciples nowadays are not failing because of lack of information about the subject, but because of lack of transformation.

6. The Apostolic Fathers' perspectives on discipleship provide valuable lessons in intercultural discipleship, prompting believers to break away from spiritual stagnation or complacency.

7. A disciple is not meant to be perfect, but rather to be intentional in missionary endeavors. I like how Mike Breen and Steve Cockram have penned it: "Discipleship is a relational endeavor depending on broken people living in the grace of God" (Breen & Cockram, 2014, p. 120). Churches may be aggressive in evangelism, but unless it is intentional and relates to the needs of the hearers, it will fail.

8. Discipleship "has an end goal: to be conformed into the image of Christ—to talk the way He talked, walk the way He walked, and respond the way He responded" (Gallaty, 2015, p. 135). That is to say, discipleship involves imitating Christ as the pattern in teaching and relating to people.

9. Discipleship terminologies and an understanding of their historical meaning helps trainees arrive at a correct appreciation of discipleship and its mission. For example, martyrdom as a terminology for discipleship infers a high level of commitment. Such levels of commitment might be encouraged among Adventist believers.

10. Mimicking or imitating as a metaphor for discipleship infers that there is a cost associated with discipleship. Metaphors of discipleship describe the strong relationship between a disciple and the Disciple Maker—Christ. Understanding such terminologies functions to assist in creating an identity as a disciple.

11. True discipleship is not found in an ascetic life; such is not a biblical idea of discipleship. True discipleship means following the example of Christ first and foremost and supplemented by the example of the apostles. Discipleship is not a convenience, for it could cost someone's life.

12. Last but not least, the evidence of true discipleship is a growth in Christ-likeness. Thabiti M. Anyabwile said:

> The growth we wish to see, the growth that is not finally external and superficial, is growth in godliness or holiness, growth in "the stature of the fullness of Christ." A growing church member is someone who looks more and more like Jesus in attitude of heart, thought, speech, and action. That's what we long to be and long for our churches to be. (Anyabwile, 2012, p. 148)

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Effectiveness of Basic Life Support Short Course Training Among Thai Vocational College Students

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Abstract

The purpose of this quasi-experimental research was to compare test scores among Thai vocational college students regarding their basic life support knowledge and cardiopulmonary resuscitation (CPR) skills before and after receiving short course training. Purposive sampling was used to select 30 students with no prior training in basic life support (BLS). The BLS short course training was based on the guidelines of CPR 2020 by the American Heart Association. The content validity index of the questionnaire used was 1.0, the reliability testing of knowledge questionnaire was .84, and the skill checklist was .70. The mean post-test score for BLS knowledge obtained after an informative lecture was higher than that obtained pre-test. Similarly, the mean post-test CPR skills score obtained after training was higher than that received in the pre-test; the score differences were statistically significant ($p < .001$). The results indicated that short course training can be used to improve students' understanding of BLS guidelines and effectively perform cardiac compressions. Such short course training should be implemented and established as a feature in the curricula of Thai vocational college education institutes throughout the country.

Keywords: *Basic life support, cardiopulmonary resuscitation, course training*

Introduction

Non-Communicable diseases (NCDs) are the leading global cause of death. In 2020, NCDs deaths represented over 43 million (73%) of the 60 million deaths recorded (WHO, 2020). Coronary artery disease or ischemic heart disease (IHD) is the major cause of health loss among NCDs (Roth et al., 2017). Out-of-hospital cardiac arrest (OHCA) is another condition that needs to be mentioned. It is defined as loss of mechanical activity, confirmed by the absence of signs of circulation that occurs outside of a hospital setting (Krishna et al., 2017; McCarthy et al., 2018). According to a report by the Ministry of Public Health in Thailand (2019), IHD ranked fourth, with fatality rates amounting to 39.7 deaths/100,000 people. In 2019, the prevalence rate among males who were over 15 years was 1,396.40 /100,000 people, and the incidence rate was 160.28/100,000 people (Ministry of Public Health, 2019). The most common cause of OHCA across the Asia-Pacific region (2009–2012) was a presumed cardiac etiology (61.4%). The initial arrest rhythm was non-shockable in 48.2% of cases, 61.8 % of arrests occurred at home, 21.5% of arrests were in public places, CPR assistance was given by bystanders in only 15.8% of instances, and those surviving to admission was 27.7% (Ong et al., 2015). The study of Vattanavanit et al. (2020) showed that OHCA in southern Thailand occurred in 54% of cases, witnessed cardiac arrest was 88.4%, and 45.0% of cardiac arrest cases were attributed to cardiac causes. The most common cause of arrest was acute myocardial infarction (67.8%) and the initial rhythm was unable to be shocked (74%). Bystander CPR was administered to 34.8% of clients.

Several reports have shown that witnessed arrests coming from cardiac causes with a non-shockable rhythm could potentially be helped by a bystander. Bystanders can save the life of an individual experiencing arrest by carrying out initiation of high-quality CPR until medical personnel reach the scene (American Academy of CPR & First Aid, Inc., 2019). Every minute that CPR is delayed, a victim's chance of survival decreases by 10%. This means that immediate CPR from someone nearby can lead to a higher chance of survival (American Heart Association, 2020). Early high-quality CPR and the use of an automated external defibrillator (AED) increase survival dramatically in those

experiencing OHCA (Hasselqvist-Ax et al., 2015). Similarly, the study of Limesuriyakan (2018) showed that there was a higher rate of returning spontaneous circulation (ROSC) in patients who received early CPR and AED shock (71.4%). On the other hand, bystander CPR along with the application of an AED was observed at a low incidence of 0.8% (Sirikul et al., 2022).

Out of hospital resuscitation is an initiated sequence in critical situations known as the "Chain of Survival" (American Heart Association, 2017). The Association guidelines are revised and updated every five years. In the year 2020, the Association changed the chain of survival from five to six links, encompassing "early access, rapid CPR, quick defibrillation, effective advanced care, post-cardiac arrest care, and recovery." The Association placed increased emphasis on lay rescuers as crucial initiators of CPR. Historically, the proportion of adults who received CPR initiated by a layperson was less than 40%, and even fewer individuals (approximately 12%) had an AED applied before the arrival of emergency medical services. The potential harm to the patient is minimal when CPR is initiated in the absence of cardiac arrest. Bystanders should feel confident to commence CPR even if uncertain about the victim's breathing status or cardiac arrest occurrence (American Heart Association, 2020). With the outbreak of the Corona virus (COVID-2019), the American Heart Association and the European Resuscitation Council recommended that for cases of unconfirmed COVID-19, bystanders should consider placing a mask or cloth over the person's mouth and nose prior to performing chest compressions to reduce the risk of airborne spread of the virus during chest compressions. In a confirmed case of COVID-19, with no personal protective equipment available or where only droplet-precaution protective equipment is provided, an operator should use defibrillation only when limited personnel are present (American Heart Association, 2020; Edelson et al., 2020; European Resuscitation Council, 2020). In confirmed cases in the absence of COVID-19, those intervening should implement all components of high-quality CPR including chest compressions of adequate rate and depth, full chest recoil between compressions, minimizing interruptions in chest compressions, and avoiding excessive ventilation (American Heart Association, 2020; European Resuscitation Council, 2020).

High quality CPR from non-healthcare professionals (bystanders) significantly improves the chances of survival of OHCA victims (Geri et al., 2017; Hasselqvist-Ax et al., 2015; Limesuriyakan, 2018; Panchal et al., 2019). When high-quality bystander CPR is conducted, the rates of prehospital ROSC (41.6% vs. 22.5%), total ROSC (47.7% vs. 29.0%), survival at discharge (30.2% vs. 10.1%), and neurologically favorable discharge (25.5% vs. 5.7%) are all higher (Park et al., 2020). Moreover, bystander administered CPR has demonstrated a statistically significant twofold increase in the likelihood of 30-day survival among clients (Sirikul et al., 2022).

High-quality CPR is associated with young age bystander participation (Park et al., 2020). However, despite this association, the general public worldwide still lacks proficiency in CPR skills, as reported by Anderson et al. (2014). To address this issue, one method to enhance bystander CPR rates among the public is through BLS short course training. In Thailand, a significant target group for such training is comprised of vocational college students, who predominantly belong to the young age group. This group has considerable potential to act as high-quality bystanders for administering CPR interventions. In the study conducted by Tippayanate et al. (2017), they investigated the effectiveness of two training methods, namely, brief video training and traditional training. The results revealed a significant increase in knowledge levels for both groups, but it was noted that over 60% of the video group could not demonstrate sufficient CPR skills competency. This indicated that for vocational college students, a comprehensive approach that includes hands-on CPR practice is crucial alongside video training. The educational content for BLS training of bystanders encompasses theoretical knowledge about OHCA, practical CPR skills training, and instruction on using an AED. Implementing BLS short course training has the potential to empower younger bystanders with effective CPR skills, thereby contributing to improved survival rates for patients experiencing out-of-hospital cardiac arrest.

Research Conceptual Framework

A BLS short course training was used that was based on the chain of survival outlined by the American Heart Association (2020) and Gagne's (1992) nine events of instruction. The chain of survival recommended by the Association consists of six steps, namely, early recognition of symptoms and activation of Emergency Medical Services, bystander CPR, early defibrillation, advanced Emergency Medical Services, post-cardiac arrest care, and recovery (American Heart Association, 2020). Gagne's nine-step model is based on the behaviorist approach to learning. In the current study, learners were trained through learning experiences by applying Gagne's nine events of instruction (Gagne et al., 1992) in a BLS short course training program (Figure 1).

Figure 1 *Conceptual Framework Adopted*
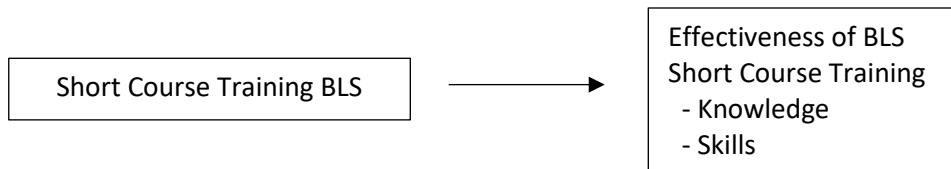
Research Objective

To determine the effectiveness of BLS short course training in Thai vocational college students.

Research Hypotheses

1. BLS training will increase participants' theoretical knowledge compared to pre-training levels.
2. BLS training will enhance participants' skills compared to their baseline levels.

Expected Outcomes and Benefits

The BLS short course training will help students provide more effective CPR when they encounter a cardiac arrest patient and improve the survival rate in out-of-hospital cardiac arrest patients. The results will support introducing a BLS course into the curriculum.

Operational Definitions Adopted

1. "Knowledge of BLS" involves an understanding of the American Heart Association's BLS guidelines that has been obtained after training.
2. "CPR skill" is the ability to perform effective cardiac compressions after training.
3. *"Vocational college student"* represents a student who has learnt special skills in school to prepare for work in a particular field such as computers, carpentry, automotive services, etc.

Research Design and Methodology
Design

A quasi-experimental research approach was taken involving one group using a pre-test/post-test design approach to study the effectiveness of a BLS short course training program.

Population and Sample

1. The population consisted of 125 students who were studying in Year 1 at Muak Lek Technical College in the first semester of the 2022 academic year.

2. Sampling involved the selection of 30 students who were studying in Year 1 at Muak Lek Technical College in the first semester of 2022.

Purposive sampling was used involving the following inclusive criteria: (a) studying in a vocational college Year 1 with a willingness to participate, (b) aged 18 and over, and (c) having no prior short course training in BLS 2020.

Also the following exclusion criteria were utilized: (a) anyone with an underlying disease or congenital disease such as: asthma, heart disease, etc., and (b) an individual who had undergone a short course training in BLS 2020.

Research Instruments

A questionnaire was used to assess the knowledge of BLS knowledge so that pre-test and post-test data could be compared. The questionnaire developed by Wongsasung et al. (2018), which was adapted from the guidelines of the American Heart Association, was utilized. Four choices were available. In addition, a practical checklist was used to assess both pre-test and post-test CPR skills. The checklist was developed from the guidelines provided by the Association.

Both instruments were tested for validity and reliability. The test for validity was based on the content validity index (CVI) according to the rating provided by three experts (two emergency department physicians and one emergency department nurse). The total value that experts gave to each item divided by the number of experts was 1.0.

The instruments were tested for reliability by conducting a pilot study among 30 Thai vocational Year 1 students. The KR-20 by Kuder and Richardson was used to assess the knowledge of BLS. The Kuder-Richardson Formula 20 (KR-20) of the knowledge questionnaire returned a value of .84, and the skills checklist value was .70.

The final element utilized was a basic life support training program that was developed specifically. It consisted of several parts.

1. A PowerPoint presentation on BLS was delivered, based on the American Heart Association guidelines. The presentation included a video from the Association.
2. Handouts were distributed to the participants; they containing essential BLS knowledge and appropriate CPR steps.
3. The researchers conducted a comprehensive demonstration of the entire BLS procedure (1 hour), providing clear explanations at each step.
4. A question and answer session followed the demonstration to address any queries or uncertainties from the participants.
5. Participants engaged in hands-on practice of CPR skills (1 hour) to reinforce their learning.
6. The researchers provided feedback and guidance to the participants. Subsequently, the participants had another opportunity to practice their CPR skills.
7. The researchers assessed the participants' performance during the CPR skill practice session to evaluate their proficiency and understanding.

The PowerPoint BLS was also validated by three experts (two emergency department physicians and one emergency department nurse). The CVI obtained for the content was 1.0.

Protecting the Rights of Participants

Research ethics approval was obtained from the Institutional Review Board of Asia-Pacific International University (RRDC 2020-206 /AIU.RO.014/2020, November 25, 2020). The rights of the participants in the study were protected throughout the study. The processes used were as follows:

1. Before data collection, the researchers asked for permission from the administration of Muaklek Technical College and met with the target group.
2. The rights for informed consent were explained, such as the research objectives, process of the experiment, expected outcomes, risks, benefits, characteristics of participants, and reasons for inviting the students to participate in the study. Participants were given the right to refuse to participate in this research or withdraw at any time with no effect on their scores in any of their subjects.
3. The researchers gave prospective participants information sheets about the study, thus enabling them to have a complete understanding of it before requesting their signatures for permission.
4. The results were reported as an overview of the data so that individuals could not be identified. At the end of the study, personal data were destroyed.

Data Collection

The students undertook the pre-test and post-test of theoretical knowledge and were tested for their skills in CPR for 1 hour.

Data Analysis

Analysis of the general data was accomplished using descriptive statistics. A paired *t*-test was used to compare the student's theoretical knowledge and skills in BLS.

Results

The total number of vocational college students in the study was 30. Most were males (76.7%) with ages ranging from 18 to 25 years with a mean age of 18.9. Among these, 83.3% did not have experience with the emergency medical phone number 1669, 73.3% did not have first-hand experience in CPR, and 96.7% did not have experience with AED as shown in Table 1.

Table 1 *Demographic and Characteristics Information of Research Respondents* (*N* = 30)

Demographic Information	Number	Percentage
Gender		
Male	23	76.7
Female	7	23.3
Age (Years)		
18	14	20
19	12	40
20	1	3.3
21	2	6.7
25	1	3.3
	M = 18.9, *SD* = 1.4	
Experience with Emergency Medical Call No. 1669		
Yes	5	16.7
No	25	83.3
Experience with CPR		
Yes	8	26.7
No	22	73.3
Experience using AED		
Yes	1	3.3
No	29	96.7

The pre-test score of knowledge prior to the BLS lecture was 13.30. After the lecture, the post-test mean was 18.47. A few participants (Nos. 4, 12, and 29) showed a post-test score lower than in the pre-test. The mean of pre-test CPR skill was 3.57. After the demonstration, the students achieved a higher post-test score (mean = 10.57), as shown in Table 2.

Table 2 *Comparison of BLS Knowledge and CPR Skill Score Before and After Receiving a Short Course Training* (*N* = 30)

Subjects	BLS Knowledge Score (Total 25 Points)		Skill of BLS Score (Total 13 Points)	
	Pre-Test	Post-Test	Pre-Test	Post-Test
No.1	10	15	3	10
No.2	12	13	5	12
No. 3	10	21	5	10
No.4	11	8	3	11
No.5	5	16	1	5
No.6	12	24	6	12
No.7	11	24	4	11

Subjects	BLS Knowledge Score (Total 25 Points)		Skill of BLS Score (Total 13 Points)	
	Pre-Test	Post-Test	Pre-Test	Post-Test
No.8	10	24	5	10
No.9	11	19	3	11
No.10	12	23	3	12
No.11	10	20	3	10
No.12	10	7	3	10
No.13	13	22	1	13
No.14	11	11	5	11
No.15	9	14	3	9
No.16	13	18	3	13
No.17	11	16	0	11
No.18	11	24	9	11
No.19	13	23	5	13
No. 20	7	24	4	7
No.21	13	18	3	13
No.22	13	25	3	13
No.23	9	18	1	9
No.24	7	24	2	7
No.25	12	22	6	12
No.26	9	12	3	9
No.27	13	22	7	13
No.28	11	21	4	11
No.29	9	5	1	9
No.30	9	21	3	9
	M = 13.30, *SD* = 4.19	*M* = 18.47, *SD* = 5.64	*M* = 3.57, *SD* = 1.94	*M* = 10.57, *SD* = 2.00

Figure 1 *Comparison of BLS Knowledge Score Before and After Receiving a Short Course Training* (*N* = (30
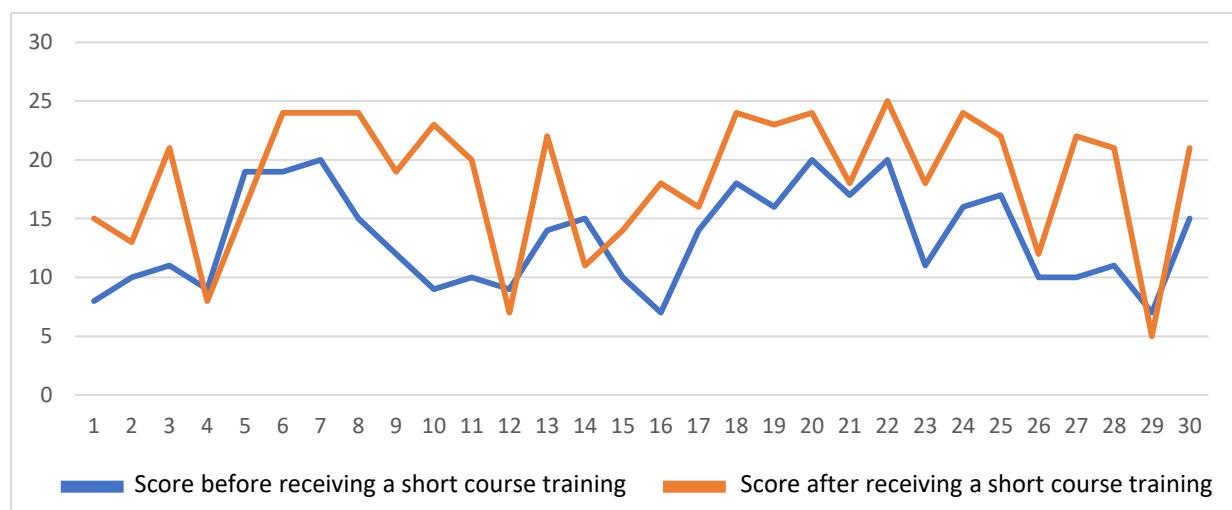
The results of the paired *t*-test are highlighted in Table 3 .There were highly significant differences in scores in BLS knowledge and CPR skills between the before and after assessments) $p < .001.($ The results indicate that short course training can be used to train students to help with OHCA.

Table 3 *Comparison of Mean Scores of BLS Knowledge and Skill Before/After Short Course Training* (*N* = 30)

Feature	M	SD	t	p
Score of BLS Knowledge				
Pre-Test	13.30	4.19	6.159-	< .001
Post-Test	18.47	5.64		
Score of CPR Skill				
Pre-Test	3.57	1.94	17.088-	< .001
Post-Test	10.57	2.00		

Discussion

The findings showed that most of the students achieved a higher score after the lecture and training. The result showed a statistically significant difference in the mean scores obtained . One plausible explanation could be that the participants in the study lacked familiarity with CPR, as evidenced by their diverse academic backgrounds in Accounting, Computer Science, Engineering, and other fields. Despite this variation in their areas of study, it is noteworthy that most participants demonstrated improved mean scores in BLS knowledge and CPR skills during the post-test, which followed the short training course. These findings were consistent with the studies by Aloush et al. (2019), Takamura et al. (2022), and Thamnamsin et al. (2022). The knowledge test scores of BLS for all age groups significantly improved after BLS training. Consistent with the findings of Pearkao et al. (2021), the BLS training resulted in a statistically significant increase in the mean scores for both BLS knowledge and CPR skill among the participants.

Significantly, three students displayed lower post-test scores compared to their pre-test scores. During the CPR skill practice session, the researchers inquired about the outcomes, and all three students provided a consistent reason: they were overwhelmed with excitement as it was their first exposure to CPR, leading to subsequent forgetfulness of the material. This finding corresponds with the results obtained by Marcus et al. (2022) where first-year medical students similarly experienced heightened excitement during their initial encounter with CPR. Furthermore, in accordance with the study conducted by Ninwatcharamanee et al. (2021), first-year nursing students achieved lower scores compared to their third and fourth-year counterparts who had prior experience with CPR.

These results indicated that the students, through effective educational and practical training, were able to understand how to respond and act appropriately to help a person who has a cardiac arrest. It suggests that the short course training increased the opportunity for students to help people who may have an out-of-hospital cardiac arrest. Zenani et al. (2022) found in their systematic review, conducted from 2010 to 2020, that in most countries around the world, attention has been directed towards training school children in CPR. The most common instruction protocols utilized in training were video simulations, followed by assessments to evaluate participants' knowledge and skills. An important outcome of this study is that researchers should extend this training to Thai vocational college groups. Moreover, the Thai government might be encouraged to integrate and establish a standardized BLS curriculum in schools.

Future Study

Looking into the future, the simulation lab will play an important and influential role in BLS training. This will enable the young people to be trained using different scenario situations and to enable measurement of their skills in management and decision making.

Conclusion

The effectiveness of the BLS training became evident due to its utilization of diverse methods and strategies, resulting in notable enhancements in participants' knowledge and skills. The instructional program, conducted over 4-hours with the vocational college students, facilitated in-depth learning through practical hands-on experience and immediate feedback. As a result, the

program yielded positive outcomes, leading to significant improvements in both knowledge and skill levels.

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The Awareness of Child Privacy of Thai Parents on Social Media

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Abstract

Protecting the privacy of young children should be considered crucial since they are inexperienced. However, despite potential negative consequences, many Thai parents still engage in the act of "sharenting"—the disclosure of personal information about children on social media. In this research the aim was to investigate the level of awareness among Thai parents regarding child privacy, with a focus on identifying areas that required improvement. A survey utilizing a four-point Likert scale questionnaire was administered to 96 Thai parents. The results revealed that respondents displayed a moderate level of awareness concerning the negative effects of sharenting, while demonstrating a high level of awareness regarding laws and regulations pertaining to child privacy. It is suggested that the moderate awareness of negative effects may stem from parents' belief in their right to freedom of speech when discussing their children on social media. Furthermore, the high awareness of laws and regulations might be influenced by the lack of specific child privacy laws in Thailand, leading parents to perceive the necessity for more explicit legal provisions.

Introduction

Child privacy is crucial because children are young and innocent. Sharing a child's personal details on social media can lead to the creation of a digital record of the child's online presence, while also promoting a culture of constant observation and monitoring (Leaver & Highfield, 2018, p. 44). Recognizing this concern, some countries have legislation on child privacy to protect children's rights. However, in Thailand, it remains an ongoing controversial topic. Additionally, children's content is still being widely shared on social media. For example, many Thai parents feature their children on social media with discoverable hashtags such as #เด็กน้อยน่ารัก (Cute baby), #เด็กตลก (Funny baby), and #เด็กอ้วน (Chubby baby). This behavior is known as "sharenting." The term sharenting refers to the practice of parents sharing information and experiences related to their children on social media, created by blending the words "sharing" and "parenting" (Marasli et al., 2016).

Several studies have been conducted to indicate the negative effects of sharenting. For example, Kongrit (2021) found that oversharing information may impact a child's identity development. Regardless of whether the comments are negative or positive, children might become dependent and addicted to their online identity built by their parents and seek affirmations or positive reinforcements, such as likes, which could impact their identity and personality development. Additionally, Archaphet et al. (2021) suggested that sharenting may expose children to physical risks as strangers could know their location. Finally, according to Levy's research (2017), sharing children's content on social media without their permission frequently causes dissatisfaction, anger, and embarrassment towards parents, which could affect family relationships and trust.

Although the negative effects of sharenting on violating a child's privacy have been found in several studies (e.g., Archaphet et al., 2021; Keskin et al., 2023; Amon et al., 2022), research on whether parents are aware of these issues is not easily found, especially with Thai parents. In addition, most parents often possess a misconception regarding the ownership of information and may lack the awareness of their children's rights to co-own that information. Furthermore, various factors, such as comments from audiences, privacy perceptions of family members, and cultural values can influence their behavior of sharenting (Zhao, 2023). Given these considerations,

protecting child privacy becomes a significant concern that requires investigation to enhance awareness among Thai parents. This study sought to address the following research question: Are Thai parents conscious of child privacy considerations when sharing on social media?

Child Privacy

Child privacy has a broad definition and scope (Nairn & Monkgol, 2007). According to UNICEF Thailand, a "child" is someone under the age of 18 and "privacy" is the right of a person, group, or organization to control how, when, and what level of information about them is allowed to be shared with others (Westin, 1967). Child privacy refers to the right of someone who is under the age of 18, to limit how and to what extent information about them could be disclosed to others. In addition, parents often disclose information about their children online without the child's approval because they believe that it is their right to have the freedom of speech and to decide how their children should be raised (Steinberg, 2017). Nonetheless, if they do so, they are violating their child's privacy.

Parents' Intentions of Sharenting

Parents have different reasons for sharing their children's information on social network platforms. One of the main purposes, perhaps the most significant, is to seek a response or reaction from various individuals, including family members, friends, and other parents (Kravchuk, 2021, cited in Andersson & Nilsson, 2022). When families are separated by distance, sharing children's photos or videos online helps parents maintain relationships with their extended family. Additionally, it allows them to share important events in their lives with everyone simultaneously. Other motives in sharing their child's information include the desire to gain validation and social support, showcase their competence in child-rearing, actively participate in social interactions, and document their parenting journey (Latipah et al., 2020). By sharing their parenting experiences online, parents can seek reassurance and affirmation from others that they are doing a good job as parents. In addition, by sharing stories, achievements, and milestones of their children, they demonstrate their abilities and expertise as parents. This can boost their self-esteem and provide a sense of belonging within their social networks.

Negative Effects of Sharenting

Despite positive effects on the parental side, sharenting may result in certain negative effects on the children. Sharing information about their children online can also lead to negative consequences, including violations of privacy rights, exposure to cyberbullying, and potential distrust between children and their parents (Archaphet et al., 2020). The study by Siibak and Traks (2019) indicated that it could lead to distress among family members. In their study, interviews conducted among 14 children in Estonia revealed that children frequently feel annoyed and dissatisfied when their parents shared information or photos without their permission. Additionally, sharenting behavior could increase the opportunity for cyber identity theft, since parents might disclose personal data of their children that could be taken online by fraudsters (Coughlan, 2018). Microsoft's own research revealed that 66% of the sample respondents had fallen victim to cyber risk at least once (Beauchere, 2019). There was also a case in Thailand when a fraudster stole a child's identity from pictures posted by his mother to ask for money donation for medical reasons (Thairath Online, 2021). To avoid the problems and negative effects mentioned, it is essential that the parents have an awareness when sharing information about their child on social media platforms.

Laws and Regulations regarding Child Privacy

In order to address the potential risks faced by children, legal measures and regulations have been implemented to safeguard their privacy. The European Commission's General Data Protection Regulation (GDPR) of 2016 has been implemented in the European Union to grant individuals the right to manage their personal data (Donovan, 2020). For instance, Recital 38 of the GDPR

emphasizes the need for special protection for children's personal data as they may not fully understand the potential risks, consequences, and safeguards associated with the processing of their personal data or their rights in relation to it. This recognition of children's vulnerability underscores the importance of ensuring that their personal data is processed in a transparent, fair, and privacy-protective manner (Donovan, 2020).

Moreover, Article 17 of this Regulation establishes the principle of the "Right to be forgotten," which is the right of the informant to command others to delete their personal information published online (General Data Protection Regulation, 2016). In Thailand, the law that protects children's information resides in the 2003 Act of Parliament, which applies to children under 18 years old (Tamangraksat, 2019). Section 27 of this Act prohibits anyone from advertising or disseminating children's personal information through mass media with the intention to cause damage to their mind, reputation, dignity, or benefits for oneself. However, the Act does not cover the consent from children for the collection of their personal information (Tamangraksat, 2019).

To date, there have been no suggestions regarding the appropriate age when children can fully understand their own privileges relating to the privacy of data. One could argue that once a child becomes more mature, they are then able to evaluate the information shared by their parents, and determine whether it is harmful to them (Steinberg, 2017). A study into children's perception of the risk to their privacy online revealed that children under the age of 11 may have difficulty perceiving the risks that may occur on account of online privacy violation (Zhao et al., 2019). Therefore, parents may need to take the age of their children into account when sharing their information online, and at least ask for their children's permission before doing so.

Parental Awareness Regarding Child Privacy

Previous studies have explored parents' awareness of child privacy in posting on social media. According to a survey by Levy (2017), 71.3% of 1,000 UK children aged between 12–16 years old believed they did not receive respect from their parents regarding online privacy. Additionally, the findings of a study by Brosch (2016), which involved 168 Polish parents using Facebook, indicated that the respondents regularly posted child content on Facebook. Furthermore, a survey conducted by Lipu and Siibak (2019), involving 14 mothers from Estonia, revealed that some of them neglected to seek their child's consent before sharing content on Facebook. All of these findings suggest that many parents still lack an awareness of their child's privacy in posting on social media. Additionally, the cause of low or high awareness regarding a child's privacy among parents could be due to the different attitudes, which vary based on a person's past experiences (Albarracín & Wyer, 2000).

Even though there are negative consequences, previous research from other countries suggest that a significant number of parents may have limited awareness regarding their child's privacy. Hence, it is crucial to investigate the awareness of child privacy among Thai parents, especially considering the absence of specific laws in Thailand to safeguard children's online information. Additionally, examining the awareness of Thai parents can offer valuable insights into their unique perspectives on child privacy, which may differ from parents of other nationalities.

Methodology
Participants

The study included 96 Thai parents with children ranging in age from 1 to 18 years old. Of the participants, 61 were female parents (63.5%) and 35 were male parents (36.5%). The age distribution of the parents was as follows: 7% (n = 7) were under 20 years old, 18.6% (n = 18) were between 21 and 30 years old, 21.10% (n = 26) were between 31 and 40 years old, 28.10% (n = 27) were between 41 and 50 years old, 16.6% (n = 16) were between 51 and 60 years old, and 2.1% (n = 2) were over 60 years old. The majority of participants fell within the 31–50 years age group, comprising 44.7% of the total.

The educational levels of the participants were also recorded. The results showed that the majority of participants held a bachelor's degree (n = 46 or 47.9%). Others had obtained

vocational/high vocational certificates (*n* = 18 or 18.7%), diplomas (*n* = 16 or 16.7%), or had completed postgraduate studies (*n* = 16 or 16.7%).

The children of the participating parents spanned various age groups: Under 3 years old (*n* = 31 or 32.3%), 4–6 years old (*n* = 11 or 11.5%), 7–9 years old (*n* = 15 or 15.6%), 10–12 years old (*n* = 7 or 7.3%), 13–15 years old (*n* = 6 or 6.3%), and over 15 years old (*n* = 26 or 27.1%).

Instrument

In this study a quantitative method was utilized through a descriptive survey to explore the tendency of the current situation. The questionnaire for the study was constructed using data from a pilot study carried out with 30 Thai parents through snowball sampling. The open-ended questionnaire in Google Form was distributed to parents and was sent to other parents until 30 responses were received. The aim of open-ended questions was to gather input from the respondents about their perspectives on the negative effects of posting photos of their children on social media. Thematic analysis was then used to analyze the responses and categorize them into eight categories, including misconceptions of children's identity, cyberbullying, distress among family members, cyber identity theft, embarrassment, physical risk, digital footprint, and confidence.

Since there was no mention of the laws and regulations relating to sharenting found from the pilot study, one more section relating to laws and regulations was also added. The last section was developed based on the concepts of the General Data Protection Regulation (2016) and Thai laws (Act of Parliament, 2003, Section 27) related to child privacy. Thus, the self-developed questionnaire consisted of two sections: (a) parents' awareness of negative effects of sharenting, and (b) parents' awareness of laws and regulations relating to sharenting.

The questionnaire was created using Google Forms and a four-point Likert scale, ranging from *Strongly Agree* (4) to *Strongly Disagree* (1), was used. Additionally, demographic data such as gender, age, educational level, and children's ages were also collected.

Data Collection Process

Convenience sampling was adopted to explore the awareness of Thai parents in general. The researchers first searched the Facebook groups and Twitter accounts that Thai parents commonly participate in for sharing information about their children, including groups such as #เด็กน้อยน่ารัก (Cute baby), #เด็กตลก (Funny baby), #เด็กอ้วน (Chubby baby), or ปุ้มปุ้ย (Pumpui; a celebrity who once refused to disclose her child's identity on social media), ปัญหาพัฒนาการ พฤติกรรม จิตวิทยาเด็ก by หมอแอม (Developmental problems, behavior, child psychology by Dr. Am), and จิตวิทยาเด็กและครอบครัว ปรึกษาเรื่อง เลี้ยงลูก (Child and family psychology, consulting on parenting).

Then, the researchers contacted the administrators of those Facebook groups and Twitter accounts to request permission to post the link to the questionnaire. Once permission was granted, the questionnaire was shared in those groups, and data collection continued for one month in March 2023.

Data Analysis

Descriptive statistics were utilized to analyze the respondents' awareness regarding various statements by measuring their mean values. The data distribution was also analyzed using standard deviation values. Furthermore, the mean values were assessed using the criteria shown in Table 1.

Table 1 *Criteria for Interpreting Mean Values of Responses*

Mean	Interpretation
1.00–2.00	Low awareness
2.01–3.00	Moderate awareness
3.01–4.00	High awareness

Results

Parents' Awareness regarding the Negative Effects of Sharenting

Based on the data presented in Table 1, it can be observed from the information given in Table 2 that the mean values ranged from 2.32 to 3.12, with most categories having mean values below 3.00. This indicates that Thai parents, on average, have a moderate level of awareness regarding the negative effects of sharenting.

Table 2 *Overall Mean Values and Standard Deviations Regarding Negative Effects of Sharenting*

Category	Statement	Mean	*SD*
Misconception of Children Identity	1. Sharenting may affect children's identity development.	2.49	0.90
	2. Sharenting may cause others to misunderstand children's identity.	2.40	0.90
Cyberbullying	3. Sharenting may cause the risk of cyberbullying toward children.	2.52	0.90
	4. Sharenting may cause others to leave negative comments, curse, blame, and make fun of children.	2.65	0.93
Distress among Family Members	5. Sharenting may cause displeasure in family members.	2.54	1.03
	6. Sharenting may cause children to lose trust in their parents.	2.32	0.92
Cyber Identity Theft	7. Sharenting may cause cyber risks such as children identity theft.	3.12	0.81
Embarrassment	8. Sharenting may make children feel ashamed of others.	2.50	0.92
Physical Risk	9. Sharenting may cause physical risk by the disclosure of children's locations.	2.73	0.94
	10. Sharenting may cause physical risk as your children may be kidnapped or trapped [causing] bodily harm.	3.02	0.86
Digital Footprint	11. Sharenting may cause a digital footprint [to be created].	2.96	0.88
Confidence	12. Sharenting may cause children to lose confident.	2.45	0.87

Among the statements, the one that received the least agreement from the respondents was "sharenting may cause children to lose trust in their parents," with a mean value of 2.32. This suggests that Thai parents may not fully recognize the potential impact of sharenting on their children's trust in them. It implies that parents may not be fully aware that oversharing personal information about their children online can lead to a loss of trust in the parent-child relationship.

On the other hand, the statement that had the highest standard deviation was "sharenting may cause displeasure in family members." This indicates that respondents had a wider range of awareness regarding this particular statement. Some parents may be more conscious of the potential negative impact that sharenting can have on the relationships within the family, while others may not perceive it as a significant concern. It highlights the variability in parents' awareness and attitudes towards sharenting's impact on family dynamics.

Notably, both of these statements fall under the category of distress among family members. This suggests that Thai parents may have varying levels of awareness and concern about how sharenting practices can create displeasure within their families. It implies that some parents may recognize the potential strain that oversharing can place on familial relationships, while others may not perceive it as a prominent issue.

Overall, the data suggests that while Thai parents show a moderate level of awareness regarding the negative effects of sharenting, there is room for improvement in terms of understanding the potential consequences, particularly in relation to the trust between parents and children and the impact on family dynamics. Further education and awareness campaigns could help parents gain a deeper understanding of these issues and encourage responsible sharing practices.

Table 3 *Parents' Awareness of Laws and Regulations about Child Privacy*

Category	Statement	Mean	SD
GDPR regulation	13. Children have the right to demand parents to delete their personal data or pictures disclosures without permission.	3.08	0.93
	14. Children should be protected, especially about their personal information as they may be unaware of the risks and consequences of spreading information online.	3.27	0.69
Thai law	15. Thailand should have comprehensive laws and clear penalties on protecting the disclosure of children's information on social media.	3.33	0.73

Based on the information provided in Table 3, it is evident that the respondents demonstrated a high level of awareness regarding child privacy laws and regulations. The mean values for all statements exceeded 3.00, indicating that Thai parents believe they are generally well-informed about the importance of protecting children's privacy in the context of social media.

The statement that received the highest level of agreement (*M* = 3.33) from the respondents was "Thailand should have comprehensive laws and clear penalties for protecting the disclosure of children's information on social media." This suggests that Thai parents strongly believe in the necessity of robust legal measures and appropriate penalties to safeguard children's personal information from being disclosed on social media platforms. It implies that parents recognize the importance of legal frameworks to ensure the protection of their children's privacy online.

Furthermore, the statement "children should be protected, especially regarding their personal information, as they may be unaware of the risks and consequences of sharing information online" had the lowest standard deviation among all the statements. This indicates that respondents generally agreed with the notion that children need protection, particularly when it comes to their personal information. The low standard deviation can reveal a high level of consensus among Thai parents regarding this statement, indicating that they recognized the vulnerability of children in understanding the risks and consequences associated with sharing information online.

Overall, the results indicate that Thai parents had a strong awareness of child privacy laws and regulations, and they are supportive of comprehensive legal measures to protect children's information on social media. This reflects a proactive attitude toward safeguarding children's privacy in the digital age. The high level of agreement regarding the need for protection of children's personal information further highlights the recognition among parents that children may not fully grasp the potential risks and consequences of sharing information online.

Discussion
According to the results, the respondents appeared to have a moderate awareness of the negative effects of sharenting. In addition, the statement "sharenting may cause displeasure among family members" had the highest standard deviation. This indicates that the respondents may have a moderate awareness, along with varied perspectives from each person towards this statement. One of the reasons for the variety of perspectives from the respondents could be due to the differences in each respondent's past experiences with this statement, which could lead to different

perspectives, as indicated by the studies conducted by Albarracín and Wyer (2000) and Hagger et al. (2001).

Moreover, it is important to point out that parents in this study may not have been aware of the negative effects of sharenting on relationships in the family, with the lowest mean value being with the statement "sharenting may cause children to lose trust in their parents." This indicates that the parents in this study might not perceive this statement as a problem, even though several studies suggest that sharenting could lead to distress among family members (Siibak & Traks, 2019). Additionally, sharing content on social media without a child's permission frequently causes dissatisfaction, anger, and embarrassment towards parents, which could affect family relationships and trust (Levy, 2017). The reason why parents in this study might have disagreed with this statement could be because they believed that they have the right to sharent. According to the study conducted by Steinberg (2017), parents often disclose information about their children online without the child's approval because they believe it is their right to have freedom of speech and to decide how their children should be raised. Therefore, parents in this study might not be aware that their perceived control of the freedom of speech of their children could initiate distress among family members, especially when sharenting on social media. It is suggested that parents curb or postpone their sharenting act until their children reach the age of 11 or reaches a certain level of maturity (Zhao et al., 2019). When their children reach that age, they may have the ability to foresee the potential risks that may occur to them and are able to refuse their parents' behavior of sharenting.

On the contrary, Thai parents in this study tended to have a high awareness of their child's privacy in the laws and regulations section. The statement "children should be protected, especially about their personal information as they may be unaware of the risks and consequences of spreading information online," which is from the concept of Recital 38 of the General Data Protection Regulation of 2016 (GDPR), had the lowest standard deviation. It might be pointed out that the respondents tend to have a similar perception regarding this statement. Since GDPR is a regulation that aims to cover the protection of children's personal data from both outsiders and their parents, the majority of parents tended to agree, as they may want to protect their children's personal data that could be taken by fraud (Coughlan, 2018). Moreover, a high awareness concerning laws and regulations could be influenced by the lack of specific child privacy laws regarding children's online disclosure in Thailand. In addition, the Act of Parliament (2003, section 27), prohibits anyone from advertising or disseminating children's information through mass media only when they have bad intentions. For example, to seek benefits for oneself, which means the law does not apply if anyone causes negative reputations to children with no intention to do so. Moreover, it does not cover the consent from children for the collection of their personal information. Hence, parents might think that there is a need to have clearer and concrete laws and regulations to protect their children regarding this matter in Thailand.

Conclusion

The results of this study suggest that Thai parents have a moderate awareness of the negative effects of sharenting, with a higher awareness of child privacy laws and regulations. However, there is still a need for more education and awareness-raising efforts on the negative effects of sharenting and the importance of obtaining their child's consent before sharing any personal information or images online. Policymakers and legislators should also consider enacting specific laws and regulations to protect children's privacy online in Thailand.

It is important to note that the study had some limitations. First, the sample size may not be representative of the entire population of Thai parents, as the data were collected through a convenient sampling process. Second, the study only explored awareness levels and did not delve into the factors that may influence awareness levels. Further research could investigate these factors to gain a more comprehensive understanding of the topic.

Overall, the study provides valuable insights into the awareness levels of Thai parents regarding sharenting and child privacy on social media. The findings could inform policymakers and practitioners in designing effective measures to protect children's privacy online.

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Appendix

Survey on Parents' Awareness of Sharenting

Objective: To investigate parents' awareness of negative effects in sharing their children's information online as well as the needs of laws and regulations protecting their children's information.

Instructions: On a scale of 1 to 4, to what extent do you think you agree with the following statements? Please tick (v) the level of agreement that most closely reflects your opinion.

1 = *Strongly Disagree*
2 = *Disagree*
3 = *Agree*
4 = *Strongly Agree*

Read each statement carefully and place a tick (v) in the box corresponding to your level of agreement. Please ensure you respond to every statement and avoid selecting multiple responses for a single statement. If you are uncertain or neutral about a statement, please choose the option which most closely aligns with your feelings. Your honest responses are appreciated.

Statement	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Disagree 4
1. Sharenting may affect children's identity development.				
2. Sharenting may cause others to misunderstand children's identity.				
3. Sharenting may cause the risk of cyberbullying toward children.				
4. Sharenting may cause others to leave negative comments, curse, blame, and make fun of children.				
5. Sharenting may cause displeasure in family members.				
6. Sharenting may cause children to lose trust in their parents.				

7. Sharenting may cause cyber risks such as children identity theft.				
8. Sharenting may make children feel ashamed of others.				
9. Sharenting may cause physical risk by the disclosure of children's locations.				
10. Sharenting may cause physical risk as your children may be kidnapped or trapped [causing] bodily harm.				
11. Sharenting may cause a digital footprint [to be created].				
12. Sharenting may cause children to lose confident.				
13. Children have the right to demand parents to delete their personal data or pictures disclosures without permission.				
14. Children should be protected, especially about their personal information as they may be unaware of the risks and consequences of spreading information online.				
15. Thailand should have comprehensive laws and clear penalties on protecting the disclosure of children's information on social media.				

Impact of Knowledge Towards Attitudes and Perception of the LGBTQ Community Among Young Adults in Malaysia

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Abstract

The focus of this study was to examine existing knowledge of Malaysian youths towards LGBTQ related concepts and issues, and how this knowledge affected their perception towards the LGBTQ communities. A customised version of the California State University, Northridge, Survey of Attitudes toward LGBT issues was used to gather data on 264 participants' current attitudes and perception towards the LGBTQ community, and five interviewees were selected to understand the extent of their knowledge on concepts and issues about LGBTQ. Thematic analysis was used to assess qualitative data, with a subsequent cross analysis to examine the impact of their knowledge towards their attitudes and perception of the LGBTQ community. The findings of this study showed that there was a weak but positive change in attitudes and perception about LGBTQs, and that religion and cultural values remained the major factors contributing to participants' overall attitudes, perception, and viewpoints towards the LGBTQ community. There is huge potential to promote more accepting and inclusive attitudes towards the LGBTQ community by increasing knowledge and understanding of LGBTQ related issues and concepts.

Keywords: *LGBTQ, youth, religiosity, cultural values, Malaysia*

Introduction

Discourse surrounding those with Lesbian, Gay, Bisexual, Transgender and Queer (LGBTQ) identities remains taboo in Malaysia, due to social and legal condemnation despite the increasing visibility of LGBTQ communities and allies (Mokhtar et al., 2019). As a result, a large portion of Malaysian youths hold negative, biased, inaccurate, and harmful attitudes towards the LGBTQ communities (Asian-Pacific Resource & Research Centre for Women, 2020). The general disapproval towards the community has resulted in skewed understanding and stigmatisation that inhibits LGBTQ youths from expressing themselves. This particularly affects youths who identify as members of LGBTQ communities, as they often face difficulties when constructing and expressing their gender or sexual identities, for society generally forbids their existence (Jerome et al., 2021a).

Several recent studies on public attitudes, perception, and reception towards the LGBTQ communities in Malaysia have utilised different approaches and yielded results that provide new points of views that attempt to study factors affecting Malaysians' degree of acceptance, attitudes, and perception towards the LGBTQ communities. Despite the legal and social sanctions towards LGBTQ, recent studies on public attitudes and perception of LGBTQ have indicated an opposite trend where the level of sensitivity to LGBTQ in the country is gradually dissipating with an increasing number of LGBTQ individuals merging into the socio-political side of Malaysian society, both online and offline (Jerome et al., 2021a, b, c). For example, Jerome et al., (2021b) revealed that LGBT and non-LGBT individuals hold discrepant views on societal receptivity towards the LGBT phenomenon in Malaysia, citing individual differences and cultural influences as core influencing factors. This discrepancy is evidence that, while non-heteronormative behaviours are generally shunned by society and punishable by law, LGBTQ phenomenon is undeniably slowly being accepted by certain segments of society, due to "the increased visibility of and people's acceptance towards LGBT individuals" (Jerome et al., 2021b, p. 62). Furthermore, participants from the studies above each cited different factors that contributed to their attitudes and perception, among them were social media influences and exposure to LGBTQ individuals. Social media is often treated as a safe portal for emotional support, LGBTQ related information, general education, and exchange of experiences amongst LGTBQ youths (Craig et al., 2021; Tuah & Mazlan, 2020).

Studies in Western countries have shown a positive correlation between knowledge and perception (Gorrotxategi et al., 2020; Wahlen et al., 2020). People in Western settings presumably have better knowledge of LGBTQ issues and individuals because homosexuality has its footing in society. Conservative societies like Malaysia and its neighbouring countries present different challenges to the LGBTQ community. A study involving university students in Indonesia found they judged LGBT individuals as not normal, sinners, as candidates to be treated and embraced, and rightfully not be acknowledged in all fields (Octavia & Erlangga, 2022). On the other hand, Chandra et al. (2022) found that academic discipline, contact, empathy, religion, and university characteristics affected students' prejudices. Even though Thailand has a global reputation for LGBT+ tolerance, Newman et al. (2021) found that LGBT+ individuals in Thailand still faced many forms of social exclusion, discrimination, and stigma across multiple domains in the society. Meanwhile in Singapore, over half of the full-time students surveyed had experienced bullying/discrimination within their educational institutions, and that bullying or discrimination in educational institutions and workplaces was significantly associated with low WHO-5 scores (Toh et al., 2023). A study by Monika and Gogoi (2022) found that while most youth in Manipur (India) had average knowledge about the LGBTQ community, they were psychologically less flexible and had biases towards it. These studies showed that the level of acceptance, even among youths themselves, differs across neighbouring countries. Exposure or knowledge of LGBTQ does not lead to equal acceptance.

This research study explored the existing knowledge of Malaysian youths, regardless of gender identity or sexual orientation, towards LGBTQ related concepts and issues, and how their knowledge affected their perception towards the LGBTQ communities. Specifically, the objectives were to:
1. Determine the scope of understanding that Malaysian youths have towards LGBTQ related concepts and issues such as gender identity, intersectionality between race, religion and identity, transgenderism, discrimination and inequality towards LGBTQ members.
2. Investigate whether Malaysian youths' knowledge towards LGBTQ related concepts and issues play a role in shaping their perception and attitudes towards LGBTQ communities.

Literature Review

A key basis of attribution theory is that there are reasons that justify an individual's action, and people have reasons for developing their impressions of others. The theory can be used to dissect interpersonal relationships and determining people's stigmatising attitudes and discriminatory behaviours (Reyna et al., 2014). Several studies have suggested that attributions for sexual orientation are fundamental in driving public opinion about homosexuality and transgenderism (Haider-Markel & Joslyn, 2008; Reyna et al., 2014; Whitehead, 2014). A study by Reyna et al. (2014) proposed that besides religious orientation and political conservatism, attributions were more effective in predicting anti-gay attitudes.

From a social perspective, same-sex relations, gender nonconformity, transgenderism, and non-cisheteronormative behaviour are generally not accepted and frowned upon by Malaysian society (Tan et al., 2021). This phenomenon can be attributed to the fact that Malaysian culture centres largely around religion, especially Islam and Christianity, where homosexuality is often viewed negatively and chastised in religious teachings. As a Muslim majority country that generally holds conservative views on gender, sexuality issues and gender binary are often upheld and enacted without contestation, and this furthers the stigmatization of the LGBTQ communities in Malaysia (Luhur et al., 2020).

Mitchell and Fries (2016) stated that public sentiment towards homosexual behaviour and homosexuality is based on demographics of gender, race, age, religion, education level, and political party affiliation. A study by Collier et al. (2012) revealed that interpersonal contact with homosexuals can influence the attitudes toward homosexuals. This finding is in line with other Malaysian literature. For example, Ling and Ting (2022) reported that interpersonal contact with individuals who identified as LGBTQ was related to the acceptance and positive attitudes shown toward LGBTQ individuals.

Methods

This descriptive study involved 264 participants. Table 1 shows the participants' demographic details, specifically their age, identified sex or gender, and their identified sexuality. Young adults aged 18–27 were the majority (73.1%). Individuals of Chinese ethnicity contributed the most to this survey (47.5%), followed by Malays (36.2%).

Table 1 *Demographic Background of Participants (N = 264)*

Variable	Category	Frequency (*n*)	Percentage (%)
Age	18–27	193	73.1
	28–37	48	18.2
	38–47	23	8.7
Racial Background	Bumiputera	28	10.6
	Chinese	126	47.7
	Indian	14	5.3
	Malay	96	36.4
Sex Assigned at Birth	Female	102	38.6
	Male	160	60.6
Gender Identity	Androgynous	4	1.5
	Female/Woman	96	36.4
	Genderfluid	1	.4
	Male/Man	155	58.7
	Non-Binary	6	2.3
	Transsexual	1	.4
Sexual Orientation	Asexual	12	4.5
	Bisexual	18	6.8
	Gay	21	8.0
	Lesbian	4	1.5
	Pansexual	8	3.0
	Queer	4	1.5
	Questioning	13	4.9
	Heterosexual	181	68.6
Highest Level of Education	Bachelor's Degree	142	53.8
	Diploma	29	11.0
	Foundation	11	4.2
	Master's Degree	19	7.2
	PhD	7	2.7
	SPM	30	11.4
	STPM	12	4.5
Religion/Religious Beliefs	Agnostic	12	4.5
	Atheist	51	19.4
	Buddhist	55	20.8
	Christian	37	14.1
	Hindu	6	2.3
	Muslim	96	36.4
	Taoist	4	1.5
Political Ideology	Conservative	32	12.1
	Extremist	1	0.4
	Liberal	106	40.2
	Marxist Leninist	1	0.4
	Moderate	118	44.7
	Not sure	1	0.4
	Progressive	1	0.4
	Socialist	4	1.5

Male participants predominated (60.4%) and the remainder were females (38.5%). Heterosexuals dominated the sexual orientation found in the survey (68.6%), who were followed by gay participants (8.0%), bisexuals (6.8%), and asexuals (4.5%). The majority were degree holders (53.8%). Most were Muslims (36.4%), followed by Buddhists (20.8%), atheists (19.4%), and Christians (14.1%). In terms of political ideology, 44.7% considered themselves moderates, 40.2% liberals, while 12.1% labelled themselves as conservatives.

The data on current stance and attitudes towards the LGBTQ communities were collected using two instruments. An online questionnaire on attitudes towards LGBTQ issues was adapted from California State University, Northridge (CSUN) (n.d.). The questionnaire included basic demographic details such as age, racial background, gender assigned at birth, current gender, sexual orientation, the highest level of education, present education status, religion, and political ideology. The questionnaire covered 10 domains about beliefs, attitudes, and practices using a five-point Likert scale. The domains had further sub-questions, including questions about the religiosity of the participant and household; belief in traditional gender roles; level of comfortableness while interacting in person with people belonging to LGBTQ community; knowledge about LGBTQ people; about the origin of sexuality and gender; attitudes toward issues pertaining on LGBTQ people; changes our institute should do for LGBTQ people; their religion and its view on LGBTQ community; their families' and friends' view on LGBTQ; and the number of LGBTQ people among their family, friends, and workplace. The questionnaire data were tabulated and analysed using the Statistical Package for the Social Sciences (SPSS) 26.0.

Semi-structured interviews were conducted where participants were asked about their understanding of LGBTQ, their gender identity and sexual orientation, whether LGBTQ communities were accepted by Malaysian society, and the challenges faced by LGBTQ in Malaysia. The five interviewees were recruited from of the 264 participants based on their willingness to be interviewed (Table 2). The full purpose of the study was explained to the participants, followed by assurances of the participants' confidentiality regarding disclosed information, and an explanation that their involvements were voluntary, and they could withdraw from participation at any time. The audio of the interview was recorded once consent was obtained, for transcription and analysis purposes. The interviews were analysed based on Creswell's (2014) qualitative analysis procedures in examining interview data. Thematic analysis was employed to explore how acquired knowledge on LGBTQ related concepts and issues influenced their attitudes and perception towards the LGBTQ community, and the analysed data was cross-examined to explore any potential relationships or correlation that may have contributed to their attitudes and perception towards the LGBTQ community.

Table 2 *Summary of Participants' Demographic Background*

Code	Age	Sex/Gender	Sexuality	Political Ideology
Participant 1 (P1)	24	Male	Heterosexual	Liberal
Participant 2 (P2)	24	Female	Heterosexual	Liberal
Participant 3 (P3)	25	Female	Homosexual	Moderate
Participant 4 (P4)	28	Female	Heterosexual	Moderate
Participant 5 (P5)	29	Male	Homosexual	Liberal

Results and Discussion

The nine variables from the CSUN Attitudes Survey on LGBT issues survey were analysed for correlation and found to be significant, and so can be used to study the relationship between each variable. A summary of the correlation matrix for the nine variables is presented in Table 3.

Pearson's correlation analysis revealed that there were positive relationships between religiosity and the remaining variables except Gender and Sexuality (Positive relationships involved Gender Roles, Interaction with LGBTQ, General Views Towards LGBTQ, Civil Rights, Religious Acceptance,

LGBTQ Education, and Environment). Religiosity had strong positive relationship with Gender Roles (*r* = .532, *p* < .01), General Views towards LGBTQ (*r* = .579, *p* < .01), and Civil Rights (*r* = .555, *p* < .01). This statistic shows that religiosity was positively related to conservatism or conservative viewpoints and attitudes, which was in line with the works of Jerome et al. (2021a & b). In these investigations, it was concluded that religion and cultural norms contributed significantly towards public views expressed regarding acceptance or rejection of LGBTQ in Malaysia. The participants in these two studies were also Malaysians. Taken together, these findings suggest that in Malaysia, where Islam is the official religion, religiosity shapes views towards LGBTQ.

Table 3 *Summary for the Matrix for Correlation of the Nine Variables* (*N = 264*)

Variable	R	GR	I	GV	GS	CR	RA	LE	EN
R	1								
GR	.532**	1							
I	.399**	.569**	1						
GV	.579**	.810**	.686**	1					
GS	.012	.075	.012	.144*	1				
CR	.555**	.777**	.704**	.838**	.127*	1			
RA	.446**	.344**	.332**	.401**	-.021	.358**	1		
LE	.212**	.438**	.506**	.487**	.088	.581**	.109	1	
EN	.332**	.349**	.328**	.412**	.011	.330**	.485**	.155**	1

Code. R = Religiosity; GR = Gender Roles; I = Interaction with LGBTQ; GV = General Views towards LGBTQ; GS = Gender and Sexuality; CR = Civil Rights; RA = Religious Acceptance; LE = LGBTQ Education; EN = Environment; * significant at the .05 level (2-tailed), ** significant at the .01 level (2-tailed).

Gender and Sexuality revealed weak positive relationships with Religiosity (*r* = .012, *p* < .01), Gender Roles (*r* = .075, *p* < .01), Interaction with LGBTQ (*r* = -.12, *p* < .01), General Views towards LGBTQ (*r* = .144, *p* < .05), Civil Rights (*r* = .127, *p* < .05), LGBTQ Education (*r* = .088, *p* < .01), and Environment (*r* = .011, *p* < .01). This shows that the participants' views towards Gender and Sexuality contributed minimally towards their attitudes towards LGBTQ communities. As the subsections of the questionnaire contained items on opinions about gender and sexuality, their response on the Likert scale does not necessarily correspond to their political ideology, but instead reflect their own perception and understanding towards the topic. Particularly, their political ideology may not contribute to their understanding towards gender and sexuality. This can be explained with the idea that their own personal understanding and knowledge contributed minimally towards their attitudes and perception towards the LGBTQ community. The result confirms that religion and conservatism had more influence on the acceptance or rejection of LGBTQ in Malaysia compared to personal understanding and knowledge.

Understanding of LGBTQ, Gender Identity and Sexual Orientation
In this section, the interview results on the participants' understanding of LGBTQ, gender identity, and sexual orientation are presented. All the participants generally had a firm grasp of what LGBTQ means. One notable aspect from the interview was that all responses reflected a neutral and accepting attitude towards the LGBTQ community, and their perspective acknowledged and included the support for equality, inclusivity and respect for all individuals regardless of sexual orientation or gender identity. This is indicated by the responses of two participants as follows: "For me I think that LGBTQ is a group of people that created a society that is different from being straight. I mean for me, there's nothing wrong, just that it's a community that is not straight" (P1)

and "To me, LGBTQ is a group of people that identifies outside of the sexuality of the social norm" (P5).

Both Participant 1 and Participant 5 had a neutral stance towards the community, acknowledging it as different from the heterosexual norm. However, Participant 2 highlighted that not everyone fitted within the traditional understanding of sexual orientation and gender identity, and referred to LGBTQ as "these kinds of people." The full statement was as follows: "That's about my understanding about the LGBTQ, it's not something people accept as a social norm since the beginning, so that's why this community exist, to specifically cater to these kinds of people with these kinds of sexual orientation."

Participant 2 suggested that the LGBTQ community exists because non-cisheteronormality is something that is out of the social norm, hence a specific support group is needed as a response to societal rejection, and the community serves as a safe and supportive space for them.

Next, gender identity refers to an individual's sense of their own gender, which may or may not align with the sex they were assigned at birth as indicated by Participant 2.

> So, for gender identity, from my understanding it's something that, the sex you refer yourself to, and it does not necessarily have to be the same as your assigned sex. Like if you're born as a female, but you prefer yourself as a male because you feel like you lean more towards the masculine side, or like some people they're biologically a male, but in the end, they prefer themselves as a female.

It is widely considered as a personal and subjective experience and can vary widely among individuals, and this idea was brought up by Participant 1 as follows: "And sexual orientation is how do you identify your own gender towards people, like how you dress, how you act, or how you perceive yourself." Participant 5 commented, "Gender identity is the gender that you personally identify with …. As for sexual orientation, I think it's about the gender you are attracted to." This participant was able to tell the difference between gender identity and sexual orientation. Sexual orientation, on the other hand, refers to a person's emotional, romantic, and/or sexual attraction to others. It is not necessarily linked to how someone presents themselves or perceives themselves, but rather to whom they are attracted (HRC Foundation, 2022).

All participants interviewed were able to distinguish between gender identity and sexual orientation and provide brief explanations for both concepts, except for Participant 1 where there were partial inaccuracies in describing sexual orientation.

Opinions on Acceptance of LGBTQ in Malaysian Society

The general consensus was that while the community had limited acceptance across the country and was heavily stigmatised, there were signs of progress and change. Participant 1 stated that the change was small ("… to some extent, yes. Some people do think that LGBTQ can be accepted in the society now but only to certain extent"). Participant 3 highlighted the ongoing challenges discrimination faced by the LGBTQ community in Malaysia, using the lesbian couple caught in Terengganu as the example: "I would say no, it is not accepted by the society. …. Generally, many things are banned, especially LGBTQ, and there were many cases about the LGBTQ, like the lesbian couple who were caught in Terengganu and received punishment."

Participant 4 highlighted the generational divide in the acceptance of the LGBTQ community in Malaysia ("Not really. Actually, for the younger generation, I think it's accepted but for the older generation would be difficult"). Younger generations tend to be more accepting and open-minded compared to older generations, who may hold more traditional views and beliefs. This is a common trend in many societies around the world, where younger generations tend to be more accepting of diversity and are more likely to support LGBTQ rights. Participant 2 and Participant 5, in statements recorded below, expressed similar notions that acceptance of LGBTQ varies depending on the area and location. Participant 2 observed that Sarawak generally was more accepting of LGBTQ community as compared to Peninsular Malaysia. The attribution of the differences of acceptance between locations remain an area to be explored.

I can feel that there is a big difference in the level of so called "acceptance" between these two places. I would say in Peninsular; they don't really accept or even tolerate LGBTQ as compared to in Sarawak, from what I see. (P2)

Personally, I would say yes and no. If we are talking about Malaysian society at large, it is still not accepted … However, depending which area you live in, LGBTQ people can actually exist in peace within the heteronormative society in Malaysia. (P5)

Opinions on Challenges Faced by LGBTQ in Malaysian Society

Generally, all interviewees (except Participant 2) agreed that legality was the main challenge confronting the LGBTQ community. Participant 4 said of LGBTQ individuals:. "Yes, I feel like there are no LGBTQ rights in Malaysia …. There is no way to talk about LGBTQ stuff freely, and it is still difficult for that discussion to happen."

Participant 5 highlighted, in the statement given below, that the dominance of religion in Malaysia creates a challenging environment for the LGBTQ community and that it is often unable to express itself freely and be what it wishes to be. The strict societal norms and expectations in a conservative country, combined with the lack of legal protections, can make it difficult for LGBTQ individuals to fully participate in society, both in the workforce and in their personal lives. Participant 5 also brought up themes of violence, bullying and hate crimes, citing the incident at Rex KL as evidence that LGBTQ people are still facing that challenge. According to Participant 5, LGBTQ individuals find it hard to access essential services and rights, such as adoption, marriage, and healthcare, which are significant challenges faced by the community.

> Being in a country where religion trumps all others, it can be difficult for LGBTQ people to express themselves and be who they are freely. …. Even in workforce, they will have to keep their gender identity and expression "under control" if it doesn't conform to the societal norm, otherwise they risk being discriminated or treated unfairly. Also, the recent raids in Rex KL, with the usual harassment, bullying, violence and hate crimes against the LGBTQ is still a problem in many areas in Malaysia. And there is still no legal protection and recognition, so LGBTQ people can have trouble accessing adoption, marriage or even healthcare.

Participant 2 saw some hope in the situation, as indicated in the quote below. Participant 2 suggested that while there is limited acceptance of the LGBTQ community in Malaysian society, the level of hostility towards this community had decreased. Thus, while a significant portion of society may still not accept homosexuality, they are less likely to actively harm or discriminate against LGBTQ individuals.

> In terms of the society's acceptance level, I think our society are slowly accepting this community, like they don't have hostility towards them.… So, I think on a societal level, they don't face much challenges, like, they are still people who are against LGBTQ but a large part of the society is not against the community, sort of like they don't accept, but they don't do anything to harm them also.

However, it is important to note that significant challenges still remain. Participant 3 said "Yes, of course there are a lot of challenges. …. You might be discriminated against, and they might isolate you, but it depends on the environment as well." This statement recognised that LGBTQ individuals suffer from isolation, which can be imposed by people around them. The situation for the LGBTQ community in Malaysia is far from ideal. The limited acceptance, combined with the ongoing criminalization of homosexuality, the lack of protections, and the widespread stigma, continue to create significant challenges and obstacles for the LGBTQ community.

The statements from all five of the participants express similar notions that LGBTQ community is not accepted by the society, government, religion and country, and that poses as a big challenge for the community. However, the depth of understanding and perspective that the interviewees had on the topic of LGBTQ societal challenges differed. Participants 1, 3, 4, and 5 believed that there are ongoing legal and rights challenges for the community, while Participant 2 felt that there was an indication of acceptance that had eased the challenges faced by the LGBTQ community.

Cross Analysis between Questionnaire Results and Thematic Analysis

The cross analysis between questionnaire results (Table 3) and thematic analysis can provide a deeper understanding of knowledge and perception towards the LGBTQ community. In Table 4, the shaded columns represent participant's scores on Religiosity, Religious Acceptance, and Environment. This represents their religious values, contact with religious establishments, and their environment's acceptance of LGBTQ people.

Table 4 *Participants' Survey Result, Tabulated With Mean Values*

Participant: Parameter	R	GR	I	GV	GS	CR	RA	LE	EN
R1: Religiosity	4.33	2.00	1.00	2.00	2.60	1.33	4.33	1.00	4.00
R2: Religious Acceptance and Environment	3.33	2.00	1.00	1.00	2.20	1.33	2.33	1.00	2.50
R3: General Views towards LGBTQ	3.00	3.20	1.00	2.00	2.80	1.60	3.33	1.00	3.00
R4: Civil Rights of LGBTQ	2.00	2.80	1.00	1.33	2.20	1.33	3.33	1.80	3.00
R5: LGBTQ Education	1.67	1.20	1.00	1.00	2.40	1.00	4.67	1.00	3.00

Code. R = Religiosity; GR = Gender Roles; I = Interaction with LGBTQ; GV = General Views towards LGBTQ; GS = Gender and Sexuality; CR = Civil Rights; RA = Religious Acceptance; LE = LGBTQ Education; EN = Environment.

From the findings, it can be seen that the variables of Religiosity, Religious Acceptance, and Environment have higher overall means compared to other variables. Interaction with LGBTQs had the lowest mean, which indicates that all five participants were comfortable interacting with members of the LGBTQ community. For the variable of General Views towards LGBTQ, Civil Rights of LGBTQ, and LGBTQ Education, they also displayed mean values less than three, which indicates a liberal leaning. This shows that all five participants had experiences and contact with religion, but evidently it contributed minimally to their attitudes towards the LGBTQ community. This finding is in contrast with the correlation analysis, a finding possibly due to all five participants having moderate to liberal political ideology, and two of the five participants being members of the LGBTQ community.

From both the quantitative and qualitative findings, it can be concluded that the participants' knowledge of LGBTQ related issues and concepts does play a role in shaping perception and attitudes towards the LGBTQ communities. Within the context of these five participants, religious background did not significantly impact their attitudes and perceptions towards the LGBTQ community. Instead, the knowledge and understanding of LGBTQ related issues and concepts played a more significant role in forming their attitudes and perceptions towards the LGBTQ community. The conclusion is based on a lack of correlation between religious background, attitudes and perceptions towards the LGBTQ community, as well as the additional qualitative findings from the study.

However, it should be noted that this conclusion is limited by the small sample size (*N* = 5) and may not necessarily be representative of the larger population. Further research with a larger and more diverse sample is needed to establish a stronger correlation and to support the findings. Additionally, other factors beyond knowledge and religious background may also influence attitudes and perceptions towards the LGBTQ community and should be considered in future studies.

The extent of knowledge, observations and perception that Malaysian youths currently hold towards issues and concepts concerning the LGBTQ communities in Malaysia can be described as one with insufficient depth. Nonetheless, all interviewees exhibited a firm understanding of related LGBTQ concepts, such as sexual orientation and gender identity, and what LGBTQ is. However, they remained partially uninformed on the ongoing challenges that the community faces in Malaysian

society. This lack of depth in their knowledge and understanding may contribute to limited empathy and support for the community. Furthermore, the quantitative part of this study revealed that on a larger scale, there is still a strong correlation between religiosity and attitudes and perception towards the LGBTQ, which is in alignment with past works along similar lines (Manalastas et al., 2017; Tan et al., 2021). This suggests that religion continues to play a significant role in shaping attitudes and perceptions towards the LGBTQ community in Malaysia, even among the younger generation. This correlation highlights the need for religious leaders and institutions to engage in open and inclusive discussions about LGBTQ issues to promote greater understanding and acceptance of the community.

The findings of the study (both quantitative and qualitative) showed that acquired knowledge plays a role in shaping attitudes towards the LGBTQ community, which supports and validates the second research question. The analysis of questionnaire results indicated that a significant proportion of participants held negative attitudes towards the LGBTQ community, while thematic analysis of individual stories and experiences can help to shed light on the reasons behind these attitudes. This phenomenon is in line with the works of Jerome et al. (2021a & b), where it was found discrepant views exist towards the LGBTQ community that can be influenced by a variety of external and internal factors, such as interaction with LGBTQ people, intrinsic religiosity, gender roles beliefs, or cultural values. Considering the results of past literature on the topic of attitudes and perception towards LGBTQ, it can be said that the lack of proper education on the diversity of sexuality, gender, and LGBTQ contributed to current attitudes and perception towards the LGBTQ communities (Tan et al., 2021).

Conclusions

The study shows the importance of education and exposure to LGBTQ issues in shaping attitudes and perceptions towards the LGBTQ community. When knowledge and understanding of LGBTQ related issues and concepts increase, it will promote more accepting and inclusive attitudes towards the LGBTQ community. This is particularly important in societies where there may be limited exposure to LGBTQ issues and where cultural norms may be hostile towards the LGBTQ community. By promoting greater education and understanding of LGBTQ issues, it may be possible to reduce discrimination and marginalization and to create a more inclusive and supportive society for all individuals, regardless of sexual orientation or gender identity.

The findings of this study have the potential to inform the development of education and media initiatives that promote greater understanding and acceptance of the LGBTQ community. By exploring the role of acquired knowledge in shaping attitudes, this study will contribute to our broader understanding of how we can promote social justice and equality for all individuals, regardless of their sexual orientation or gender identity. In conclusion, the findings of this study highlighted the need for continued efforts to promote greater understanding, empathy, and support for the LGBTQ community in Malaysia. By increasing knowledge and awareness about LGBTQ issues and concepts, it is possible to break down barriers and promote greater acceptance of the community. However, a limitation of this study is that the level of knowledge and perception held by the five interviewees surveyed may not be representative of all Malaysian youths. Further studies need to be conducted on the views of religious leaders to gain a better understanding of the personal and religious stance of various religions on LGBTQ in Malaysia.

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The Relationship Between Event Quality Perception, Destination Image, and Behavioral Intention—A Case Study From Marathon Running Events

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Abstract

During the past decade marathon running events have grown in popularity and numbers world-wide and also in Thailand, but event impacts have not been widely studied. Previous research efforts have focused on mega and major events, which were greater in scale and yielded extremely high levels of media coverage and impacts compared to small-scale events, such as marathon running events. This study's aim was to examine the relationship between event quality, satisfaction, and destination image, and also how the destination image influenced the behavioral intentions of active sport tourists. Research candidates chosen were active participants in major marathon events in Thailand. The results showed a positive relationship between each factor and implied that (a) high service quality running events increased sport tourist satisfaction, (b) satisfaction led to a positive destination image, and (c) perceived positive destination image was related to behavioral intentions. This study provided empirical evidence of how small-scale events impacted destination image, and the destination image created by small-scale events impacted behavioral intentions of active sport tourists. Some limitations existed and future research efforts involving greater numbers of participants or using different data analysis methods are highly recommended, as this may increase the findings' generalizability and predictability.

Keywords: *Marathons, service quality, destination image, behavioral intentions*

Introduction

Sport tourism is on the rise. International and national mega and major sporting events, such as Olympic Games and the FIFA World Cup, attract large numbers of sport tourists to the host country and generate diverse economic and social impacts (The World Tourism Organization, 2023). Nevertheless, hosting those large-scale events can be extremely expensive and is not suitable for every country or city. It has been reported that in some cases, mega or major sporting events have brought unfavorable effects to the cities hosting the events (Higham, 1999; Gibson et al., 2012). Therefore, small-scale events hosted regularly or on a one-off basis by local communities in different forms are increasing in attractiveness, as these events require less public funding and are easier to manage or host. Many events employ existing infrastructure, yet are able to generate sustainable benefits for local communities (Higham, 1999).

Mass-participation endurance sporting events, especially marathon running or road-race running events are becoming more popular. Especially in Thailand, the number of organized running events has increased significantly during the peak of the running boom, before facing a slow-down due to the COVID-19 situation (Van Bottenberg et al., 2010; Scheerder et al., 2015). Road running events covering varying distances from fun runs (5 km) to full-marathons (42.195 km) are hosted in many provinces and local communities. They attract both active and passive sport tourists: that is, those who actively participate, as well as those who enjoy watching the event or accompany the participants.

Previous researchers have given special attentions to the positive socio-economic impacts of large-scale events (Burgan & Mules, 2001; Chalip, 2004; Kotze, 2006; Brewer & Freeman, 2015). Some research has focused primarily on the destination image created by the sporting event, and it has been concluded that the destination image perceived by sport tourists could have some influence on their behavior (Kaplanidou & Vogt, 2007; Moon et al., 2011; Kaplanidou et al., 2012, Hallmann et al., 2013). But there is a limited number of studies about the destination image and the behavior of active sport tourists, especially in small-scale events such as mass running events.

Thus in this study, the aim was to explore the interrelationship between event quality that resulted from tangible and intangible aspects such as event characteristics, infrastructure and services provided along the race course, the perceived destination image, and the subsequent behavior of sport tourists to visit and revisit the destination and marathon running event. Data were collected from runners who participated in the Bangsean42 Chonburi Marathon, Buriram Marathon, and ChomBeung Marathon by using convenience sampling. The Bangsean42 Chonburi Marathon has been awarded as an Elite Label Road Race, and the Buriram Marathon as a Gold Label Road Race by the World Athletics Organization, which has designated these events as some of the leading road races in the world. The Chom Beung Marathon, on the other hand, is one the oldest and most famous running events recognized by runners across Thailand. This event has been held for 36 consecutive years by the local community, namely the Chom Beung District. The Bangsean42 Chonburi Marathon, Buriram Marathon, and Chom Beung Marathon, together with three other marathon events, have been nominated as Thailand Marathon Majors.

Literature Review
Event
The event industry is fast developing. It has great impacts on businesses and those who are involved. Events differ in term of size and significance, and are classified into mega events and major events. They also differ in term of the host, the purpose, the frequency of hosting the event, as well as the scale of the event itself (Getz, 2007). Large-scale events (mega events) and hallmark or major events attract great numbers of tourists, reach immense media audiences, and generate massive economic impacts. In contrast, the small-scale events are smaller in size and media coverage. They are normally held on a regular basis or as one-off sporting events and require less public funding or investment. This kind of event is more manageable in terms of crowding and congestion. Thus, some scholars have suggested that small-scale sports events generate a more positive and sustainable effect on tourism development for communities (Higham, 1999; Gratton et al., 2000).

Marathon running events, due to their scale and level of significance, can be seen as small-scale events. They are normally held and employ the existing infrastructure within the community. The number of city marathon or mass running events, which allow elite and non-elite runners to participate on the same ground, has risen spectacularly during the last few decades as a consequence of the running boom and the desire of individuals to enjoy healthier lifestyles (Robb, 2016).

Service Quality
Service quality is the overall impression of a service delivered compared to expectations (Bitner & Hubbert, 1994). Service quality, as suggested by the SERVQUAL model, can be measured by five different components, namely, tangible aspects, reliability, assurance, empathy, and responsiveness (Parasuraman et al., 1985). The tangibility aspect of an event refers to its overall appearance, which is a combination of physical facilities, infrastructure, equipment, communication materials, as well as service personnel or event staff. The reliability of the event refers to the ability to conduct an event as dependably and as accurately as promised. The assurance component is the knowledge and ability of the event personnel or employees to convey trust and confidence, while the empathy aspect refers to how customers are cared for and paid attention to. Lastly, the responsiveness element refers to the willingness to help of event personnel, and the speed at which services are provided as requested (Parasuraman et al., 1985; Moon et al., 2011).

In the context of mass running events, the tangible aspects of event quality may include those physical environments such as running terrains, climates, infrastructure, equipment used to stage the event, safety and services provided during the races, as well as overall ambience, themes, and gimmicks of the mass running event. The other components such as reliability, assurance, empathy, and responsiveness depend heavily on the event organizers and their crews' planning skills and ability to execute the mass running event. The level of experience along these lines will determine

the ability of the organizers to deliver on promises, maintain event standards, and respond quickly to participants' questions or resolve problematic issues.

Destination Image

Destination image has been widely studied and mentioned in tourism and event marketing research, as it plays an important role in making decisions on what to purchase or where to visit. Crompton (1979) defined destination image as the sum of beliefs, ideas, and impressions that a person has of a destination. Three components, cognitive, affective, and conative, contribute to destination image and have a hierarchical relationship (Gartner, 1993). Generally, the cognitive image refers to the knowledge of and beliefs of tourists regarding a place, such as the service quality, physiography, facilities, visitor management, hospitality, and value for money. The affective image represents feelings or emotions in response to the features of the destination, such as elements that are exciting, cheerful, fun, friendly, relaxing, and pleasant. And the conative image is known as tourists' behavioral intentions, whether they plan to revisit or take part in the same event in the future (Baloglu & Bringberg, 1997; Baloglu & McCleary, 1999).

Tourism literature suggests that tourists normally form cognitive images based on development of their affective images. Meanwhile, cognitive and affective destination images contribute in a major way to the overall image. Lastly, the overall image of the destination may impact a tourist's behavioral outcomes or the conative intention. It may predict the likelihood that they will participate in the event again, revisit the same destination, and engage in word-of mouth recommendations of the place or event (Baker & Crompton 2000; Dolnicar & Grün 2013; Kaplanidou & Vogt, 2007, Qu et al., 2011).

In this study, the destination image was taken to represent the overall perception of sport tourists about the place, area, or community where the mass running event is hosted. Previous research by Chalip et al. (2003) revealed that a well-managed sporting event helps create and enhance destination image, and an enhanced destination image will positively influence the conative intentions of active sport tourists. In this study, it was hypothesized that a running event organized with high service quality and safety standards may contribute to the creation of a positive destination image, and have some influence on the conative or behavioral intentions of event participants or active sport tourists.

Satisfaction

Satisfaction is the judgement customers make after they consume or experience products or services. In other words, what is the level of their like or dislike? Satisfaction has remained the key focus in marketing and tourism research because it plays an important role in achieving organizational goals, such as increasing the brand reputation, market share, or profitability level.

Existing literature has revealed a relationship between destination image and tourist satisfaction (Bigné et al., 2001). Tourists who express a positive destination image tend to demonstrate a higher level of satisfaction. On the other hand, satisfaction is related to service quality. So normally, when the service quality complies with expectations, tourists will be satisfied (Caruana et al., 2000). Thus, satisfaction is viewed in recent studies as a strong predictor of post-purchase or post-trip intention. It may influence the behavioral intention of a tourist, or increase the likelihood to repurchase a service or revisit a destination (Chen & Chen, 2010; Chi & Qu, 2018, Hallmann et al., 2013).

The main objective of this study was to investigate the interrelationship between the perceived event quality of a small-scale event, the destination image created by such an event, and how these factors impact the behavioral intention of the active sport tourists or those who actively participated in the marathon running event.

Methodology

A quantitative research method was chosen to assess the perception of active sport tourists towards the event quality, the destination image, and their behavioral intentions. Data were

collected by using online self-administered questionnaires. Thai runners who participated in the Bangsean42 Chonburi Marathon, Chom Beung Marathon, or Buriram Marathon were asked to complete the questionnaires, as this could ensure that the participants were active sport tourists who had direct experience with the marathon running events. The URL links to access the questionnaires were posted in the online running community pages in Facebook. Convenience sampling was applied. The questionnaire was constructed in Thai language and consisted of three parts. The first part contained questions about participant demographic details, asking general questions about age, gender, education, and income, as well as years of experience in running. In the second part, participants were asked to assess nine components related to service quality and event characteristics, and also eight components of destination image. The third part contained questions about behavioral intentions. Participants were asked whether they would participate in this marathon running event again, revisit the place or province as a tourist, and/or recommend the event as well as the destination to others. A 5-point Likert scale was used that ranged from *Strongly Disagree* to *Strongly Agree*.

The reliability test returned a Cronbach's alpha of .973. Descriptive analysis, factor analysis, and correlation analysis were used to investigate the data and test interrelationships among the factors.

Findings and Discussion

Data were collected from 322 respondents who participated in either the Bangsean42 Chonburi Marathon, Chom Beung Marathon, or Buriram Marathon. Participants were Thais aged between 30 to 50 years of age, 56.5% were male, 39.4% were female, and 4% did not want to specify their gender. They were in the middle to high income brackets. The largest proportion (27%) had incomes between 30,001 to 50,000 Baht, 25.8% earned 10,001–30,000 Baht, and 20% earned over 70,000 Baht. In terms of occupation, 46.6% were company employees, 16.8% were government officers, 14.6% were freelancers, and 12.7% ran their own businesses. A total of 32.3% were married and had kids, 11.8% were married but did not have children, while 21.7% were in a relationship. The majority of respondents (69.9%) attend 1–10 running events in a year, and 18.6% attended 10–20 running events. This demographic information was aligned with published information regarding the previous running boom. In the second wave of the running boom, running was a popular leisure activity among middle-aged and middle-class individuals. Runners joining in the second wave were enjoying an active and healthier lifestyle. Most of them were employed and had families (Scheerder et al., 2015; Van Bottenburg et al., 2010).

Roughly 32% of participants revealed that they would not have visited the destination or the province if the running event was not held there, while 32% said they would have definitively visited the destination. And 35% were uncertain, about whether they would have visited the destination or not. Additionally, 47% of the participants were concerned about the reputation of the event. They indicated they were more likely to participate in a marathon running event that was acknowledged in the World Athletics Label Road Races, or had a route that was certified by the Association of International Marathons and Distance Races, while 33% revealed that such considerations played no role in their decision making. A sizeable number of 19.6% were uncertain as to whether international recognition was important in their decision making.

Event Service Quality and Satisfaction

Satisfaction reflects the post-experience feeling of the customer toward a product. Generally, customers will be satisfied if a product or service meets their expectations. The respondents, or the running participants, were asked to assess the following aspects of the service quality of the mass running events: Whether organizers provided services as stated in advertising, gave quick responses to questions and requests for assistance, provided appropriate safety for running participants, gave sufficient information, arranged good communication channels, as well as whether the mass running event was trustworthy. Additionally, running participants were asked to assess event characteristics such as event theme, venue, date, time, and their overall satisfaction with the event. Responses to

questions were recorded on a 5 Point-Likert scale ranging from *Strongly Disagree* to *Strongly Agree*. The mean score, standard deviation, and interpretation for each item are shown in Table 1. It can be observed that participants held a high regard for the majority of items on which they were asked to comment.

Table 1 *Services Quality, Event Characteristics and Satisfaction (N = 322)*

Items	Mean	Std. Deviation	Interpretation
1. Service	4.18	0.877	Agree
2. Responses	3.99	0.905	Agree
3. Safety	4.19	0.842	Agree
4. Information	4.24	0.822	Strongly Agree
5. Trustworthy	4.34	0.813	Strongly Agree
6. Communication Channel	4.23	0.863	Strongly Agree
7. Theme	4.23	0.823	Strongly Agree
8. Venue	4.24	0.874	Strongly Agree
9. Date	4.25	0.837	Strongly Agree
10. Overall Satisfaction	4.23	0.810	Highly Satisfied

Factor analysis was conducted to reduce the large number of variables into a smaller numbers of factors. Application of the Kaiser-Meyer-Olkin test returned a value of .945, indicating the suitability of the data for factor analysis. The correlation between the new variable "Event Service and Characteristics" and "Overall Satisfaction" was tested. The result obtained from the bivariate correlation analysis in Table 2 showed that there was a positive linear relationship between Event Service and Characteristics and Overall Satisfaction. This implied that better event service quality and characteristics played an important role in driving participants' satisfaction to higher levels.

Table 2 *Correlation between Event Service and Characteristic and Overall Satisfaction*

Feature	N	Mean	SD	Event Service and Characteristics
Overall Satisfaction	322	4.23	0.810	.783**

** Correlation is significant at the .01 level (2-tailed).

Satisfaction and Destination Image

In this section, the destination image perceived by active sport tourists, in this case the running participants of the marathon running events, was assessed. The destination image measurement items included the ease of transportation, ease of communication, hospitality shown, tourist attractions available, and the presence of exciting, pleasant, friendly, and interesting elements. These were derived from previous studies. The mean scores, standard deviations, and the interpretations suggested are shown in Table 3. It is evident that items with means closest to 3.50 were those that participants thought were in the need of most improvement.

Table 3 *Perceived Destination Image (N = 322)*

Items	Mean	SD	Interpretation
1. Ease of Transportation	3.77	1.000	Agree
2. Ease of Communication	3.98	0.863	Agree
3. Hospitality	4.13	0.892	Agree
4. Tourist Attractions	3.84	0.913	Agree
5. Exciting	3.88	0.858	Agree
6. Pleasant	3.87	0.868	Agree
7. Friendly	4.14	0.867	Agree
8. Interesting	4.01	0.809	Agree

The destination image items were extracted. The Kaiser-Meyer-Olkin test of the perceived destination image item was .926, again indicating the suitability of the data for factor analysis. The relationship of satisfaction and how it impacted the perception of destination image was examined. The result in Table 4 shows that a positive relationship existed between satisfaction and destination image. This is aligned with previous studies, which indicated that tourists holding a positive destination image are more likely to show higher levels of satisfaction (Chi & Qu, 2008; Moon et al., 2011; Jeong & Kim, 2019).

Table 4 *Correlation between Overall Satisfaction and Destination Image*

Feature	N	Mean	SD	Destination Image
Overall Satisfaction	322	4.23	0.810	.761**

** Correlation is significant at the .01 level (2-tailed).

Destination Image and Behavioral Intentions

In this section, respondents were asked whether they would recommend the marathon running events they participated in, recommend the province hosting the events, as well as whether they intended to join the marathon running event in the following year or visit this province as a tourist. Analysis of the relationship of the behavioral descriptive statistic to destination image and behavioral intentions was undertaken. The behavioral intention of active tourists and the correlation analysis data are shown in Tables 5 and 6.

Table 5 *Behavioral Intentions of Active Tourists (N = 322)*

Items	Mean	SD	Interpretation
Recommend the Event	4.23	0.804	Strongly Agree
Recommend the Destination	4.20	0.869	Strongly Agree
Re-Participate in the Event	4.19	0.919	Agree
Revisit the Destination	3.72	1.016	Agree

The active sport tourists strongly agreed that they would recommend the events and destinations to other people, and they agreed to participate again in the events as a runner and also revisit the destinations as a tourist. Next, the relationship between perceived destination image and behavioral intentions was examined.

Table 6 *Correlation between Destination Image and Behavioral Intentions*

Items	Destination Image
Destination Image	1.00
Recommend the Event	.754**
Recommend the Destination	.728**
Re-Participate in the Event	.695**
Revisit the Destination	.601**

** Correlation is significant at the .01 level (2-tailed).

The results obtained from the bivariate correlation analysis showed that a positive relationship existed between perceived destination image and the intention to recommend the event, the intention to recommend the destination, the intention to re-participate in the event, and also the intention to revisit the destination. Thus, it can be implied that active sport tourists who perceived a positive destination image were more likely to spread positive word-of-mouth, that is, talk positively about or recommend the marathon running event that they had participated in, and also promote the destination where the event was hosted. Additionally, they were more likely to participate in the marathon running event again, and return as tourists traveling in that province or destination. The results obtained aligned with previous studies which indicated that destination image positively

impacted satisfaction, word of mouth, and revisit intentions (Chi & Qu, 2008; Kaplanidou et al., 2012; Hallmann et al., 2013; Jeong & Kim, 2020).

Conclusion and Implications

In this study, the relationships between service quality, satisfaction, and destination image were examined, and also the behavioral intentions of active sport tourists of small-scale events. Data on destination image were collected from running participants in three small marathon running events that have become increasingly popular during the past few decades. The data collected extended the findings of previous studies and indicated that the small-scale events, such as marathon running events, could also create sport tourist satisfaction when the service quality and event characteristics complied with runner expectations. Furthermore, the satisfaction of active sport tourists was related to how they perceived the destination image, and a positive destination image was related to behavioral intentions in its many forms. This means that active sport tourists who perceived a positive destination image were likely to recommend the event and the destination, and they were more likely to come back to re-participate in the event and revisit the destination as tourists.

Thus, the data collected in this study implied that a small-scale event, as in a marathon running event, could generate or enhance a destination's positive image. Instead of focusing on big events, policy makers or communities could also organize small-scale events, since the organization of such events requires less investment and is more manageable. Many running events rely on existing infrastructure, while additional equipment can be set up for temporary usage. Additionally, the running events can be organized more often on a recurring basis. Such events can contribute positively to the destination image and bring sustainable benefits to the community.

Nevertheless, this study was not without limitations. The data were collected from 322 participants in three marathon running events in Thailand. Hence, it may not be possible to generalize to other cases and circumstances, or different types of small-scale events. Moreover, in this investigation a limited number of associations were examined, namely, the correlation between service quality and satisfaction, satisfaction and destination image, and destination image and behavioral intentions. Future research involving greater numbers of participants would provide a stronger basis for generalizability. Adoption of other analytical methods is also highly recommended, as this could lead to a better understanding of the interrelationships between service quality, satisfaction, destination image, and behavioral intentions.

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A Correlational Study on the Relationship Between Individual Religious Practices and Life Satisfaction, Depression, and Anxiety Among Seventh-day Adventists Aged 18 to 40 in Singapore

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Abstract

Religion may have an important role in society, but for many it has lost its relevance. Therefore, there is a moving away from religious organizations and practices. The involvement of people with religion and its practices has shifted significantly particularly among the younger population in society. In this study the relationship was investigated between individual religious practices, mental health, and life satisfaction. Forty one Seventh-day Adventists, aged between 18 and 40, from Singapore participated in the study. Correlational analysis was used to investigate the relationship between frequencies of Sabbath School study, personal prayer, and devotional time with life satisfaction, depression, and anxiety. The results obtained indicated that the relationships between life satisfaction, depression, and anxiety were statistically significant. However, none of the individual religious practices had a statistically significant relationship with life satisfaction, depression, and anxiety. The findings of this research provide data that will enrich the knowledge on the importance of religion among the younger Seventh-day Adventist population.

Introduction

Religion is important for many people in a number of ways. Throughout history, religion has shaped the direction of human civilization in ways that could not have been accomplished by other forces. For most generations in the past, religion has been the source of mental strength and often has been used to solve problems. Religious values were often the underlying motive in shaping worldviews adopted by individuals and the ensuing social interactions. However, recent reports from the United States (Wilkins-Laflamme, 2022) and Europe (Kościelniak et al., 2022) indicate a steady decline in religious affiliation among their populations. These findings continue to support earlier findings in identifying a specific group, particularly individuals who were born from 1982 to 1996 known as Millennials (McCrindle, 2011), who are apathetic towards religion and disassociate themselves with religious organizations (Rainwater, 2019). The trend of disengaging with religion is also identified among the younger generation known as Generation Z (Sugiarto et al., 2022), who are individuals born between 1997 and the early 2010's (McCrindle, 2011). Among Generation Z, the importance of religion is perceived as contradictory with the scientific reasoning they were taught at school (Bennet, 2022). These changing attitudes toward religion raise a poignant question: Does religion have any relevance in the lives of people, especially among the younger population? Such curiosity in understanding the role of religion in society was the driving motivation for this research.

Religion and Life Satisfaction

Sameer et al. (2023) defined life satisfaction as the way an individual finds a consistent sense of accomplishment in fulfilling her life purpose. For many, religion often brings a sense of purpose, thus influencing an individual's life satisfaction. For example, in a study of Australians by Kortt et al. (2015), they found a considerable positive relationship between the frequency of religious service attendance and life satisfaction. In another study conducted by Aydogdu et al. (2021) in Turkey, a nation that is largely Muslim, it was found that a higher level of mosque attendance, along with self-identification as a religious person and the value placed on religion and God was associated with higher levels of life satisfaction. This study showed that attending a mosque may create and strengthen social ties, leading to the formation of a social network. The benefit of such a social

network can improve the general well-being of a person, even if they are facing challenges such as health issues, economic hardships, retrenchment, or losing a loved one (Aydogdu et al., 2021). However, with the declining trend of people's connection with religion, it raises an important question regarding the possible role religion might contribute towards life satisfaction in the younger population. In the research reported here, the relationship between religious activities and life satisfaction was examined among the younger population in a particular religious group. Furthermore, the current researchers expanded the investigation to determine the relationship between life satisfaction given by religion and the occurrence of the common mental health problems of depression and anxiety.

The Seventh-day Adventist Church as A Research Subject

While robust data continues to fill the knowledge gap in the intersection between religion, life satisfaction, and mental health, studies among the Seventh-day Adventist (SDA) Christian population remains very limited. However, like many other Christian denominations, the SDAs are also witnessing a constant decline of people associated with their faith, especially among their younger population (Trim, 2022). The concern over the relevance of religiosity among the future generations in the SDA church is therefore a matter demanding attention. Among the available literature, evidence has shown that factors that allow the younger groups of the SDAs to maintain their church attendance is related to how connected the individual is spiritually to the teachings of the church (Jacobs et al., 2019). Additionally, involvement in church activities, and strong modelling from more mature members, has been indicated as providing some form of support in retaining people in the church (Saint-Louis, 2019). Brantley (2020) elaborated further beyond what had been shown by the other two researchers and offered the additional argument that both lifestyle values and schooling received in the SDA educational system were factors aiding in church retention among SDAs.

The SDA church, with its relatively unique theology and lifestyle (Činčala et al., 2021), will inevitably need to address the relevance of the church and its teaching for the younger generations. Doing nothing may enable it keep the older generation in the church. However, with the passage of time, even this outcome may not be assured. As the society continues to evolve, questions over the meaning of religion in life will become a matter for each individual to consider carefully.

Literature Review
Life Satisfaction in Connection with Mental Health

Happiness and life satisfaction are typically referred to as subjective well-being (Maddux, 2018). A good working definition of subjective well-being is "the experience of joy, contentment, or positive well-being, combined with a sense that one's life is good, meaningful, and worthwhile" (Lyubomirsky, 2014, p. 32). In a study on students, higher life satisfaction was shown to be strongly connected with their mental health risks as well as an increase in areas such as empathy and seeing the need in helping others (Athay et al., 2012; Lippman et al., 2014). Another study also found a connection between school-related stress and symptoms of depression in adolescents (Moksnes et al., 2016). This suggests that life satisfaction can prevent or lessen the consequences of stress that are negative. Yet another study by Guzmán et al. (2019), on children and adolescents, showed similar results to previous studies that revealed an association between life satisfaction and mental health risks (Lyons et al., 2014; Moksnes et al., 2016). The investigation by Guzmán et al. (2019) also shares with that of Moksnes et al. (2016) the idea that internalizing problems, such as symptoms of depression and anxiety, can be negatively associated with overall life satisfaction and that externalizing issues, such as inattention, hyperactivity, and oppositional defiant symptoms, can be negatively associated with overall life satisfaction as well (Lyons et al., 2014; Moksnes et al., 2016).

Religion in Connection With Mental Health

According to a number of researchers, religiosity has been linked to many positive outcomes. The positive outcomes that have been associated with religious and spiritual beliefs include

increased life satisfaction (Garey et al., 2015), enhancement of mental health through the reduction of symptoms and frequency and prevention of depression (Moreira-Almeida et al., 2014; Bonelli et al., 2012), abatement of emotional exhaustion (Chirico et al., 2020), the ability to manage stress-related situations through the adult life span (Chirico, 2017), reduction of symptoms, frequency of anxiety, and substance abuse (Khalaf et al., 2015), greater overall well-being and greater physical health and quality of life (Moreira-Almeida et al., 2014). In addition, religiosity may decrease symptoms of depression by providing meaning, hope, and a local community that is supportive (Bonelli et al., 2012). Furthermore, meditative practices and prayer are interventions that have been used and found to help maintain good mental health (Fastame et al., 2021). There is also the study by Peres et al. (2018) that found meaning and peace as the significant areas of spirituality and religiosity that were related to improved mental health and life satisfaction.

Regarding young adults, it was found that it may be crucial to include strategies based on religion or spirituality regarding mental health interventions as it has been found that practices and beliefs in religiosity are linked with fewer symptoms of depression (Gwin et al., 2020). However, not all studies have resulted in positive associations between religion and depression. In the study conducted by Aziz et al. (2022), that investigated the effect of religiosity and mental health in different age groups among Indonesian Muslims, the finding showed that depression was higher in older Muslims. The explanation for this may come from the subjects discussed during *Majelis taklim* sermons that had to do with elements of religion such as sin, repentance, and remembering death. These topics may lead to feelings of despair instead of optimism resulting in depression (Aziz et al., 2022). Another study completed by Giannone et al. (2019) also reported similar results. Participants who expressed apprehension and uneasiness regarding existential issues indicated greater degrees of depression, anxiety, and use of substances. In addition, the study by Kreski et al. (2022) showed results that implied that the effects of religious participation on adolescents were not universal and depended on how high religion was on the list of priorities in their life.

Religion in Connection with Anxiety

Religion can also play a part in reducing anxiety and therefore improve well-being (Hayward & Krause, 2013). Having religious beliefs can help to provide answers to questions that evoke anxiety, such as what is the meaning of life, how significant is a person in the universe, and what happens after death. Religious beliefs can therefore help to serve as a buffer against and moderate the impact of anxiety regarding questions of existential uncertainty (Hayward & Krause, 2013). There have been findings among conservative Christians that associate trust in God and decreased levels of anxiety over death as well as lowered symptoms of depression (Krause, 2015). For spiritual or religious adolescents, talking to a higher power during hardships has also been linked to better problem-solving skills as well as leading to lower levels of anxiety (Boynton, 2014). The results of a study completed by Mahmood et al. (2021) on Pakistani Muslims indicated that people use religion as a coping strategy to deal with anxieties about health. Researchers have also found that religious coping is a significant aspect in aiding individuals during health-related crises (Ali et al., 2018; Sohail, 2018; Zamanian et al., 2015). Another study by Abdel-Khalek et al. (2019), carried out with respondents who were Arab citizens and who were mostly Muslims between the age of 14 and 43 years, suggested that religiosity can affect anxiety by offering a buffer and a coping mechanism. In contrast, a study of Latino youth conducted by DiPierro et al. (2018) discovered some facets of spirituality and religion that can cause anxiety. It has also been found that being heavily involved in religious services and youth groups early on in adolescence, as well as spending more time attending religious services and programs, were both associated with anxiety during mid-adolescence (Peterman et al., 2014).

Religious and the Non-Religious

The findings of Chesser et al. (2018) revealed that for both religious and non-religious people, having a sense of meaning in life was the most important factor in determining life satisfaction,

followed by using a technique to regulate emotions called cognitive reappraisal, which suggests that simply adopting any belief system that gives meaning to life can have similar benefits for well-being. To say that religion is equivalent to better health is not an adequate assumption, as it fails to describe the nuance of the connection (Speed & Fowler, 2021). It may seem that meaning in life is only associated with religious attributes, but it can also be found outside of religion and only needs adherence to any worldview that can provide purpose and meaning to life (Chesser et al., 2018). In the study by Kreski et al. (2022), adolescents who do not view religion as essential in their lives can still draw on the benefits that are like religious involvement, such as social support and adopting coping mechanisms. It is critical to keep in mind that what may work for a particular individual or group may not work for everyone else (Speed & Fowler, 2021). Seeing all the benefits that come with religious practices does not mean that all mental health interventions must involve religious practices. Religiosity is best seen as an additional resource for intervention (Gwin et al., 2020).

Methods
Data Collection Steps

A cross sectional model was selected for this research. Using G*Power (Version 3.1.9.6; Faul et al., 2009) with an alpha set to .05, power of 80% and effect size of .3 (medium) for two tailed correlational analysis, the ideal sampling size was determined to be 82. The targeted participants were purposively selected among the younger populations of the church in Singapore. The cut off point for the age to be included in the analysis was set at 40 years following the concept of Lachman et al. (2014). This was further expanded by Infurna et al. (2020), who argued that the stage of transition of an individual from young to middle age occurs at around 40 years old.

Recruitment was done through phone calls, instant messaging applications, or face to face meetings with potential participants. Upon initial expression of interest to join the research, participants received a Weblink to the questionnaire. Prior to being able to see the measurement instrument, each participant had to read the Information sheet page on the online survey. This was followed by participants checking a box, after the conditions applying to the research were read, hence giving their consent to participate in the research. At the end of the online questionnaire page, hotline numbers of mental health services available in Singapore were provided to all participants as part of the debriefing process.

Respondent Selection Finalization

A total of 58 respondents accessed and answered the online questionnaire. From the 58 responses received, 41 respondents (70.6%) met all the inclusion criteria enabling them to be added to the analysis. Using G*Power (Version 3.1.9.6; Faul et al., 2009) with alpha set at .05, Power at 80% (Columb & Atkinson, 2016), and a total sample size of 41 for two tailed correlational analysis, the effect size was calculated to be .4, indicating a moderate effect size (Cohen, 1988 as cited in Seyla, et al., 2012).

Measurement Instruments

Participants indicated their gender and age group in the questionnaire. For age, participants had to indicate their age group instead of their specific age. For the study, three groupings of age were set as part of the questionnaire.

Several self-rating scales were used to assess the frequency of participants' personal religious practices. Each question measured a personal religious practice often engaged in by members of the Seventh-day Adventist church. Three criteria were selected to measure the frequency of participants' spiritual activities in three different areas of personal spiritual disciplines. The disciplines selected were studying the Sabbath School lesson (a structured study on a defined topic meant to strengthen biblical knowledge, faith, and commitment), engaging in individual prayer, and having personal devotional time. A Likert scale response was assigned for each question to provide frequency data. Scoring ranged from *never* (1) to *rarely* (2), *often* (3), *very often* (4), and *daily* (5).

To maintain the specificity of what was considered individual prayer, questions regarding prayer were structured explicitly, such as "I have my personal time of prayer (not counting prayer before meals or sleep)."

Mental Health Measures

Satisfaction With Life Scales (SWLS). Life satisfaction was measured with the Satisfaction with Life Scales (SWLS) (Diener et al., 1985). The SWLS is a five-item measurement designed to assess the level of contentment of an individual's life. Two separated psychometric tests have indicated strong reliability of the instrument. Among Mexican populations, SWLS has been reported to have strong reliability with α = .74 (Lopez-Ortega et al., 2016), while studies among Iranian women had the outcome reliability of α = .88 (Maroufizadeh et al., 2016).

Personal Health Questionnaire (PHQ-9). In measuring depression, the Personal Health Questionnaire (PHQ-9) (Kroenke et al., 2001) was used. The PHQ-9 is a 9-item self-administered instrument designed for the measurement of depression. A meta-analysis study completed by Levis et al. (2019) indicated a PHQ-9 test sensitivity of .88 and specificity of .85. In previous studies, internal consistency of *α* = .83 (Udedi et al., 2019), *α*= .79 (Molebatsi et al., 2020), and *α* = .90 (Errazuriz et al., 2022) has been reported from several studies of PHQ-9 conducted in different populations across the world.

General Anxiety Disorder (GAD-7). The General Anxiety Disorder (GAD-7) instrument (Spitzer et al., 2011) is a 7-item self-measurement instrument to measure anxiety and general anxiety symptoms. The instrument was developed to detect anxiety among patients in a clinical setting. The GAD-7 instrument has been shown to have significant internal reliability of *α* = .89 in several studies (Löwe et al., 2008; Zhong et al., 2015). A one factor structure was confirmed through confirmatory factor analysis (Zhong et al., 2015).

Results

Several demographic data were obtained from the participants regarding gender and age. The frequency of their personal spiritual activities and their performance on three mental health scales also was assessed.

Males represented 48.78% of the survey population and females 51.22%. The age distribution of the individuals represented was as follows—18–20 years (17.07%), 21–30 years (48.78%), and 31–40 years (34.15%). The frequency of spiritual activities engaged in by the study group is recorded in Table 1. The data obtained regarding the mental health of participants pertaining to their life satisfaction, levels of depression, and of anxiety is recorded in Table 2.

Table 1 *Frequency of Spiritual Activities Undertaken by the Survey Group*

Spiritual Activities	Median	Mean	SD
Sabbath School Studies	1.00	1.56	0.90
Personal Devotional	2.00	2.66	1.51
Individual Prayer	3.00	3.05	1.55

Table 2 *Mean and Standard Deviation of Participant's Life's Satisfaction, Depression, and Anxiety*

Parameter	Mean	SD
Life Satisfaction (SWLS)	21.12	6.59
Depression (PHQ-9)	14.85	5.47
Anxiety (GAD-7)	11.34	4.74

Correlations Involving the Parameters Self-satisfaction, Depression, and Anxiety

Pearson's correlation was conducted to examine the relationship between gender against self-satisfaction, depression, and anxiety. No significant correlations were found between gender and

self-satisfaction (r (41) = -.12, p = .49), gender and depression (r (41) = .27, p = .09), and gender and anxiety (r (41) = .24, p = .13).

Similarly, the relationship between age and the selected mental health parameters was examined. No significant correlations were found between age and self-satisfaction (r (41) = .16, p = .31), age and depression (r (41) = -.12, p = .44), and age and anxiety (r (41) = -.2, p = .22).

However, significant Pearson's correlations were found among the mental health parameter self-satisfaction, depression, and anxiety. A strong significant and negative correlation ($p < .001$, Table 3) was indicated between life satisfaction and depression, indicating that as life satisfaction increased depression decreased. Life satisfaction also affected anxiety. A strong significant and negative correlation ($p < .01$, Table 3) was found between life satisfaction and anxiety. This indicated that as life satisfaction increased anxiety reduced among participants in the study. Finally, a very strong significant positive correlation existed ($p < .001$) between depression and anxiety. This indicated that as depression increased anxiety increased accordingly.

Table 3 Correlation Matrix Calculated Among the Mental Health Parameters (N = 41)

Variable	Statistic Used	SWLS	PHQ-9	GAD-7
1. SWLS	Pearson's r	—		
	p-value	—		
2. PHQ-9	Pearson's r	- .52***	—	
	p-value	< .001	—	
3. GAD-7	Pearson's r	- .48**	.85***	—
	p-value	< .001	< .001	—

** $p < .01$, *** $p < .001$

Correlation Involving Sabbath School Studies, Personal Devotional, and Individual Prayer

Pearson's correlations were calculated to examine the relationships involving the three personal spiritual activities. A strong significant ($p < .001$, Table 4) and positive correlation was found between prayer and the devotional life of the individual. No other significant relationships were found involving the other variables tested.

Table 4 *Correlational Coefficient Between Sabbath School Studies, Devotional and Prayer* (N = 41)

Variable	Statistic Used	Sabbath School Studies	Personal Devotions	Individual Prayer
Sabbath School Studies	Pearson's r	—		
	p-value	—		
Personal Devotions	Pearson's r	.238	—	
	p-value	.135	—	
Individual Prayer	Pearson's r	.178	.820	—
	p-value	.265	< .001***	—

Canonical Correlation Analysis Involving Spiritual Practices and Mental Health Variables

Inter-correlations were identified among the individual spiritual practices and also among the mental health variables. Hence, it seemed prudent to determine what relationship, if any, existed between the spiritual practices and mental health variables. A canonical correlation analysis conducted failed to indicate any statistically significant relationships (Wilk's λ = .91 criterion, F (6,72) = .62 p = .71).

Discussion

In the study a relatively well distributed representation was obtained between the genders. In terms of age, most participants represented the young adult's demography, which was the target population for the study. Moreover, even though a moderate effect was obtainable through

G*Power (Faul et al., 2009), the sample used for this study remains a matter of concern. To strengthen the result of our research, the data gathering needs to be broadened to include sampling beyond Singapore, perhaps drawing on samples from neighbouring countries, such as Indonesia and Malaysia.

From a broader perspective, due to the lack of descriptive data on spiritual disciplines of Seventh-day Adventists in other contexts, it was a challenge to conduct any comparative analysis or discussion. When looking at the data obtained, the frequency of the spiritual activities detailed in the study sample indicated the lack of a significant role of Sabbath School lessons in spiritual development. This suggests the need for further research to identify reasons for this phenomenon.

Personal devotion and individual prayer, on the other hand, showed a slightly different trend, with devotion being practiced on a range of rarely to often, and prayer from often to very often. The finding that the young adults have a higher frequency in doing generic Christian religious practices compared to a structured religious activity that is designed by the SDA denomination to increase faith and commitment perhaps needs to be further explored. While religious identity was not the main focus of this research, the findings of this study are comparable with studies such as conducted by Manalang (2021). His study showed how Millennials and Generation Z are drifting away from the form of corporate religion towards individualized spiritual practices.

The Effects of Religious Activities on Life Satisfaction, Depression, and Anxiety

From the findings, it may be assumed that the frequency of religious activities does not affect life satisfaction for all the participants. Germani et al. (2021) showed that life satisfaction is related to a person's role in their society in a predominantly collectivist society such as Asia. This also was observed in the study of Gan et al. (2020), where Malaysian Chinese youth reported a higher life satisfaction when experiencing greater social support. Therefore, the role of religious practices in life satisfaction is likely to be seen to be more effective in community-oriented activities. It should be noted, however, that the notion of collectivism in Singapore is unique. As reported by Jiang (2016), the Singapore population actually holds on to individualist practices and perspectives.

In the context of prayer, the results from this study are similar to the study by Babula (2022), which reported no correlation between frequency of prayer and happiness among university students in the United States. This relationship, however, may be affected by the type of prayers, such as that reported by Upenieks (2022). It may be the case that the quality of prayer has a greater role than the quantity of prayer. For instance, Zarzycka and Krok (2020) reported the importance of the type of prayer in maintaining and affecting mental wellness. More specifically, thanksgiving prayer tended to improve an individual's wellbeing, while supplication prayer can have the opposite effect (Zarzycka & Krok, 2020).

Looking at the devotional aspect, the role of quality of the disciplines are likely more significant than the quantity. Existing literature provides some support for this theory. For example, Kim (2014) indicated that while devotional frequency significantly reduced some mental health problems among the Korean population, the effect of the devotional practice was greatly affected by the activities done during these devotional times. The importance of the content of the devotional is further emphasized by the study of Daye (2019), which showed that a specific devotional message integrated to a specific health condition was impactful. Furthermore, according to Garzon (2013), devotional meditation has been used in psychotherapy with noticeable positive outcomes. However, one may also question whether devotion can be considered a tool for psychological relief or as a form of spiritual connection with the divine.

As mentioned in the general observation section, most participants participating in our study rarely studied their Sabbath School lesson. Thus, making Sabbath School study a variable for further investigation in future research is probably not merited. The result however highlights the continual concern over the importance of Sabbath School lesson study in the culture of the Seventh-day Adventist church.

Lastly, as shown in the results, for most participants, not studying Sabbath School, praying, or doing devotion does not reduce life satisfaction, nor does it instigate mental health problems.

Limitations

While this study was able to offer an overview in the context of Singapore, there are several limitations worth considering. First, data collected for this study were perceptions and self-reports. Future studies could consider other forms of data as a means to triangulate participants' self-reports. Next, a limited number of participants were available in the research locale. Participants involved in this study were those who were actively involved in the church. Furthermore, while a moderate effect size can be produced, a much stronger sampling remains necessary. Lastly, growing evidence indicates that culture can make significant contributions toward an individual's mental health (Mechammil et al., 2019; Yoon et al., 2020). In this study culture was not considered as one of the variables to be measured. Considering the outcome, expanding the study to include cultural factors as one of the variables will be an endeavour to be pursued for future research. Another variable to be considered for future studies is guilt (Künkler et al., 2020).

Conclusions

Among the younger population of SDAs in Singapore, individual religious practices had no statistically significant effect on life satisfaction. Furthermore, despite findings that life satisfaction may affect depression and anxiety, no statistically significant relationships were established between individual religious practices, life satisfaction, depression, and anxiety. This suggests a new line of research investigation is necessary. At the same time, the findings of this research constitute a poignant reality regarding the relevance of religion among younger SDAs. Furthermore, it may be a crucial time for organized religions to re-examine their engagement with their congregations.

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Application of Leadership Practice Characteristics of an Exemplary Model in Chinese Student Cadres

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Abstract

The aim of this study was to explore the prevailing leadership characteristics shown by student cadres at Shandong Vocational and Technical University of International Studies (SWUT) in China and the relationship of these leadership practices to a number of demographic variables. Student cadres (N = 628) working in different departments/colleges were selected by a stratified random sampling technique. A well-developed Leadership Practices Inventory questionnaire was employed to collect data. The information obtained was placed into scaled categories based on an exemplary Leadership Practices Model. The results obtained were arranged under five leadership practices, namely, Model the Way (M = 3.55, high category score) followed by moderate category scores for Encourage the Heart (M = 3.50), Challenge the Process (M = 3.48), Enable Others to Act (M = 3.46), and Inspire a Shared Vision (M = 3.42). There was a significant difference in the practice of Inspire a Shared Vision regarding gender (p = .012). Nevertheless, year of study, major, and position did not show significant differences between the groups. The research indicated moderate values for student leadership practices that might be developed in potential university leaders.

Introduction

The complexity of today's world resulting from the rapid advancement of science and technology has caused great impacts on global citizens. Nations have become very competitive, which impact citizens in many ways such as economics, employment and education. Higher education is rapidly evolving in the areas of internationalization, marketing, and information (Zhu & Caliskan, 2021). The competition between higher education institutions has increased dramatically and is continuing to accelerate with the international mobility of students and academics. Not surprisingly, the Chinese government has proposed higher education reforms to elevate the quality of education (Zhu & Caliskan, 2021). The principle of these reforms is to create competitiveness and make China an international player in the new knowledge-based economy, and to cultivate world class universities. In order to enhance productivity and competiveness, Western higher education institutions have been introduced in China in the belief that Chinese universities will grow and operate in a similar fashion to Western universities (Liu et al., 2019).

A prominent trend in China is the increasing number of students enrolled in colleges and universities. Young people realize the importance of receiving training for their future careers. Therefore, they choose to join the associations, student unions, or Youth League Committee in order to experience working in a real situation (Dai & Cai, 2014). Clearly, China's recent socio-economic developments and the potential impact of its higher education has accelerated causing China to look carefully at the future of higher education both nationally and globally. It is believed that the conventional educational system has proved to be inadequate and ineffective in a modernized and internationalized university (Xhemajli, 2016). Employers are increasingly concerned about the inadequate leadership skills of young people who are taught in traditional education systems because they have limited opportunities for leadership development (Kelly & Azaola, 2016). Leadership competence is an important issue that is continually raised and debated among educators in an attempt to find successful ways for leadership development.

Most researchers believe that the key to improving higher education resides in internal participation by students in higher educational governance (Boland, 2005; Menon, 2005; Luesher-Mamashela, 2013). Students need training and practice in professional skills along with classes in academic subjects. In this case, teachers can also use the student leadership to create an educational environment to increase students' success as well as grasping a practical understanding of the subject matter (Kashan et al., 2019).

The development of China's higher education requires both Chinese and Western values to promote the development of effective employee relations and educational leadership (Militello & Berger 2010). Yang (2017) indicated that extracurricular activities had a significant influence on the development of student leadership in the last year of college life. Student leaders, those involved in collaborative and comprehensive processes, showed consideration and knowledge when they worked with others and learned from their own experiences and from others. This was consistent with the study of King (1997, p. 87), who found that "helping students develop the maturity and strength of character that prepares them for leadership is perhaps one of the most challenging and important goals of higher education." In other words, higher education should become a source of potential change as it plays a key role in developing leadership potential among today's young people. In fact, education and development of student leadership has long been a major goal for higher education institutions. This can be seen from the increasing number of courses and co-curricular leadership development programs (Astin & Astin, 1996; Zimmerman-Oster & Burkhardt, 1999). Leadership development during university studies can develop one's potential, citizen participation, personality, academic performance, and self-improvement (Pascarella & Terenzini, 1991). It appears that student leadership is an important factor in increasing productivity within the classroom. Thus, this main goal of the educational environment can be achieved.

Shao and Du (2016) indicated that simply being a member of a student union did not mean that an individual would be challenged and acquire any leadership competencies. In the last year of university study, membership may be held in voluntary institutions such as student affairs, the student community, or the student union. However, all students need to learn and practice leadership skills and the knowledge or attitudes related to leadership development. Students' involvement in designing a curriculum, such as a participatory curriculum or faculty assessments, can result in significant improvements in higher education quality (McFarland & Starmanns, 2009). Additionally, students participating in volunteer organizations can greatly improve their quality of campus life and their social experiences (Kuh & Lund, 1994). In general, the participation of students in university governance has a very positive effect on leadership development. China's higher educational institutions need to cultivate students' leadership because training future leaders has become both a philosophy and educational practice in world-class universities. Improving the quality of personnel training has also become an international trend, and this is an important innovation for educational competitiveness in the 21st century. Thus, to prepare students to meet the challenges of today and tomorrow, they must be well-equipped with leadership skills (Konuk & Posner, 2021).

Exploring current leadership development practices of college and university students, particularly where student cadres are in significant numbers, is relevant as they have been the main avenue for increasing enrollment in Chinese universities, and the number of such students keeps on growing. The student cadres are also bridges and links between all kinds of student organizations and student members (Shao & Du, 2016). All in all, the student cadres are the backbone of achieving college goals, instructors' teaching goals, and the goals of student management. Their activities contribute to further development of the universities where they enroll.

Leadership studies in higher education in China mainly have focused on external factors, including public financing or quality assessment in public schools, hospitals, companies, entrepreneur management, and so on (Currie et al., 2003). Few colleges and universities currently consider student cadre leaders as a training target. Hence there is an insufficiently educated group of student cadre leaders which lacks practical experience in leadership, responsibility aspirations,

and a sense of service. They tend to have an excessive interest in the pursuit of personal ends and show a lack of innovation.

These problems hinder the actual performance and management of cadres in work situations. The experience they could gain in student organizations would impact the value of their future work, and knowledge of college student cadres' leadership characteristics would also enhance their knowledge about organizations and management skills.

Literature Review
Conceptualization of Term Leadership

There is some agreement among research scholars that leadership is not innate, but it is a set of behaviors and abilities that can be learned and developed. Konuk and Posner (2021) suggest that developing leadership skills in young people will help them to overcome individual difficulties in a harmonious way, and will eventually lead to the development of society. Numerous scholars described "leadership" as personal direction by the head of an organization. For instance, Zeleke & Feleke (2015) asserted that leadership, in general, is a process of motivating and influencing others to achieve the goals of an organization. Similarly, Northouse (2007) defined leadership as a process whereby individuals influence groups to achieve common goals. El Homrani et al. (2012) maintained that leadership is not a position, but a process. Dai and Cai (2014) distinguished between the terms "leader" and "leadership" where a leader is a person who has authority and ability to influence others, while leadership is the way in which a leader acts: that is, the process of influencing a group to achieve a goal. They further explained that leaders in organizations have different styles of working with their subordinates. There are different styles of leadership—some are polite, friendly, and approachable, some are capricious or violent, while others are democratic. Stuke (2013) used the term "leadership style" to refer to the manner in which authority is exercised or the way in which leaders influence others; it will have a wide impact on the organization and its members. Consistently, Bolden et al. (2003) confirmed that several empirical studies have suggested that leadership style is positively associated with individual and organizational attitudes and behavior at both the individual and organizational levels.

In brief, leadership is a process or function of motivating and influencing a group of individuals such as subordinates, employees, teams, or people in an organization to achieve their goals by moving in a clear direction under a wide variety of situations or circumstances. This process is dynamic and involves the interaction of teams or members of organizations. The ultimate goal of leadership is to bring about positive change. Leaders who possess these characteristics create a friendly working environment, offer different types of solutions, and give challenges that lead to success.

Student Leadership in Higher Education

Student leadership in a university is institutional leadership that operates in the technical, transformational, and interpretative arenas. Thus, universities may provide opportunities for students to voice their opinions to governing bodies (Cáceres-Reche et al., 2021). Research has also indicated that students can increase their leadership skills during their studies in college or university (Pascarella & Terenzini, 2005), and that leadership development will in turn increase their self-efficacy, citizen participation, character development, academic performance, and personal development. According to Cáceres-Reche et al. (2021), student leaders have prominent roles and responsibilities in many respects. First, students with social leadership skills will show interest in social change, as well as self-organized and independent voluntary initiatives. Second, leaders hold representative positions, and may develop policy initiatives that will serve the university community. Third, healthy leaders understand patterns of behavior in health areas, and create campaigns and activities that encourage the adoption of healthy lifestyle habits. Last, sports leaders specialize in specific sports skills, and transfer them to teams that represent the university.

Numerous studies have confirmed that involvement by student cadres with high leadership qualities in student union or other organizational activities can affect different student outcomes.

For instance, studies by Beaman et al. (2012) and Deng et al. (2020) suggested that student cadres had a strong effect on organizational performance because the types of students enrolled affected the performance of student government. Additionally, academic performance and leadership performance play important roles in student cadre election. Good academic performance and high levels of leadership efficacy reflect the capability and confidence to be a student cadre. It has been consistently found that experience of being a student cadre was significant for leadership development. The style adopted influences risk taking, adoption of a perspective that considers others, and the expression of empathy (Anderson & Galinsky 2006; Galinsky et al., 2006). Being a student cadre enhances students' managerial skills, determines their social competence, and offers some social and political participation (Downey et al., 1984). Previous studies have indicated similar results, that being a student cadre greatly improves students' social skills and political involvement after graduation (Pascarella & Terenzini, 1991; Kuh & Lund, 1994).

The Five Practices of Exemplary Leadership Model

The Five Practices of Exemplary Leadership is an important tool initiated by Kouzes and Posner (2014) to help individuals gain perspectives on how they view themselves as a leader. These practices are essential components of the concept of transformational leadership, and they serve as guidance for leaders to accomplish their achievements or "to get extraordinary things done" (Kouzes & Posner, 2014, p. 9). They were created through intensive research on existing leadership practices, and have been recognized by many researchers as truly representative of highly effective leadership practices. The authors discovered that when leaders experience their "personal best," they displayed five key practices: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart. According to Kouzes and Posner (2018) regarding personal best leadership experiences, individuals demonstrate leadership behaviors even if they differ in culture, gender, age, educational level, and other variables. The authors further explained that student leaders Model the Way by creating standards of excellence, and setting an example for others to follow. Inspire a Shared Vision student leaders set goals, foresee the outcomes, and by encouraging others to perform better, they also create an ideal and unique image of what the organization can be because of the belief that they can make a difference. Challenge the Process student leaders search for opportunities and look for innovative ways to improve their organization. They are also enthusiastic to learn new things, and challenge obstacles to open up new horizons and achieve excellence. Enable Others to Act leaders function by "fostering collaboration, and build[ing the] team spirit." Finally, Encourage the Heart leaders describes the process of celebrating victories and building community, identifying assistance, and "appreciating the individual performance" (Konek & Posner, 2021, pp. 81–82).

Related Research on Leadership Practices on Exemplary Leadership Model

Research on the Five Practices of the Exemplary Leadership Model has been conducted with college students in a variety of situations. Silva et al. (2017) examined the leadership practices exhibited by the nurse managers of hospital institutions and their relationships with the variables of their socio-professional profile. A total of 84 manager nurses in four hospitals in a city in the state of São Paulo participated in a cross-sectional, correlational study. The Leadership Practices Inventory and a sociodemographic survey were employed. The results revealed that the mean values of the leadership practices used by the nurses were: Enable Others to Act (50.60), Encourage the Heart (48.20), Model the Way (46.70), Challenge the Process (43.30), and Inspire a Shared Vision (43.10). The moderate values obtained indicated that managerial aspects might be improved by the leaders by means of organizational strategies and/or tools aimed at best leadership practices.

Cáceres-Reche et al. (2021), using a cross-sectional study design, investigated the characteristics of university student leaders to generate an explanatory model in terms of sociodemographic variables. They found that the highest mean scores were found in the female group in all dimensions, with significant differences found in leadership practices (p = 0.03). Therefore, there

was agreement with other studies in which women showed greater leadership. However, other research shows that, despite the fact that women are becoming more influential, this does not happen equally. Better leadership can be defined as motivating leadership styles that are dynamic and adapt to the circumstances in order fulfill the established purposes–that is, to effectively represent peers.

In the study of Díaz et al. (2019) in a survey of students in a Mexican university and a Spanish university, found that Mexican and Spanish students ranked themselves differently in terms of their behaviors aimed at Modeling the Way, Inspiring a Shared Vision, Challenging the Process, Enabling Others to Act, and Encouraging the Heart. Significant differences between the two groups were found; however, there were no significant differences in terms of gender.

In a recent study based on the Kouzes and Posner (2018) leadership model, Konuk and Posner (2021) examined the effectiveness of a student leadership program at Yildiz Technical University (Turkey). A pre-test and post-test control group quasi-experimental design was used. The statistical analysis revealed that students' scores improved significantly with training. Students in the experimental group reported utilizing all five leadership practices more frequently. Also, the qualitative findings indicated that leadership development programs need learning activities that are applicable to real-life situations, and that focus on enhancing students' self-confidence as leaders.

The studies reviewed above revealed similar and slightly different results. It was found that adoption of the five practices under the transformational leadership model led to moderate improvements. The studies also found that age was not significantly different across the groups in terms of socio-demographics, and females showed statistically significant differences in all five dimensions in leadership practices. Regarding the five leader practices, Model the Way was practiced most frequently while Inspiring a Shared Vision was placed in a lower position in some studies. However, the studies indicated that position, gender, and time influenced student expectations and were crucial for effective leadership. In addition, since leadership is not innate, training programs for enhancing leadership competency in the students and teachers, as well as employees, are beneficial in educational institutes, organizations, and the private sector.

Research Methodology
Research Design
This research study was carried out using a quantitative survey technique to identify the presence of leadership practice characteristics of student cadres in different colleges at SWUT University in China. Data were collected through the Leadership Practices Inventory, and analyzed based on the Five Practices of Exemplary Leadership Model (Kouzes & Posner, 2013, 2014, 2018).

Participants
The participants were student cadres working under the college student organization in each department selected by stratified random sampling technique from fives colleges in accordance with their field, class cadres, and cadres from society at SWUT university. Student organizations in China are divided into a variety of functional departments, each with its own operations and responsibilities, and staffed with three to 10 student cadres depending on the size of department.

A total of 628 students were recruited from five colleges or faculties, namely, Accounting and Finance (195), Foreign Languages (83), Information Engineering (34), International Business (65), and International Education (251). The current positions of student cadres were categorized within the university's student organization. One student cadre was selected from every 10 class leaders. Thus, there was a total of 344 class leaders, 26 deputy ministers, 29 deputy ministers as class leaders, 110 student organization officers, one deputy minister, four members of the Presidium, seven members of the Presidium as class leaders, and 107 members of the Presidium as deputy ministers.

Student cadres are student leaders who perform educational functions, management, and service. According to Huang et al. (2021), student leaders are not only simply students, but they also possess characteristics of a leader. They exercise power on behalf of the institution and they apply

the rules of the supervisors, administrators, and day-to-day student affairs managers on a daily basis. As student cadres, they exhibit leadership qualities that connect all types of students and organizations, as well as having the ability to actively get involved in and support the university's educational management system. Student cadres are an essential part of student work and play a huge role in promoting formation (Yuanjuna & Yawei 2014). Throughout the administrative work, student cadres will progressively develop their own unique leadership style. In addition, they have received good ideological training and leadership studies to support their overall potential and strengthen their leadership characteristics to support the overall working environment for students more effectively. They are apparently prestigious among students and have outstanding abilities, capabilities, conscientiousness in their work, and positive attitudes (Dai & Kai, 2014).

Research Instruments

The questionnaire used was adapted from the widely used Leadership Practices Inventory (Kouzes and Posner, 2014). It provides feedback that leaders can use to adjust and strengthen leadership behaviors. The internal reliability (Cronbach's Alpha) ranged from .85 to .92. Part 1 of the questionnaire gathered personal background information, whereas Part 2 consisted of 30 items of the Leadership Practices Inventory scored on a five-point Likert scale to assess student cadres' existing leadership characteristics in five practice models: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart.

Research Questions

1. To what extent do the student cadres at SWUT University show the leadership characteristics outlined in the Five Practices of Exemplary Leadership Model?
2. Are there any significant differences among gender, year of study, and program of study (functional department) in the leadership characteristics shown by the Chinese student cadres?

Research Objectives

1. To explore the existing characteristics leadership practices, according to the Five Practices of Exemplary Leadership Model (Kouzes & Posner, 2018), in Chinese student cadres at SWUT University.
2. To compare the differences in characteristic leadership practices, judged according to the Five Practices of Exemplary Leadership Model, performed by Chinese student cadres when consideration is given to demographic variables, such as gender, year of study, and functional department.

Data Collection

To collect data, the questionnaire (700) was distributed online for two weeks during middle and late May 2022; 628 valid responses were received.

Data Analysis

Descriptive statistics were employed and the mean values received were interpreted into five scales according to the criteria for interpretation: 4.51–5.00 (*Very High*), 3.51–4.50 (*High*), 2.51–3.50 (*Moderate*), 1.51–2.50 (*Low*), and 1.00–1.50 (*Very Low*). ANOVA comparisons were used to determine if there were any significant differences in the mean scores of the five leadership characteristic practices.

Results
Demographics

The questionnaire response rate was 89.71%. The Communist Youth League dominated (71.0%), as did students majoring in Literature and History (64.17%). There was an even gender distribution

(Table 1). Just over one-third of students majored in Science and Engineering (35.8%). Half of the respondents were in their third year.

Table 1 *Demographics Characteristics of the Student Cadres in Colleges and Universities* (*N* = 628)

Demography	Demographic Category	Respondent No.	Percentage（%）
Gender	Male	321	51.1
	Female	307	48.9
Year of Study	2021	126	20.1
	2020	188	29.9
	2019	314	50.0
Major Category	Literature and History	403	64.2
	Science and Engineering	225	35.8
Political Status	Chinese Communist Party	125	19.9
	Communist Youth League	446	71.0
	Non-members	57	9.1

Open-ended Question Responses

The open-ended questions that were asked are detailed in Table 2. It is notable that slightly less than half the student leaders possessed a reasonable understanding about leadership. Just over half communicated frequently with various groups/representatives, and slightly more than 60% participated in internships and social practice activities, community services, or as volunteers.

Table 2 *Percentage of Student Leaders Who Attended Leadership Classes or Schools*

Variable	Category	Percentage （%）
Knowledge about leadership	Basically have no idea	17.99
	Little is known	36.31
	A professional understanding	0.16
	A certain understanding	43.95
	A full understanding	1.59
School promotion of student cadre leadership	Yes	44.90
	No	55.10
Participation in internships & social practice activities	Yes	65.61
	No	34.39
Participation in community service or volunteer activities	Yes	62.74
	No	37.26
Working as a student assistant	Yes	44.90
	No	55.10
Communication frequency– students in class, party branch, institute, or association	Occasionally	6.21
	Sometimes	41.24
	Always	52.55

The Current Leadership Characteristic Practices Shown by Student Cadres at SWUT University

The characteristic leadership practices shown by the student cadres are listed in Table 3. The highest score was seen for Model the Way. Moderate scores were found for Encourage the Heart, Challenge the Heart, Enable Others to Act, and then Inspire a Shared Vision. The table gives the

mean scores, standard deviations and the mean scale interpretation of the existing leadership characteristics of the student cadres based the Five Leadership Practices: The Exemplary Model.

Table 3 *Leadership Practices Utilized by Student Cadres*

Five Practice Models		Current Leadership Characteristic Practice Shown by Student Cadres		
	N	M	SD	Interpretation
Model the Way	628	3.55	0.74	High
Inspire a Shared Vision	628	3.42	0.63	Moderate
Challenge the Process	628	3.48	0.60	Moderate
Enable Others to Act	628	3.46	0.72	Moderate
Encourage the Heart	628	3.50	0.74	Moderate

The Relationship between Categorical Variables of Student Cadres and the Characteristic Leadership Practices Adopted

The extent to which student cadres utilized performed their leadership characteristic practice in relation to categorical variables is shown in Table 4. A significant difference (*p* = .012) was found with respect to Inspire a Shared Vision regarding gender (Table 5)*.* The findings revealed that none of the other variables showed statistically significant differences, although position showed a weak possibility of reaching significance with a greater sample number and the inclusion of more variables.

Table 4 *Relationships between Demographic Variables and Student Leadership Characteristics*

Demographic Variables		Model the Way		Inspire a Shared Vision		Challenge the Process		Enable Others to Act		Encourage the Heart	
	N	M	SD	M	SD	M	SD	M	SD	M	SD
Gender											
Male	307	3.51	0.78	3.48	0.61	3.47	0.61	3.47	0.73	3.46	0.76
Female	321	3.59	0.71	3.36	0.64	3.49	0.59	3.46	0.72	3.53	0.73
Major											
Lit. & Hist.	403	3.55	0.74	3.43	0.62	3.51	0.587	3.45	0.72	3.47	0.74
Sci. & Eng.	225	3.55	0.76	3.40	0.64	3.43	0.609	3.49	0.73	3.54	0.75
Year											
Freshmen	126	3.45	0.78	3.38	0.69	3.51	0.610	3.50	0.68	3.56	0.79
Sophomore	188	3.52	0.70	3.44	0.60	3.45	0.562	3.37	0.77	3.45	0.74
Junior	314	3.61	0.75	3.44	0.614	3.49	0.611	3.52	0.70	3.49	0.73
Position											
Vice-Pres.	64	3.65	0.71	3.41	0.66	3.47	0.602	3.38	0.75	3.37	0.84
Ss. officer	219	3.46	0.75	3.45	0.60	3.51	0.615	3.48	0.74	3.50	0.75
Class cadre	349	3.59	0.74	3.40	0.64	3.47	0.584	3.47	0.71	3.52	0.72

Table 5 *The p-values of Demographic Variables in Relation to Leadership Characteristics*

Demographic Variables	Leadership Characteristics				
	Model the Way	*Inspire a Shared Vision*	*Challenge the Process*	*Enable Others to Act*	*Encourage the Heart*
Gender	.168	.012	.544	.848	.204
Major	.946	.530	.085	.491	.308
Year of Study	.111	.755	.704	.087	.459
Position	.067	.744	.834	.619	.351

Discussion

The leadership characteristic practiced most consistently by student cadres was Model the Way. This was followed in order of frequency by Encourage the Heart, Challenge the Process, Enable Others to Act, and Inspire a Shared Vision. The highest mean score was found in the female group for Model the Way. The female cohort differed significantly from the male cohort ($p = .012$) in the Inspire a Shared Vision category. This is in agreement with previous studies in which female leaders performed in a superior fashion (López et al., 2019; Cáceres-Reche et al., 2021). Although some studies have indicated that women are more likely to achieve greater leadership than men, they do not necessarily achieve this on account of subtle gender biases (Ely et al., 2011).

The leadership roles practiced in this study referred to a process or function of motivating and influencing a group of individuals such as subordinates, employees, teams, or people in an organization to achieve their goals by acting in a clear direction in a wide variety of situations or circumstances. The student cadres across all the demographic variables investigated (gender, major, academic year and position, student cadres in all classes except the freshmen) performed at a high level of leadership by using Model the Way. Freshmen still needed guidance from experienced leaders to indicate expected behaviors (Kouzes & Posner, 2018). This type of leader behavior corresponded to the key dimensions identified under transformational leadership. Hence, students may develop exemplary leadership practices as they place importance on teamwork and encourage others. By this means, living examples are provided of the ideals promoted (Kelly & Azaola, 2015).

There was a difference in the mean scores of the gender group, with female student cadres scoring significantly less than males in the Inspire a Shared Vision leadership category ($p = .012$). In other words, an Inspire a Shared Vision student leader must have followers and be able to inspire them to engage with enthusiasm to reach the goals promoted (Konuk & Posner, 2021). Therefore, gender is an aspect that should be taken into consideration in leadership practice, as there is some evidence of behavioral strength differences (Abu-Tineh et al., 2009). Generally, gender is not considered a decisive factor when it comes to performing certain functions; some researchers assert that that gender cannot be accepted as fundamentally influencing leadership (Cáceres-Reche, et al., 2021). Hence, there is a need for continuing research.

Regarding the five dimensions of leadership practices, the present research revealed that Model the Way was ranked the highest by the student cadres. However, in the study conducted by Silva et al. (2017) it was practiced with the lowest frequency. According to research carried out by Abu-Tineh et al. (2009) in Jordan, practicing Inspire a Shared Vision was placed at the lowest extreme of the moderate range. This indicates a need to examine the roles of culture and context on leadership development. It is evident that moderating factors are operating. These may relate to the instructional time spent, the impact of examples used to illustrate good practice, efforts made in student image building, and the practical usefulness of examples provided in assignments. It is crucial to emphasize the need for personal and professional growth after short-term programs to enable effective leadership to become fully developed (Konuk & Posner, 2021).

Leadership training has applications in both educational and organizational settings. In the educational setting, particularly in higher education, there are opportunities for developing students' responsibilities to work cooperatively with friends and instructors. This suggests that educators might incorporate the Five Practices of Exemplary Leadership model into the planning and evaluation of their extracurricular and curricular activities. Different educational strategies may be needed to develop leadership skills on account of prevailing cultural and economic contexts, as highlighted by Díaz et al. (2019) in their study of Mexican and Spanish students. Such efforts help students to reach their professional potentials.

In the current study, student cadres served as an important connection between university administrators, instructors, and regular graduate students, as well as being a crucial supplementary force that assisted their university in student affairs management. Therefore, enhancing student leadership will help to increase the effectiveness of university administration and the overall management of student affairs.

The findings of the current study can be applied in business settings and private sector companies, by both entrepreneurs and organizations. Research indicates that exemplary transformational leaders are able to change people and culture within a workplace (Masumoto & Brown-Welty, 2009). Therefore for a large organization, exemplary female or male CEOs can be role models (Model the Way) for their subordinates to improve their leadership in many aspects. According to Kouzes and Posner's (2013) concept, leaders who employ transformational leadership skills bring about desirable changes inside an organization. It is interesting to point out that in fostering organizational development, female exemplary leaders, such as CEO, managers, or department chairs, can instigate in-service training programs for female followers so as to meet the needs of labor markets. Moreover, in organizations with mostly female officers, such as healthcare organizations, recruitment should be promoted among those with leadership qualities. In the current global context and labor market, females need to have access to development of leadership skills, which has an influence on an institution's organizational culture and labor relations.

Nowadays, young generation professionals with some work experience are more likely to keep their jobs, or find another one when they decide to make a change and obtain a bachelor degree. The role of educators from different parts of the world is in identifying the appropriate leadership model for their students in developing the skills that they need to succeed in various jobs and become ready to start a business as an entrepreneur, or be self-employed. The implementation of entrepreneurial training to empower transformational leadership may help young professionals to more readily adapt to the current social and economic situation (Díaz et al., 2019).

Limitations and Implications

A limitation of the present study was that only the first to third year student cadres were included. Involvement of all academic years would have enabled the development of more appropriate leadership training courses, and provided advice on the inclusion of the most meaningful leadership extracurricular activities. This could lead to the identification of the possible impacts of different demographic variables on leadership practices.

Due to the peculiarities regarding their identity, student cadres served as an important link between university administrators, instructors, and regular graduate students, as well as being a crucial supplementary force that assisted their university in student affairs management. To prepare students or teachers to function more efficiently in the instructional domain and be better managers, motivators and mentors, universities and alternative preparation program providers must equip students and teachers with exemplary transformational leadership practices and knowledge (Quin et al., 2015).

Conclusions and Recommendations

The Five Practices of Exemplary Leadership was investigated among student cadres in a Chinese university. The Model the Way approach was recorded at the high level, and females scored slightly higher than males in leadership practice. In the Inspire a Shared Vision category, females scored significantly lower than males.

It is recommended that higher education institutions (a) pay attention to the needs of student organizations and the high demand for student cadres, (b) focus on training student/practitioners leaders/cadres to become knowledge-based leaders, and develop practical competence through more hands-on exercises such as via seminars or internships, and (c) provide an organization model for students, develop the quality of extracurricular student activities, and organize more student leadership competitions to enhance their practical abilities.

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Roles of Perceived Knowledge, Risk, and Trust in Cybersecurity Solution Implementation: A Study in Bangkok, Thailand

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Abstract

Thailand has adopted an economic model (Industrial 4.0) that merges physical manufacturing processes and services with digital connectiveness. Hence, cybersecurity cannot be ignored. The aim of this research was to promote cybersecurity awareness among technology and information executives, along with top-level managers, develop a more efficient security management system, and implement an effective cybersecurity framework for the private and public sectors in Thailand. An extension of the Technology Acceptance Model was developed that used three variables, namely, perceived knowledge of cybersecurity, perceived risk of cyberattacks, and perceived trust in cybersecurity solutions. A quantitative research approach was used to collect data from both online and offline survey forms (*N* = 394). Exploratory Factor Analysis, Confirmatory Factor Analysis, and Structural Equation Modeling were used to analyze this data. The findings permitted the Technology Acceptance Model to be extended. Positive relationships were found among perceived knowledge of cybersecurity, perceived risk of cyberattacks, and perceived trust in cybersecurity solutions. These variables, together with perceived ease of use, usefulness, and attitude towards using cybersecurity solutions, all played a pivotal role in organizations/businesses in Thailand and their intention to implement cybersecurity solutions.

Introduction

Decades ago, before computers had become a part of our lives and the Internet also played an essential role in our daily lifestyles, the term "cybersecurity" was not something we were aware of like today. Thanks to industrial revolutions and the Internet of Things, the value of human treasures has shifted from natural resources, such as gas and oil, to the precious gems of data and intellectual property (The Economist, 2017). Morgan (2020) pointed out that data protection is the phenomenon of our time, the world's new natural resource. A cyberattack could potentially disable the economy of a city, a state, or even an entire country. A data breach can have far-reaching consequences, causing financial losses and affecting an organization's operations and compliance in the short term. Furthermore, a major breach in the headlines can potentially damage reputations for years to come, leading to lost business and a competitive disadvantage.

Security threats are constantly evolving as cyber criminals become more sophisticated at targeting valuable commercial and organizational resources. Cyber threats are a ubiquitous problem for every business, with many companies struggling to improve their cyber awareness. The post COVID-19 pandemic is still being leveraged by cybercriminals for illicit profit. Management of any organization must understand that the cost of a cyber breach is very expensive and in the criminal mind, targetting is based on the size of the organization. Therefore, allocating some budget for cybersecurity may not directly increase the company's return on investment, but the expenditure is justified if setting aside those funds may save the company from unexpected potential losses arising from a cyberattack.

According to the National Cyber Security Agency (NCSA) (2023), the number of cybersecurity threats in Thailand rose significantly from 135 incidents in 2021 to over 772 incidents in 2022. Website hacking was two to three times more common than other forms of cyberattacks in Thailand. Educational and public health agencies' websites were the most frequent targets of cyberattacks, especially those sites accessed by many people. Cybercrimes could cost Thailand's

economy an estimated 286 billion Baht, i.e., 2.2% of the total country's GDP, and the dramatic rise in damage costs means there are still many businesses and organizations in Thailand that are not yet prepared against cyberattacks (Fung, 2023). Recently, Thailand implemented the Cybersecurity Act of B.E. 2562 (2019) to maintain national cybersecurity in order to enhance the immunity of both the private and public sectors. These initiatives have promoted collaboration among domestic and international organizations and increased vigilance against cyber threats through developing cybersecurity personnel, raising awareness among the public, and upgrading critical information infrastructure and government agencies (NCSA, 2023). Based on observation of current technological disruptions in Thailand's digital private and public sectors, the following questions were raised to address the needs for tackling the cyberattacks Thailand has been facing.

1. Why is it that both the private and public sectors in Thailand do not take cybersecurity as seriously as they should?
2. How essential is cybersecurity knowledge and/or awareness for chief technology, information, and executive officers, along with managers in organizations/ businesses, especially during this post-COVID 19 pandemic recovery time?
3. What are the influential factors that both the private and public sectors should be aware of when implementing cybersecurity infrastructure in their organizations/businesses?

The aim of the research was initially to promote cybersecurity awareness, develop a more efficient security management system in each business/organization, and then implement an overall better cybersecurity framework for both the private and public sectors in Thailand. The primary research objectives were to provide an extensive literature review, to detail business practices, particularly in Thailand, regarding shortfalls in current operations, and to map out a conceptual framework to provide for more secure and trusted business operations nationwide so as to align with global security policies. In addition, the study covered in-depth insights on the following sub-objectives:

1. To explore the factors that businesses take into consideration when planning to implement cybersecurity solutions.
2. To investigate how perceived knowledge, perceived risk, perceived trust, perceived ease of use, perceived usefulness, and attitude affect the behavioral intention to use cybersecurity solutions.
3. To propose an extension of the Technology Acceptance Model (TAM) with expanded variables to help build cybersecurity awareness of chief technology, information, and executive officers, along with managers in Thailand's private and public sectors to help them engage more seriously with adopting cybersecurity solutions.

Literature Review

Both the private and public sectors of a country, including its government agencies, need to take a comprehensive approach to cybersecurity rather than an ad hoc approach of dealing with threats on a case-by-case basis as they are discovered. Security should be viewed in the context of processes, and not specific technological fixes (Bhuyan, et al., 2020). Davis et al. (1989) developed a theory called the Technology Acceptance Model that demonstrates how individuals make a decision to accept and utilize a particular technology. The TAM focuses on the contributions of perceived ease of use and usefulness, along with attitude toward the behavior, in predicting and explaining behavioral intention to actually use the technology. Hansen et al. (2017) elaborated more on TAM and the Theory of Planned Behavior. A series of technology acceptance models have been developed, and among them, the TAM has been most commonly adopted by various researchers (Minghao & Wei, 2021). Perceived ease of use and usefulness, and attitude towards use were originally incorporated as factors in TAM that influenced the acceptance of technology. Continual modifications have been made to this model (Al-Zahrani, 2020). Thus, it was adopted and applied in the present research for investigating cybersecurity awareness and implementation of cybersecurity solutions.

The original definitions of each variable taken from previous studies and the operational definitions applied in this study are presented in Table 1.

Table 1 *Definitions of Terms*

Variables	Definitions	Operational Definitions
Perceived Knowledge	One's self-assessment or feeling of knowing the information needed to evaluate brands in a product class (Park et al., 1987).	A respondent's self-assessment or feeling of knowing the information needed to evaluate proposed cybersecurity solutions.
Perceived Risk	A belief in system characteristics, specifically belief in the competence, dependability, and security of the system, under conditions of risk (Kini & Choobineh, 1998).	A belief in the features of the proposed cybersecurity solutions, specifically a belief in the competence, dependability, and security of the solutions, under conditions of risk.
Perceived Trust	A situation or event where something of human value (including humans themselves) has been put at risk and where the outcome is uncertain (Al-Zahrani, 2020).	A cyberattack or data breach where the hospital (including staff and patients) has been put at risk and where the outcome is uncertain.
Perceived Ease of Use	The degree to which the prospective user expects the target system to be free of effort (Davis et al., 1989).	The degree to which the prospective hospital expects the targeted cybersecurity solution to be free of effort.
Perceived Usefulness	The prospective user's subjective assessment of the probability that using a specific application system will increase his or her job performance within an organizational context (Davis et al., 1989).	The subjective probability held by a prospective business that using a specific cybersecurity solution will increase its performance within an organizational context.
Attitude toward using	An individual's positive or negative perception (evaluative affect) about carrying out the targeted behavior (Ajzen & Fishbein, 1975).	A respondent's positive or negative feelings (evaluative affect) about performing the targeted behavior.
Behavioral Intention to use	A measure of the strength of one's intention to perform a specific behavior (Ajzen & Fishbein, 1975).	A measure of the strength of a respondent's intention to perform a specific behavior.

It is somewhat essential that organizations recognize emerging risks and apply information about cyberthreats coming from both internal and external sources to obtain a better understanding of the tendencies and possible consequence of cybersecurity events (National Institute of Standards and Technology (NIST), 2018). Reaching a critical state of cybersecurity awareness has been one of the most difficult tasks for companies and organizations to achieve in recent times (Bada & Nurse, 2019). People want high-quality information that can help them make an accurate evaluation of risks. Those with a high level of knowledge know the information they need, how to obtain it effectively, and how to comprehend it with less cognitive cost (Zhu et al., 2016). Due to the rising number of cyber incidents and a devastating shortage of technical skills, evaluating the knowledge gap between cybersecurity empowerment and industrial needs is obligatory (Catal et al., 2022).

Similar to financial and reputational risks, cybersecurity risks such as cyberattacks and cybercrimes can affect a company's bottom line by driving up costs, affecting revenue, and damaging an organization's capabilities to gain and retain customers. With an understanding of risk tolerance, organizations can prioritize cybersecurity activities, enabling them to make informed decisions about cybersecurity expenditures (NIST, 2018). Al-Zahrani's (2020) study supported the idea that perceived security and perceived privacy positively impacted perceived risk. Risk perception is a core variable in the Protection Action Decision Model that predicts an individuals'

behavioral responses to risk. Different researchers have measured it using a variety of scales (Zhu et al., 2016).

Researchers frequently quote trust as one of the furthermost perceptions examined in marketing research relationships. Trust has been identified as a major enabler for effective application along with technical innovation adoption (Al-Zahrani, 2020). Coulter and Coulter (2003) claimed that trust was an important factor in the establishment of long-term relationships between business suppliers and their customers, and enhancing trust was especially crucial in service sectors due to the abstract nature of most products or technologies. Bada and Nurse (2019) stated that building a relationship of trust can provide a good basis for engaging with businesses initially and for promoting a cybersecurity culture. Communication becomes a crucial component of engaging with businesses at all points.

In the discourse on privacy implications, organizations may envisage how their cybersecurity solutions might incorporate privacy rules, such as data minimization in the compilation, disclosure, and withholding of personal data related to cybersecurity incidents. In addition, this may involve utilizing inhibitions outside of cybersecurity activities on any data acquired mainly for cybersecurity activities; clarity for specific cybersecurity activities; individual compliance and amendment for contrary impacts emerging from the use of personal data in cybersecurity activities; information quality, accountability, and security; and integrity and scrutiny (NIST, 2018).

Davis et al. (1989) concluded that perceived usefulness is a major determinant of people's intentions to use computers. Their study also indicated that although ease of use is clearly important, the usefulness of a system is even more important and should not be overlooked. Users may be willing to tolerate a difficult interface to access functionality that is very important, while no amount of ease of use will be able to compensate for a system that does not enable a useful task to be completed.

Attitudes toward using a particular system is a major determinant in the intention to use that system. The more positive the attitude, the stronger the behavioral intention, and ultimately the higher is the probability that a corresponding behavior will take place(Ajzen & Fishbein, 1975). The development of cybersecurity performance metrics has been evolving, and businesses should be thoughtful, creative, and careful about the ways in which they employ measurements to optimize use. Thus, organizations need to pinpoint their missions, objectives, and priorities (NIST, 2018).

It is well recognized that an individual's knowledge, skills, and understanding of cybersecurity, as well as their experiences, perceptions, attitudes, and beliefs, are the main influencers of behavior (Bada & Nurse, 2019). Since the 1980s, studies on behavior or behavioral intentions of individuals have been popular in the field of information technology (Minghao & Wei, 2021). An individual's pre-existing beliefs, based on their perceived knowledge, motivates the assessment of information insufficiency. In addition, information seeking triggers risk perception and further influences information processing, and finally stimulates behavioral intentions (Zhu et al., 2015). Kijsanayotin et al. (2009) also found that the perception of possessing knowledge was an aspect of perception of "self-behavior control." Davis et al. (1989) indicated that behavioral intention to use was a major determinant of user behavior, while other variables had an indirect affect through behavioral intention. Three extended variables, namely, perceived knowledge of cybersecurity, perceived risk of cyberattacks, and perceived trust in cybersecurity solutions were used to examine whether the proposed conceptual framework as shown in Figure 1 complied with the research objectives.

Based on the above fine points and rationales, the following hypotheses were formulated:

H_1: Perceived knowledge of cybersecurity positively influences perceived trust in cybersecurity solutions.

H_2: Perceived knowledge of cybersecurity positively influences perceived risk of cyberattacks.

H_3: Perceived trust in cybersecurity solutions positively influences attitudes toward cybersecurity solutions.

H_4: Perceived trust in cybersecurity solutions positively influences perceived ease of use of cybersecurity solutions.

H_5: Perceived ease of use of cybersecurity solutions positively influences perceived usefulness of cybersecurity solutions.

H_6: Perceived usefulness of cybersecurity solutions positively influences behavioral intention to use cybersecurity solutions.

H_7: Perceived ease of use of cybersecurity solutions positively influences behavioral intention to use cybersecurity solutions.

H_8: Attitude toward cybersecurity solutions positively influences behavioral intention to use cybersecurity solutions.

Figure 1 *Conceptual Framework*
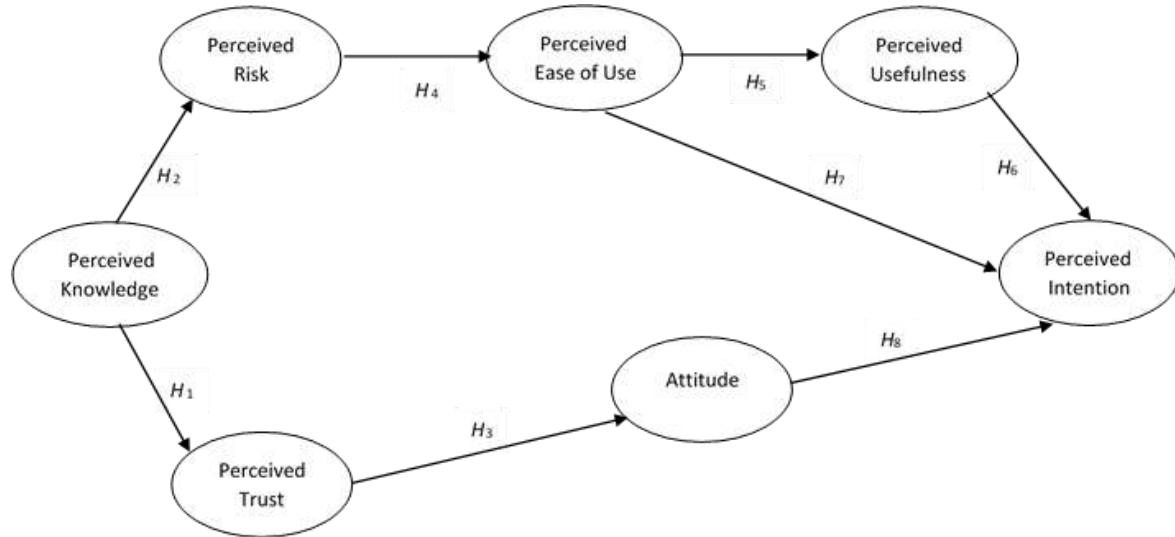
Methodology

A quantitative approach was used in the research, as it is observational and uses a theory or hypotheses to bring objectivity. A cross-sectional survey was carried out using a self-administered questionnaire to test the research variables. The respondents were the chief technology, information, and executive officers of firms, individuals from the IT department, or management level employees of companies/organizations from various industries in Thailand. Thirty-one responses were received from an online survey conducted across Thailand for the pilot test. Based on the outcome of the initial analysis, the questionnaires were modified, and some scale items were added for the main study. In the main study, a total of 448 respondents (out of a targeted sample size of 500) participated in the survey. Data was collected both online and using a printed form, but most participants came from the Bangkok Metropolitan area. The response rate was 89.6%. After eliminating incomplete responses and responses with outliers, 394 responses were used in analyzing the roles of the proposed variables.

Frequency analysis was used to summarize the characteristics of respondents in the study. As the targeted sampling group of this research was focused in Thailand, eight demographic attributes were developed, namely, Collection Methods, Gender, Age, Occupation, Industry, Business Type, Working Experience, and Region. The main data were analyzed by applying Structural Equation Modeling to determine if the proposed hypotheses were supported or not. During the process, Confirmatory Factor Analysis was used to validate the model and make it reliable. Exploratory Factor Analysis was employed while running the pilot test as it prepared the variables for a tidier Structural Equation Modeling. In Exploratory Factor Analysis, the Maximum Likelihood Method was used for factor extraction together with the Kaiser-Meyer-Olkin measure and Bartlett's Test for data adequacy. In Confirmatory Factor Analysis, Composite Reliability, Average Variance Extracted, Maximum Shared Variance and Average Shared Variance were calculated to establish adequate validity and reliability.

A structural model was built from the measurement model in SPSS AMOS with statistical support for all the hypotheses gained through global and local tests. Reflective measurement was applied for this quantitative social research as each measure required a proper scale. Likert scaling was utilized for social science information related to attitudes and behavior intentions. The scaled items of all the constructs in the research questionnaire used a five-point Likert scale (1 = *Strongly Disagree*; 2 = *Disagree*; 3 = *Neither Disagree nor Agree*; 4 = *Agree*; 5 = *Strongly Agree*) for data collection.

Findings and Results

The values of the means for all scaled items of the seven variables lay between 3.34 and 4.07. This was above the neutral point of 3.00; thus the respondents as a group held a positive conception of each variable. The closeness of fit of the observations to the structural model, together with the validity and reliability analyses, indicated that all the calculated values met or exceeded the thresholds nominated in Table 3. Thus, the model fitted well. While executing the Confirmatory Factor Analysis in SPSS AMOS, some scaled items were dropped, and some were relocated to other factors according to the suggestions from the modification indices. The Composite Reliability values must be above .70 for good reliability and Average Variance Extracted values must exceed .50 for adequate convergent validity (Hair et al., 2020). The outcome values of the structural model were calculated after running tests and demonstrated distinctive results. Cohen (1988) proposed that if the value of *R*-square for endogenous latent variables is above .75, it indicates a substantial effect; if the value is more than .50, it is taken as moderate, and when the value is less than .25, it is considered weak. Based on author's calculation, the *R*-square value for Perceived Risk was .99, .66 for Perceived Trust, .69 for Perceived Ease of Use, .93 for Perceived Usefulness, .59 for Attitude and .64 for Behavioral Intention. These values are displayed in Figure 2. Hypothesis testing results are shown in Table 4, and indicate that six hypotheses were supported.

Figure 2 *Structural Model Developed from the Authors' Calculations in SPSS AMOS (v. 24)*
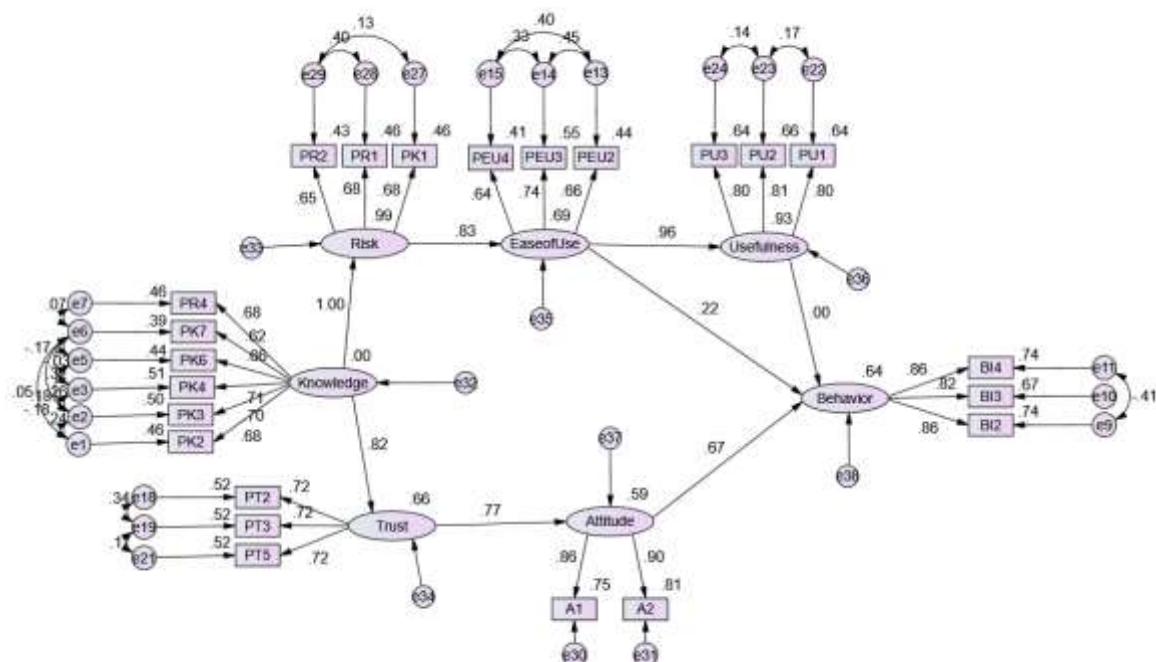
Table 3 *Model Fit Indexes Used for the Structural Model*

Principles	Threshold	Model
Chi-square/*df* (CMIN/*df*)	< 3.00	2.15
p-value	< .05	.00
CFI	> .95	.95
AGFI	> .80	.88
RMSEA	< .05	.05
PCLOSE	> .05	.15

Table 4 *Hypotheses Supported in the Structural Model*

Hypothesis	Path	β	*SE*	CR	*p*-value	Result
H_1	Perceived Knowledge → Perceived Trust	0.815	0.48	15.80	***	Supported
H_2	Perceived Knowledge → Perceived Risk	0.996	0.47	19.32	***	Supported
H_3	Perceived Trust → Attitude	0.768	0.66	14.44	***	Supported
H_4	Perceived Risk → Perceived Ease of Use	0.829	0.07	13.30	***	Supported
H_5	Perceived Ease of Use → Perceived Usefulness	0.963	0.07	15.77	***	Supported
H_6	Perceived Usefulness → Behavioral Intention	-.002	0.44	-0.01	.99	Not supported
H_7	Perceived Ease of Use → Behavioral Intention	0.219	0.50	0.53	.60	Not supported
H_8	Attitude → Behavioral Intention	0.666	0.05	13.16	***	Supported

Code. β = Beta; *SE* = Standard Error; CR = Composite Reliability; *** = *p*-value < .001

Discussion

Based on the research questions, it is evident that government intervention and cooperation among business sectors are pivotal to success in tackling cyberattacks. According to NCSA (2023), Thailand is trying to focus on development of cybersecurity personnel and public awareness by knowledge sharing on cybersecurity, providing academic services on cybersecurity, supporting and arranging for attendance at meetings in accordance with external agencies through the Cybersecurity Policy and Action Plan 2022–2027 in order to ensure economic and social sustainability. The conclusions reached from this study assisted in answering research question 1, and served to illustrate the necessity of cybersecurity awareness among chief technology, information, and executive officers and managers in organizations/businesses. The data also validated the influential factors that all private and public sectors should be aware of before they introduce cybersecurity infrastructural changes in their organizations.

Perceived knowledge of cybersecurity had a positive effect on perceived risk of cyberattacks; this emphasizes the value of both an awareness of the potential benefits of cybersecurity and some knowledge of the impacts of cyberattacks. Trumbo (1999) stated that information processing is another determinant of perceived risk, and Trumbo and McComas (2003) showed that systematic information processing positively influenced perceived risk. Klerck and Sweeney (2007) also agreed that more risk knowledge helps people to achieve a thorough and comprehensive understanding of risk. During the confirmatory factor analysis of our main study, one scaled item from perceived knowledge was loaded under perceived risk and vice versa, which meant that respondents considered perceived knowledge of cybersecurity to interact somewhat with perceived risk of cyberattacks.

Moreover, perceived knowledge of cybersecurity significantly influenced perceived trust in cybersecurity solutions. Faulkner (2011) argued that trust is the parameter that makes it reasonable to depend on the testimony of others. Mortensen and Neeley (2012) also found that both direct and reflected knowledge reinforced trust in explicit ways. Similarly, the research of Zywiolek et al. (2022) showed that trust is influenced by knowledge.

The third hypothesis, involving the influence of perceived trust in cybersecurity solutions on the development of an attitude favouring adoption of cybersecurity solutions, was also supported in this study. The findings of Limbu et al. (2012) indicated that trust enhanced user attitudes toward websites. The relationship between the corporate trustworthiness of an advertiser and attitudes toward the advertisment was mentioned by Sinclair and Irani (2013). They found that trust predicted attitude development. In addition, a positive impact of trust in mobile banking services has been found to impact the development of an attitude of loyalty (Khoa, 2020).

The question of the perceived risk of cyberattacks and perceived ease of use in the adoption of cybersecurity solutions has received some answers from previous researchers. A previous study showed a positive influence of perceived risk on perceived ease of use with a p-value less than .05 (Hansen et al., 2017). An interesting outcome of Chen and Aklikokou's (2019) investigation was that technological trust was significantly associated with perceived ease of use, returning a p-value of less than .001.

This study demonstrated a positive effect of perceived ease of use of cybersecurity solutions on perceived usefulness of cybersecurity solutions, indicating a strong relationship between the two variables. It is noteworthy that the variables had the highest beta and composite reliability values among all eight hypotheses tested in this research. A previous study by Karim et al. (2020) illustrated the positive relationship between perceived ease of use and perceived usefulness of an e-wallet. Likewise, Sukendro, et al. (2020) claimed that perceived ease of use was the significant predictor of perceived usefulness. Mailizar et al. (2021) agreed that perceived ease of use was a vital aspect in terms of ease of access, capacity of system to meeting users' needs, and flexibililty of the system, and contributed to the perceived usefulness of the e-learning system that they assessed.

One of the two hypotheses not supported in this study was that the perceived usefulness of cybersecurity solutions did not influence behavioral intention to use cybersecurity solutions. Though this result differs from the TAM hypothesis and some previous studies by Humida et al. (2021) and Sukendro, et al. (2020), it is, however, aligned with the findings of Kuo and Yen (2009) and Liao et al.(2007). They found that perceived usefulness had no direct positive effect on behavioral intention to use 3G mobile services.

The other hypothesis that was not supported in this study was that perceived ease of use of cybersecurity solutions did not influence behavioral intention to use cybersecurity solutions. The results showed that perceived ease of use had no significant and positive influence on behavioral intention. In a comparable research study by Kim and Song (2022), perceived ease of use had no significant impact on continuous intention to use Massive Open Online Courses (MOOCs). This was consistent with a study by Alassafi (2022), where the relationship between perceived ease of use and behavioral intention was insignificant. However, TAM has been empirically supported in many research studies, and the hypothesis of perceived ease of use on behavioral intention has been supported by many other researchers (e.g., Karim et al., 2020; Humida et al., 2021; & Basuki, et al., 2021).

The results of tests evaluating the eighth hypothesis affirmed that attitude toward using cybersecurity solutions has a positive and significant influence on behavioral intention to use them. Cao et al. (2021) also confirmed that the behavioral intentions of managers towards using artificial intelligence can be explained and predicted by their attitudes. Similarly, the results of the positive and direct effect of environmental attitude on environmental behavioral intention was statistically significant in a study conducted by Liu et al. (2020). Hwang et al. (2019) also indicated that attitudes toward drone food delivery services positively affected intentions to use the service.

Limitations and Implications

This study was conducted to explore the roles of perceived knowledge, perceived risk, and perceived trust in cybersecurity solutions implementation in Thailand. The analysis of 394 responses collected by both online and offline methods and the statistical findings indicated that the study met its objectives. However, some limitations in this study need to be mentioned. For the demographic

category of "Occupation," IT Professionals and Other were the most frequently chosen categories. Though a screening question filtered the targeted sample group from random people, the study could not clarify the exact positions that respondents held. Were they involved in the purchasing process of cybersecurity solutions or not? Some industries were not included in this study; this meant that no separation could be established between the private and public sectors in Thailand. In addition, out of 394 participants, 326 respondents were from Bangkok Metropolitan area due to accessibility limitations. The three external factors used were developed based on our observation related to Thailand's cybersecurity context and all eight hypotheses in this study were exclusively analyzed in a "direct effect" type of hypothesis. The authors chose to conduct an empirical study to examine the roles of perceived knowledge, perceived risk, and perceived trust in cybersecurity solution implementation within the real-world business context.

According to the findings from this study, it can be concluded that since the beginning of post-COVID 19 pandemic recovery time, cybersecurity awareness was obligatory for information and technology executives and managers of organizations and businesses. It is necessary for them to understand the risk of cyberattacks, and this consequently has led them to look for trusted cybersecurity solutions to protect their organizations and businesses. Moreover, despite the fact that Thailand has emphasized the development of competencies in regulatory agencies, government agencies, and critical information infrastructure organizations (NCSA, 2023), our findings indicated that a lack of sufficient knowledge or awareness of cybersecurity, cyberattacks, and attainable solutions for protection. Many private companies and organizations from various industries across Thailand still have not taken cybersecurity as seriously as they should. Businesses need to embrace and adopt automation, big data solutions, and artificial intelligence to cope with the ever-increasing number of alerts and incidents. Therefore, cybersecurity awareness and risk perception of cyberattacks should not be overlooked, especially by people in key positions or holding management level responsibilities. They should keep updated with current cybersecurity trends, as perceived knowledge of cybersecurity has significant impacts on perceived risk of cyberattacks and perceived trust in cybersecurity solutions. Invitations to attend training sessions and conferences aimed to reach organizational or corporate level executives and students might also be extended to government agencies in order to reach a wider audience. This might stimulate greater cybersecurity awareness and exposure if small-to-medium enterprise owners were included, along with those from remote areas. Businesses in Thailand should consider cyber insurance policies and investments in cybersecurity to limit potential damage (Kate, 2021). This is where solution providers who have developed trust and a sound reputation from their current users can play a big part leading new users to adopt useful cybersecurity solutions. This follows from the finding that perceived trust had a positive influence on attitudes toward using cybersecurity solutions, and attitude, in turn, affects behavioral intention.

Providing regular product updates and post-sales services may help in gaining trust from users. Nonetheless, both private and public sectors should be aware of not only the fundamental factors such as perceived knowledge on cybersecurity and perceived risk of recent cyberattacks, but also trustworthiness of the solutions, as these factors significantly impact on customer attitudes and behavioral intention to implement cybersecurity infrastructure in their organizations or businesses. Moreover, based on the positive outcomes of the relationships between perceived ease of use and perceived usefulness, cybersecurity solution providers should be aware of the need to emphasize the practicality and convenience of their product in order to promote their use. In the context of this study, perceived ease of use and perceived usefulness of cybersecurity solutions had no significant effect on behavioral intention to use the solutions. This may be due to the fact that consumers are aware of the complexity of the implementation process as per the size of the companies or organizations and that they nevertheless are willing to deploy the solutions regardless based on the cybersecurity criticality of their businesses or organizations. Solutions providers should not overlook the accessibility their product for users, as perceived ease of use on perceived usefulness was strongly supported. Therefore, it is notable that the roles of perceived knowledge of cybersecurity

and perceived risk of cyberattacks, held by those in positions of authority in business/organization, contribute to the implementation of a cybersecurity infrastructure in organizations/businesses in Thailand together with the development of trust in cybersecurity solutions, perceived ease of use, and usefulness of cybersecurity solutions.

Conclusions

The study's main objectives were to promote the awareness or knowledge about cybersecurity, deploy a better security management system with efficiency in businesses and organizations, and implement a more proficient cybersecurity framework in Thailand's private and public sectors. In order to facilitate this, a conceptual model with three extended variables was adopted from the Technology Acceptance Model (TAM), and eight hypotheses were laid out to highlight current business practices in Thailand. Based on the proverb which goes "Prevention is better than cure," this research emphasized three influential factors in addition to those of TAM. Six factors were found to benefit businesses and organizations in Thailand when implementing cybersecurity solutions. These factors were perceived knowledge of cybersecurity, perceived risk of cyberattacks, perceived trust in cybersecurity solutions, perceived ease of use of cybersecurity solutions, perceived usefulness of cybersecurity solutions, and attitude toward using cybersecurity solutions.

Moreover, the results obtained indicated that the three extended factors had a positive influence on behavioral intention to use cybersecurity solutions. Though perceived ease of use and perceived usefulness on behavioral intention were not supported, cybersecurity solution providers should not overlook the importance of the practicality and efficiency of solutions, training, and technical support offered to consumers.

In addition, future researches may consider narrowing the scope of study from the private and public sectors to one specific industry such as finance, healthcare, or tourism. Vague items like "Other" should be avoided as demographic categories, and items need to be carefully prepared to achieve valid responses. Moreover, future scholars may try to obtain a more representative sample of demographic attributes such as gender, age, business type, working experience, and region, to better generalize to the targeted population. For theoretical contribution, future practitioners may include more or different extended variables to TAM, or apply different types of hypotheses such as mediated effects, interaction effects, multi-group effects, mediated moderation, or handling controls by reviewing previous researchers' work. In the future, similar technology studies may adopt the conceptual framework used in this study to examine the roles of perceived knowledge, perceived risk, and perceived trust on other technologies/products and their use.

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Religiosity, Spirituality and Their Relationship to Job Satisfaction: Quantitative Data from Faith-Based Schools in Australia – Part One[1]

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Abstract

This paper is the first of a two-part report on a mixed methods study that examined the job satisfaction of teachers who worked in faith-based schools. Five aspects of the work of teaching (colleagues, working conditions, responsibility, work itself, and recognition) and two transcendent factors (spirituality and religiosity) were examined to see how they impacted overall job satisfaction. In this mixed methods project, both quantitative and qualitative data were collected from a sample that consisted of nine schools in two Australian faith-based educational systems: Lutheran and Seventh-day Adventist. This paper reports on the findings from regression analysis of the quantitative data (N = 221), which indicated that overall job satisfaction was influenced by a combination of direct and indirect relationships that centred around working conditions, work itself, religiosity, and the age of the respondent. It also was found that religiosity impacted overall job satisfaction directly and indirectly via the mediating element of spirituality. A partial discussion of the results is presented in this report, but the complete discussion will be found in Part Two (2024).

Keywords: *Job satisfaction, religiosity, spirituality, faith-based school*

Introduction and Need for the Study

In 2022 Australia had 1,127 independent schools and 1,762 Catholic schools, and between these two sectors over 100,000 teachers were employed (2021—105,263) (Australian Bureau of Statistics, 2021). According to the Independent Schools Council of Australia, 83% of all independent schools have a religious affiliation (Independent Schools Council of Australia, 2023,). Acquiring empirical data identifying the factors most likely to promote job satisfaction for such teachers would add to the limited work that has focused on faith-based education.

The acceptance, sometimes reluctantly, of the analysis of religiosity and spirituality in business and healthcare environments, plus the general acknowledgement of workplace spirituality, does not appear to be mirrored in the education sector. There is a need to understand the impact of spirituality and religiosity on job satisfaction in this context more fully.

A further reason for this study on job satisfaction of those who work in faith-based institutions is that it has the potential to support the well-being of teachers in these environments. There are numerous reports of a mental health crisis in Australia (Australian Psychological Society, 2022; Morris, 2021), and frequent media reports of a "teacher exodus" from the profession has attracted scholarly interest (Shine, 2015). With these issues providing a broad context, and on account of the known relationship between life satisfaction and job satisfaction (Rice et al., 1980), maximizing job satisfaction could have important societal benefits.

Objectives of the Study

The focus of this research was to examine factors that impact overall job satisfaction (OJS) among teachers in faith-based environments. In particular, the intent was to ascertain whether there are any relationships, yet not causation, between teachers' self-reported levels of religiosity and spirituality with specific aspects of teaching (colleagues, working conditions, responsibility, work itself, and recognition) and their impact on teachers' levels of OJS. The objectives were further

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[1] This article is based on a thesis that was previously posted on a university website for a limited audience.
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narrowed by limiting the participants in the study to those whose expertise was in education taking place within the context of a faith-based educational environment. The study was limited to schools that were located within the state of Victoria.

Hill and Hood (1999), in the introduction to their monumental work "Measures of Religiosity," acknowledged both the distinction and the overlap between the concepts of religion and spirituality. They also stated that researchers have focused in many areas; however despite investigations on the relationship between religion and spirituality, there is a need for more work in this area.

Research Problem and Questions

The variables in this study consisted of five aspects of teaching (colleagues, working conditions, responsibility, work itself, and recognition), two transcendent factors (religiosity and spirituality), and job satisfaction. Only the latter has a long and relatively extensive history in academic research. Further to this, empirical studies that involve the areas of spirituality and religiosity have a two-fold problem: First, the definitional fluidity that confronts the researcher, and second the problem of measurement. Can something as elusive (some might say illusive) as spirituality actually be measured? If so, using what? And how is spirituality different from religiosity?

It is understood that today's search for the spiritual may not lead to the church, mosque, synagogue, or temple. Organised religion no longer has a monopoly on spiritual matters, and this may have led to the confusing number of definitions.

At the turn of the century there was an increased level of interest in workplace spirituality (Beazley, 2004; Carette & King, 2004; Giacalone & Jurkiewicz, 2003; Guillory, 2001; Hill & Hood, 1999; Marques et al., 2007; Mitroff & Denton, 1999; Rolheiser, 1999; Smith, 2006). However, much of the research of more recent times is now coming from emerging economies around the world (Hassan et al., Hefny, 2021; Lata & Chaudhary, 2020; Pokhariyal, 2020). Nevertheless, as Rolheiser (1999, p. ix) states, we are in "an age which is rich in everything except clarity."

In outlining the definitional parameters for spirituality and religiosity, it is readily acknowledged that their boundaries are blurred. Although still possessing common characteristics, this distinction in concepts is considered by some to be a recent phenomenon. For example, Carette and King (2004, p. 26) stated that "it was not until the second half of the twentieth century that 'spirituality' came to signify a de-institutionalised and privatised religion as it does today."

Similarly, Hill and Hood (1999, p. 359) noted that for many people, "spirituality is experienced and expressed through conventional religious understanding, and the contemporary conception of spirituality as separate from religion has a surprisingly short history." Many have adopted the distinction with certitude. For example, Nash (2002, p. 166) stated that "Religion … is the institution; spirituality is the personal. Religion is what we do with others; spirituality is what we do within ourselves. Public vs. private faith. Religion is head; spirituality is heart." Here it is considered that there is sufficient delineation of the concepts to allow for independent examination.

The research questions that guided this part of the investigation were: (a) How do teachers who work in faith-based school systems rate themselves in terms of agreement with worldview factors related to religiosity and spirituality (when specified definitions of these factors are adopted), and how satisfied are these teachers with various aspects of teaching and their jobs? (b) What are the relationships between teachers' religiosity, spirituality, and job satisfaction within this given framework? In Part Two of this research, the nature of teachers' perceptions will be examined relating to religiosity, spirituality, and job satisfaction, when allowing for respondents to formulate their own framework with which to describe these constructs.

Literature Review
Job Satisfaction

Job satisfaction has a long and rich research history that dates back to the 1920s and 30s with the Hawthorne studies, which focused on workers in the Western Electric Company located on the outskirts of Chicago (Mayo, 1993). In the 1960s, Maslow's (1968) research linked the hierarchy of

human needs and the concept of work (Hall & Nougaim, 1968). Major models that have developed in this area of study include Locke's Range of Affect theory (Locke, 1976), the dispositional approach (Staw et al., 1986; Staw & Cohen-Charash, 2005), Herzberg's motivator-hygiene theory (Herzberg, 1987; Herzberg et al., 1959), Hackman and Oldham's job characteristics model (Kulik et al., 1988), and Equity theory (Bulger et al., 2020).

Narrowing the focus to the teaching profession and examining teacher job satisfaction, some of the most extensive work appeared in the early 1990s when Dinham (1992) conducted his interview-based research over four nations (Dinham & Scott, 1998). Dinham and Scott extended Herzberg's (1987; 1959) "two factor theory" by identifying a third domain within teacher career satisfaction (Dinham & Scott, 1998, 2000, 2002; Scott & Dinham, 2003). This third domain lies between the intrinsic rewards that teaching provides (student achievement and self-growth) and the extrinsic dissatisfiers (administrative workloads, poor status and continual change), and consists of school-based factors (leadership, organisational culture, school reputation) that provide substantial potential for facilitating change (Dinham & Scott, 1998). A further narrowing to within the faith-based sector has produced research with inconclusive results (Metheny et al., 2015), while other work has linked job satisfaction with servant leadership (Baqai, 2020).

Spirituality and Religiosity

Interest in religious and spiritual matters can be traced back thousands of years, but empirical research is a more recent phenomenon that has concentrated on organisational spirituality, workplace spirituality, or individual spirituality (Rocha & Pinheiro, 2021). Analysis of the work environment, as outlined by Marques (2004), represents a progression from studies commenced in the early 20th century on management theories, to the incorporation of the cognitive aspects, and now an expansion that includes the spiritual dimension. Around the turn of the century, auditing corporate America was in fashion (Mitroff & Denton, 1999), then workplace spirituality (Giacalone & Jurkiewicz, 2003; Smith, 2006) came to the fore where organisations were considered as "living" entities with a spiritual element (Guillory, 2001). Now the connections to individual welfare are considered, such as burnout, happiness, trust, mental health, and organisational citizenship behaviour (Bal & Kökalan, 2021; Dubey et al., 2020; Hassan et al., 2016; Pokhariyal, 2020).

While there is widespread acceptance of the interdisciplinary nature of this field of study (Fornaciari & Lund Dean, 2004; Furnham, 2003; Ingersoll, 2001; Rhodes, 2003), the relatively recent interest in spirituality in the workplace and its accompanying scholarly articles have not been without concerns being expressed in some quarters. For example, not all corporate personnel view the study of spirituality as a positive element. This is acknowledged by Poole (2009, p. 577), where she refers to the area of study as "still not yet mainstream." Others have identified that "theory development and research in the field of spirituality in organizations has to date been fragmented" (Tischler et al., 2007, p. 23). King (2008) stated that "research focused on religion's influence … is light, and mostly outside the mainstream of the [management] field" (p. 215). In a similar manner, the proportion of empirically documented studies on the relationship between religiosity/spirituality and job satisfaction amongst teachers is limited.

Nevertheless, the presence of both religiosity and spirituality in the workplace have been shown to be beneficial (Hassan et al., 2016; Purnamasari & Amaliah, 2015), and a number of literature-based reviews examining workplace spirituality suggest that perhaps this area of research is now gaining acceptance within the mainstream (Dubey et al., 2020; Obregon et al., 2022). While this is an encouraging indicator, analysis from a legal perspective clearly documents that this is still a contested space (Ebrahim, 2021; Flake, 2020).

Definitional Issues

It has to be acknowledged that there are no generally accepted definitions of spirituality and religiosity. Giacalone and Jurkiewicz (2003) illustrate the diversity of views well by providing a representative list of around 15 definitions of spirituality in literature. Zinnbauer and Pargament

(2005) also collated the range of views with two tables of their own—one for spirituality and one for religion (Paloutzian & Park, 2005), and they listed 17 more authors resulting in 14 more definitions. The term spirituality cuts across all religions and value systems, and it is this universality that makes defining it so difficult. While there has been some level of definitional uncertainty, there has also been a similar vagueness about religiosity's relationship to spirituality, and now a number of options of how the concepts are juxtaposed can be explored.

The Spirituality / Religiosity Distinction

A common topic of discussion in many articles is the problem of distinguishing between spirituality and religiosity (Stanard et al., 2000). First, one needs to recognise that there are many shared characteristics as stated by Zinnbauer and Pargament (2005). Second, there are differences between the constructs, and both popular and academic literature now distinguish between spirituality and religiosity. However, as Paloutzian and Park (2005) assert, there is still no clear consensus about the two constructs. This study is premised on the conceptualisation that religiosity and spirituality are discrete concepts with shared roots and common elements. For the teachers involved, spirituality is defined as a personal connectedness with a power or source in the universe that is greater than oneself. In contrast, religiosity is defined as the institutional, doctrinal public faith that is celebrated with others. In other words, spirituality is focused around the intrapersonal, while religiosity is focused around the interpersonal.

Methodology

This quantitative research was conducted as part of a larger mixed methods approach that involved "the collection and analysis of both qualitative and quantitative data" (Punch, 2009, p. 288). This paper profiles the quantitative data that gave respondents an opportunity to exhibit any relationships using the structured framework that is implicit in survey data.

The Sample

The data in this cross-sectional study was collected from five Lutheran and four Seventh-day Adventist (SDA) schools that were essentially urban in nature. The schools are located in Victoria, Australia, and consisted of a mix of both metropolitan and regional sites. Each respondent in this study was an adult and registered teacher working within a faith-based educational system. They received an information letter as well as a consent form. A total of 287 questionnaires were distributed across the nine schools and 221 usable questionnaires were returned. This gave a very acceptable return rate of 77%. The sample consisted of 36.6% males and 63.4% females. This higher distribution of females is typical of overall ratios found in Australian K-12 education.

Questionnaire

The data collection instrument consisted of a 60-question survey that could be completed in less than 10 minutes. The survey length was considered significant because teachers are generally time poor, and longer surveys seriously hamper one's ability to collect data. The questionnaire consisted of three sub-sections: Demographics, Questions About Your Job, and Worldview Factors.

Aspects of Teaching Instrument

Due to its direct applicability, brevity, and high reliability scores on the sub-scales ($\alpha > .70$), the Teacher Job Satisfaction Questionnaire (TJSQ), developed in 1984 by Paula Lester, was used as a basis to assess teachers' satisfaction with specific aspects of teaching. The complete TJSQ contains 77 self-reported items on a five-point Likert scale (Lester, 1987).

The original instrument in the North American context examined nine sub-scales relating to teacher's satisfaction with specific aspects of teaching (Supervision, Colleagues, Working Conditions, Pay, Responsibility, Work Itself, Advancement, Security, and Recognition). For the Australian teacher working within a faith-based school, where most schools are small to medium in size and the level of

supervision is relatively minor, teacher pay is standardised across the profession, advancement is not a major factor, and working conditions tend to be protected, it was decided to omit the supervision, pay, advancement, and security sub-scales of the TJSQ to generate something more applicable to this context. The sub-scales used were as follows: Colleagues (eight questions), Working Conditions (4), Responsibility (7), Work Itself (8), Recognition (2)—a total of 29 items. The reliability coefficient of each factor was also suitably high (> .60); colleagues (.756), working conditions (.757), responsibility (.679), work itself (.600), and recognition (.600). The survey size was reduced by removing duplication (i.e., either positive or negative forms were used, not both).

The TJSQ's original 5-point Likert scale was modified to a 6-point scale in order to create a forced choice and hence providing greater information. The descriptors for this scale were as follows: *Strongly Disagree*, *Moderately Disagree*, *Slightly Disagree*, *Slightly Agree*, *Moderately Agree*, *Strongly Agree*.

Worldview Factors Instrument

The section on Worldview Factors (religiosity and spirituality) used the Religious Commitment Inventory–10 (Worthington et al., 2003) for data collection. This 10-item instrument qualified on the basis of brevity, its correlation with the definitions of spirituality and religiosity as previously outlined, and its utilisation of the intrapersonal/interpersonal distinction adopted for this study.

Nine additional questions were added to the Perspectives on Life section. Six of these came from the Brief Multi-dimensional Measure of Religiousness/Spirituality (Fetzer Institute/National Institute on Aging Working Group, 1999) and three other questions were added after testing. These additional questions were added to provide a broader coverage of contemporary lifestyle elements, such as volunteer work. Once again, the reliability coefficient of each factor was assessed— religiosity (.819) and spirituality (.867). As a consequence, Section 3 of the survey had 18 items.

Outcome Measure–Job Satisfaction

Overall job satisfaction (OJS) was measured using a global job satisfaction conceptualisation and the item stated, "Rate your overall job satisfaction on the [1-6] scale below."

Data Analysis

A statistical software package, PASW 18.0 for Mac, was used for data analysis. Descriptive statistics for each subscale were determined. Independent groups, *t*-tests and one-way between groups ANOVA with post-hoc comparisons were run to locate any areas of significant difference. In addition, a linear regression analysis was used to explore the relationship between sets of individual variables and respective dependent variables. Reliability for each scale and subscale was reviewed using Confirmatory Factor Analysis, and Cronbach's alpha was used to estimate internal reliability. The Cronbach alpha values obtained lay between .600 and .867, an acceptable range. This was after one item was removed in each of the "Work Itself, "Responsibility," and "Working Conditions" factors; one item was removed to improve the sub-scale's internal reliability.

Results

The sample consisted of 221 teachers, 89 employed by Lutheran Education Australia within five Victorian schools, and 131 employed by Adventist Schools Australia within four Victorian schools.

The participants were distributed across the following age groupings: 21–30, 31–40, 41–50, 51–60 and 61+. There was a relatively equal distribution across age groups except for the greater than 61 group. The sample consisted of 36.6% males and 63.4% females, a distribution of females typical of overall ratios found in K-12 education. Similarly, the experience level of the teachers was diverse; all categories approximated 20%, except for very experienced teachers, and inductees (0–2 years) were less represented. From the 221 respondents, 131 (59.5%) indicated that they were teaching in an Adventist school, and 89 (40.5%) stated that they were teaching in a Lutheran school.

Of the respondents who indicated that they worked in a Lutheran school, 59.5% indicated that they were from a Lutheran heritage. Similarly, of the respondents who indicated that they worked in a Seventh-day Adventist school, 91.6% were from an Adventist background. There were no Seventh-day Adventists in Lutheran schools and no Lutherans in Adventist schools.

The Perspectives on Life (Religiosity and Spirituality) and the Aspects of Teaching (Work Itself, Recognition, Responsibility, Colleagues, and Working Conditions) factors addressed in the questionnaire were subjected to confirmatory factor analysis. The analysis indicated that religiosity and spirituality were distinct constructs, though it suggested that each construct consisted of sub-constructs. The factor analysis indicated that there were five Aspects of Teaching components, even though for this data set, the factors "Work Itself" and "Responsibility" had some minor overlap.

For this study, the Religiosity and Spirituality factors were considered as single units, and the five Aspects of Teaching factors as indicated in the methodology were adopted as single measures.

Aspects of Teaching and Worldview Factors: Characteristics

The mean and standard deviation of the scales for the Aspects of Teaching and Worldview factors are shown in Table 1.

Table 1 *Mean and Standard Deviation–All Factors (N = 221)*

	Aspects of Teaching					Worldview Factors	
	Colleagues	Working Conditions	Responsibility	Work Itself	Recognition	Spirituality	Religiosity
Mean	4.731	4.011	5.480	5.095	4.057	5.127	4.256
SD	0.673	0.963	0.462	0.539	1.104	0.727	0.812

The mean values (six indicating that they strongly agreed with the positive statement, and one indicating that they strongly disagreed with the positive statement) ranged from a low of 4.001 to a high of 5.480. The standard deviation was rather large for Recognition.

Profiles

The nature of a particular group or sub-group within this sample was described with reference to their demographics, aspects of teaching, and worldview factors. When the sample was considered as one group, the profile obtained is shown in Figure 1.

Figure 1 *Mean Responses for Aspects of Teaching and Worldview Factors for All Data*
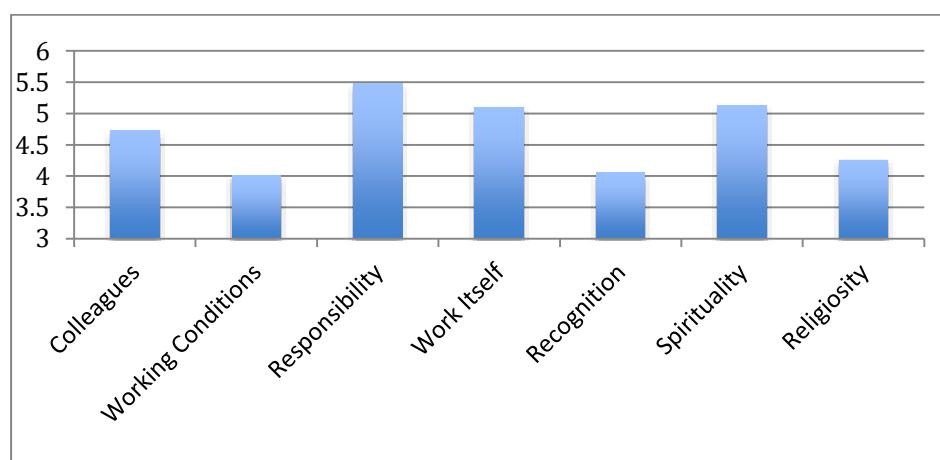
Three aspects of teaching factors (Responsibility, Working Conditions, and Recognition) had scores above five. The Responsibility factor had the lowest standard deviation (0.462).

Among the Worldview factors, the mean for Spirituality was significantly greater than for Religiosity, indicating stronger respondent agreement with possessing Spirituality than Religiosity.

Gender Profile

The general trend of the data indicated that females most often scored higher on each profile element. The difference between the male and female response was significant at the .05 level for the Aspects of Teaching sub-scales: Colleagues (t[215] = 3.747, p < .005), Working Conditions (t[215] = 2.342, p < .005), Responsibility (t[215] = 2.167, p < .005), Work Itself (t[215] = 2.097, p < .005), with the females means score being significantly higher. There was no statistically significant difference between the males and the females in terms of their self-rating of both spirituality and religiosity.

Age Group Profile

In terms of the Aspects of Teaching factors, it was the 41–50 age group that most often scored the highest; the youngest and the oldest groups scored the lowest. There was, however, no statistically significant difference between the respective age groups for any of the sub-scales.

Years of Teaching Experience Profile

The mean values for the teaching experience groupings (0–2 years, 3–5 years, 6–10 years, 11–20 years, 20+ years) revealed no statistically significant difference for any of the Aspects of Teaching factors. However, there was a statistically significant difference for the 3–5 years' experience group which had a lower Spirituality rating than the other groups (F[4,215] = 2.612, p < .05).

Highest Qualification Profile

The data indicated that for the Aspects of Teaching factors, higher qualifications were statistically significant for the Working Conditions element (F[3,215] = 2.872, p < 0.05), with more highly qualified respondents registering lower Working Conditions scale scores. No other statistically significant differences were found.

School Student Enrolment Profile

The general trend observed indicated that school size has an impact on four of the five job satisfaction elements. The difference between the respondent's school size was statistically significant for the job satisfaction sub-scales: Colleagues (F[3,216] = 4.694, p < .005), Working Conditions (F[3,216 = 9.503, p < .005), Responsibility (F[3,216] = 5.009, p < .005), and Recognition (F[3,215] = 3.718, p < .005), with the larger schools scoring higher. In terms of the Worldview factors, there were no statistically significant differences between the respective school size groupings.

School Level Profile

The general trend of the data indicated that primary teachers scored higher on each profile element. The difference between the primary and secondary response was statistically significant for all the job satisfaction sub-scales: Colleagues (F[1,216] = 17.190, p < .005), Working Conditions (F[1,216] = 25.107, p < .005), Responsibility (F[1,216] = 8.005, p < .005), Work Itself (F[1,216] = 8.529, p < .005), and Recognition (F[1,216] = 8.121, p < .005), with the primary teachers scoring significantly higher. There were no statistically significant differences noted in Worldview factors.

School Religious Affiliation Profile

The general trend of the data indicated that teachers in Lutheran schools most often scored higher on each job satisfaction element, while teachers in SDA schools scored higher on the Worldview elements. The differences between the responses of teachers in the Lutheran schools and teachers in the SDA schools were statistically significant: Colleagues (t[218] = 6.168, p < .005), Working Conditions (t[1,218] = 5.557, p < .005), Responsibility (t[218] = 3.885, p < .005), and Work

Itself (t[218] = 2.863, $p < .005$), with the teachers in Lutheran schools scoring significantly higher, but with the same level of agreement.

Teachers in SDA schools scored higher on spirituality than the teachers in Lutheran schools, but this was not statistically significant. Similarly, teachers in SDA schools rated themselves at a higher level of religiosity than the teachers in Lutheran schools. This response was significant: Religiosity (t[218] = -3.591, $p < .005$).

Teacher Religious Affiliation Profile

The difference between the respective religious affiliation groupings was statistically significant for the Aspects of Teaching sub-scales: Colleagues (F[2,218] = 23.507, $p < .001$); Working Conditions (F[2,218] = 19.114, $p < .005$); Responsibility (F[2,218] = 7.886, $p < .005$); and Work Itself (F[2,218] = 4.163, $p < .005$), with the SDA teachers scoring the lowest and the Lutheran teachers scoring the highest.

In terms of the Worldview factors, there was a statistically significant difference in the responses at the 5% level. The teacher religious affiliation profile showed a difference in both elements, the Spirituality factor (F[2,218] = 5.121, $p < .05$) and the Religiosity (F[2,218] = 9.311, $p < .05$), with the Other Christian teachers scoring the lowest, and SDA teachers scoring the highest.

Potential Relationships

Regression analysis was used to explore relationships between the dependent variable—Overall Job Satisfaction (OJS) and the respective Aspects of Teaching factors, Worldview factors, and teacher demographics. All other items were later eliminated from the model. The Aspects of Teaching factors covered were as follows (Figure 2): Work Itself; Recognition; Responsibility; Colleagues; and Working Conditions. The Worldview factors consisted of Religiosity and Spirituality.

Figure 2 *The Initial Model for Predictors of Overall Job Satisfaction*
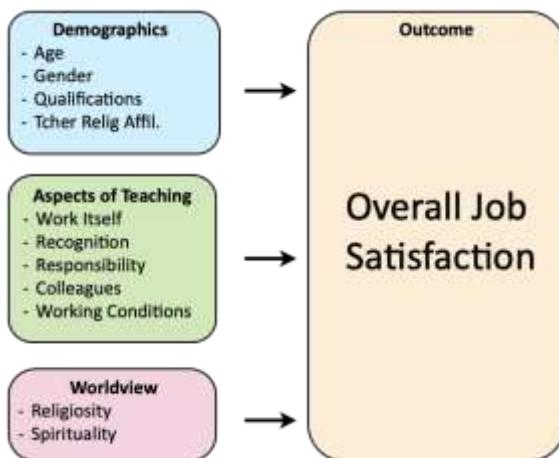
Regression Analysis for Predictors of OJS: Hierarchical Regression

To test the relative influence of each of these groups of variables on Overall Job Satisfaction, hierarchical regression analysis was carried out on the independent variables. A number of demographic variables were omitted because initial regression analysis indicated that they had minimal impact on OJS. The model then for the predictors of OJS (dependent variable) consisted of the following set of independent variables (N = 11): Demographics—Age, Gender, Highest Qualification, Teacher Religious Affiliation; Aspects of Teaching factors—Colleagues, Working Conditions, Responsibility, Work Itself, Recognition; and Worldview factors—Spirituality, Religiosity. Hierarchical regression of this model indicated that the Demographics accounted for 13.7%, the Aspects of Teaching factors accounted for 31.1%, and the Worldview factors accounted for 2.2% of the explained variance in Overall Job Satisfaction.

Regression Analysis for Predictors of Overall Job Satisfaction: Backward Regression

The initial model for the predictors of OJS (dependent variable) consisted of the following set of independent variables: Demographics, Aspects of Teaching factors, and Worldview factors.

To test the relative influence of each of these independent variables, backward regression analysis was carried out using this model. It accounted for 47.2% of the explained variance. Backward regression, however, generated a four-factor model (Table 2), significant (at the .05 level), which accounted for 45.4% of the explained variance in OJS.

Table 2 *Predictors of Overall Job Satisfaction (OJS) – All Respondents*

Independent Variables	*R* Square	Beta	*t*	Significance
	0.454			
Working Conditions		.394	6.884	.000
Work Itself		.323	5.598	.000
Spirituality		.148	2.810	.005
Age of the Respondent		.139	2.668	.008

The strongest predictor of OJS was Working Conditions, followed by Work Itself and Spirituality, with the Age of the Respondent having the least influence on the final outcome.

Modified OJS: Quantitative Data

The above regression analyses indicated that although OJS was influenced by the following set of variables–Demographics, Aspects of Teaching and Worldview factors as proposed in the initial model (Figure 2)–not every variable within these sets had a significant impact on OJS.

For the Demographic set of variables, it was only Age that had a significant and direct impact on OJS, with the older teachers being more satisfied with their teaching role than the younger ones. In terms of Aspects of Teaching, the variables Working Conditions and Work Itself were the only variables within the set that significantly contributed to OJS. Those teachers that perceived their working conditions were pleasant and the work itself was rewarding registered the highest OJS. Finally, the Demographic variable Gender and the Worldview variable Religiosity positively influenced OJS indirectly through the mediating Worldview variable Spirituality.

A Comparison: Regression Analysis for Predictors of OJS

Comparisons of the influences on OJS for the teaching personnel in the SDA school system as compared to those in the Lutheran school system were undertaken using backward regression analysis to test the relative influence of each of the independent variables.

The model for the predictors of OJS (dependent variable) consisted of the following independent variables: Demographics—Age, Gender: Aspects of Teaching factors–Colleagues, Working Conditions, Responsibility, Work Itself, Recognition; and Worldview factors–Spirituality, Religiosity.

For the teachers in Lutheran schools, the model accounted for 41.5% of the explained variance. Backward regression, however, generated a four-factor model, significant at the 5% level (Table 3), which accounted for 37.8% of the explained variance in overall job satisfaction.

Table 3 *Predictors of Overall Job Satisfaction (OJS) – Lutheran School Respondents*

Independent Variables	*R* Square	Beta	*t*	Sig
	0.378			
Working Conditions		.290	2.771	.007
Work Itself		.277	2.615	.011
Religiosity		.205	2.286	.025
Age of the Respondent		.192	2.147	.035

The strongest predictor of OJS for teachers in Lutheran schools was Working Conditions, then Work Itself, and Religiosity. Age of the Respondent had the least influence on the final outcome.

For the teachers in SDA schools, the model accounted for 49.1% of the explained variance. Backward regression, however, generated a three significant (at the .05 level) factor model (Table 4), which accounted for 47.2% of the explained variance in OJS.

Table 4 *Predictors of Overall Job Satisfaction (OJS) – SDA School Respondents*

Independent Variables	*R* Square	Beta	*t*	Sig
	0.472			
Working Conditions		.405	5.725	.000
Work Itself		.370	5.075	.000
Spirituality		.193	2.801	.006

The strongest predictor of OJS for teachers in SDA schools was Working Conditions, followed by Work Itself, and with Spirituality having the least influence on the final outcome.

Discussion

While the group or subgroup profiles and the potential relationships provide considerable opportunity for discussion, a more complete analysis will be found in Part Two of this report. In this abbreviated discussion, only a few key features are highlighted. When examining the predictors for OJS, the initial analysis looked at 18 inputs from three discrete areas: Demographics, Aspects of Teaching factors, and Worldview factors. Using regression analysis, the number of potential predictor variables was reduced to 11, and an initial model for the predictors of Overall Job Satisfaction was constructed (Figure 2). Backward regression analysis further reduced this to just three or four independent variables as shown in Tables 2, 3, and 4.

The factors that had the greatest impact on OJS were Working Conditions and Work Itself, followed by a worldview factor. The most notable feature appears to be the difference between the teachers in Lutheran schools compared to the teachers in SDA schools. It can be seen that for the Lutherans, Religiosity (interpersonal-corporate activities) directly influenced OJS, while for those teaching in SDA schools, Spirituality (intrapersonal aspects) directly influenced OJS. The age of the respondent was a predictor of OJS only for teachers in Lutheran schools.

Teachers in Lutheran schools see Religiosity as a more affirmed aspect of their lives and impacting on their job satisfaction. Teachers in SDA schools see Spirituality as a more agreed component in their lives and impacting on their job satisfaction. A number of explanations exist. First, teachers in the respective systems may have different understandings of the terms Religiosity and Spirituality. Second, teachers in the respective systems may have the same understandings of the terms, but their worldviews may be influenced by different sets of evaluative criteria. Deciding what these criteria are is an area where further research is recommended.

Conclusion

Part Two of this report (2024) will examine the qualitative data with the teachers' unframed perspectives on overall job satisfaction (OJS) and its various predictors. The use of a convergent data collection design (Creswell & Creswell, 2017) has allowed some level of methodological triangulation to support the space triangulation (multiple sites) in the presentation of this research.

Both quantitative and qualitative data will be discussed in Part Two. Using both data sets, a final model based on the one suggested in this paper will be generated that proposes a set of predictors for OJS in this group of faith-based schools. Finally, the combined data will be presented with conclusions, recommendations, and limitations acknowledged as being implicit in the research.

Acknowledgments

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Data Envelopment Analysis of Fair Value Versus Historical Cost Accounting: An Insight into Thailand's Insurance Sector

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Abstract

In today's dynamic financial environment, several countries have harmonized their accounting standards with the International Accounting Standards Board's International Financial Reporting Standards, leading to increasing use of fair value accounting among firms. However, the practical implications of this transition, especially for the Thai insurance sector, remain under-explored. The aim of the present study was to bridge this gap by evaluating the effect of fair value versus historical cost accounting on the financial statement analysis. Data Envelopment Analysis (DEA) constant-returns-to-scale and Malmquist DEA models were used to examine Thai insurance companies from financial years 2015 to 2019. The objectives included assessing the change in value of financial items on restatement from historical cost to fair value, evaluating the ensuing changes on the efficiency of firms, and benchmarking the firms for comparative performance evaluation. The findings obtained suggest statistically significant differences in many financial items on restatement, along with noticeable changes in firms' efficiency scores and overall rankings. The study underscores the theoretical debate between fair value and historical cost, and suggests that fair value can be used to complement historical cost.

Keywords: *Data envelopment analysis, historical cost, fair value*

Introduction

Historical cost (HC) is most commonly used to prepare financial statements. It is rooted in the conservatism principle that records the actual cost of a financial item. Although, in line with accounting standards, HC requires some adjustment with time such as charging depreciation in each accounting period for long term assets. The basis of Historical Cost Accounting (HCA) requires that most liabilities and assets are measured and reported at their historical prices (Rahmawati, 2006). For the purpose of accounting, fair value is an exit price and not the entry price, and has emerged as a response to dynamic financial environments. Fair Value Accounting (FVA) is based on using current market values to recognize certain assets and liabilities (Chea, 2011). It is the price that would be received on selling an asset or paid to transfer a liability between market participants at the measurement date, or an estimated value when it is difficult to determine the current price (IFRS Foundation, 2023).

The primary difference between HCA and FVA is that while the former relies on the historical price, the latter values assets and liabilities at their current market prices. Another typical difference between historical cost and fair value is that financial statements in the former are updated, but these updates are less frequent than for fair value items. In Thailand, FVA is used for measuring investment assets like available-for-sale investments and trading investments. In line with industry practices, Thai financial companies have adopted global accounting practices and disclose investments, like held-to-maturity investments and general investments, at fair value in the notes to financial statements, although these investments are recognized in financial statements at their amortised/historical cost. This statement is based on the author's analysis of annual reports of firms, and is also mentioned in a study by Swatdikun and Ungphakorn (2018).

The use of FVA is increasing in several countries since the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) has emphasized it.

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Barth (1994) mentioned that fair value estimates of investment securities provided more explanatory power than historical cost. Explanatory power refers to the extent of positive relationship of valuation basis (either fair value or historical cost) with the market capitalization and profitability of a firm. The Securities Exchange Commission, Thailand (SEC), in co-operation with the Thai Federation of Accounting Professions (TFAC), have gradually revised the Thai Financial Reporting Standards (TFRS) and harmonized them with IFRS issued by IASB (Buachoom, 2022). These organizations have mandated the use of FVA for assets and liabilities in Thai listed firms, and in some cases, disclosure of the fair value of financial items such as held-to-maturity securities in notes to the financial statements.

The IASB officially introduced fair value reporting as an alternative approach to HCA in the 1970s (Shanklin et al., 2011). The practical implications of this transition, especially for the Thai insurance sector, remain underexplored. In this study, the aim was to help determine whether FVA has advantages over HCA for stakeholders in understanding financial statements by evaluating the effect of these two methods on financial statement analysis. This study involved Thai insurance companies and used the Data Envelopment Analysis (DEA) model to analyze financial statements based on the two valuation bases. Since Thai insurance companies have a considerable proportion of financial investments, the analysis potentially could reveal differences between their fair values and historical cost values. Therefore by contrasting these approaches, the present study will potentially provide insights into the firms' performance and efficiency. Using the DEA model, Sharma (2018) investigated whether a change from HC to FV affected financial statement analysis. However, the study was limited in scope, had only a few different financial items, and did not use the Malmquist DEA model.

The study reported here aimed to provide a deeper understanding of the two accounting valuation methods on the efficiency and financial performance of insurance firms. Readers should gain deeper insights into the implications of adopting FVA in the Thai insurance sector. This has the potential to benefit the industry, accounting professionals, investors, and others.

The objectives of this study were as follows:

1. Assess the change, if any, in financial statement items of Thai financial companies when the basis is changed from HC to FVA.

2. Evaluate whether a firm's efficiency improves on account of changing from an HC to a FVA reporting system, what impact this has on users, and whether the firm repositions itself as a result.

3. Examine the potential impact of fair value accounting on the efficiency and financial performance of Thai insurance companies.

4. Benchmark the firms and compare the less efficient firms with the benchmark, which may lead to improvement in their future efficiency.

This research differs in that it analyzes comprehensive financial information of Thai insurance firms for the financial years from 2015 to 2019, has a broader scope as it uses both data envelopment analysis (DEA) and Malmquist data envelopment analysis (M DEA), and uses appropriate input variables and output variable suitable to the objectives of this study.

Literature Review
Fair Value versus Historical Cost Accounting
Historical cost basis means that the accounting information is based on actual cost. Rahmawati (2006) stated that although HCA has weaknesses, its benefits outweigh its limitations, as it still retains explanatory power for investors. Chea (2011) mentioned that in FVA, the values of assets and liabilities are determined and recognized from prices offered in an active market where a large number of transactions take place between independent and unrelated parties.

The relevance of HCA has been a subject of debate particularly in the last two to three decades. Accounting bodies globally have been steadily shifting towards the use and requirement of FVA in preparing financial statements. FVA is more reliable and useful to the users when financial markets are stable (Menicucci & Paolucci, 2017). According to Rodríguez-Pérez et al. (2011), FVA indicates a

strong relationship with stock market indicators and provides value relevant information to users as compared to HCA. The above study involved eighty-five insurance companies, and a few firms reported efficiency changes on restatement from HCA to FVA. DEA scores were used to indicate efficiency of firms.

Palea (2014) suggested that financial statements should be prepared based on both valuation bases to provide comprehensive and useful information to stakeholders. Fahnestock and Bostwick (2011) studied how FVA was interpreted by stakeholders. While some critics placed the blame on FVA for the US financial crisis in 2008, Fahnestock and Bostwick (2011) suggested that it was due to the fact that accountants, auditors, analysts, and investors were under-educated or uneducated in understanding the value and implications of FVA. Investors normally believe FVA is more relevant than HCA (Landsman, 2007; Barth et al., 2001). From the discussion, it can be construed that FVA provides relevant information, is more useful during financial market stability, and is more appropriate for investment properties and available-for-sale securities as it reflects current market conditions. However, it has earnings volatility and requires estimation of financial items when markets are not active. On the other hand, the use of HCA is beneficial when consistency and reliability of financial information is preferred, and for certain assets whose market prices are not readily available. Its limitations include lack of relevant information, along with failure to consider current financial realities and future potential cash flows.

Very few studies, especially within the insurance sector, have been done in Thailand to evaluate the effect of fair value versus historical cost basis on financial statement analysis. Sharma (2018) addressed this issue and concluded that there are changes in the values of financial items on restatement. He suggested that although the efficiency scores of some Thai insurance firms obtained from DEA may change, the efficiency relative to each other (ranking) did not change. Buachoom (2022) suggested that investors in Thai stock market trust the use of publicized efficient information provided by FVA and corporate governance practices to make investment decisions. Buachoom concluded that FVA and corporate governance practices provide relevant and reliable information to investors and stakeholders for determining a firm's value, i.e., its stock price.

Use of Data Envelopment Analysis (DEA) in Financial Statement Analysis

DEA is a relatively recently developed method that can be used in Financial Statement Analysis. It was first introduced by Charnes et al. (1978). DEA was based on the work of Farrell (1957), and Banker et al. (1984) further developed it. It can be used to measure the relative performance of decision-making units (DMUs) or firms. Such DMUs may be different and comparable units, departments within an organization, or they could be different firms in various sectors. This approach measures the relative efficiency of DMUs by generating an overall score based on input and output variables, and compares DMUs with best-in-class observations. It is a non-parametric linear programming method that has been considered a balanced benchmarking method (Sherman & Zhu, 2013), and a reliable method to know the operational efficiency of a firm (Feroz et al., 2003). Feroz and colleagues concluded that DEA can be used to complement financial statement analysis, and may provide additional insights into the efficiency and performance of an enterprise. It can help to identify inefficient firms and the extent to which they may increase their output (like revenues) or decrease their inputs (like expenses) to enhance efficiency and reach the efficient frontier.

The DEA models can be of various types such as the Variable Returns-to-Scale model, Constant Returns-to-Scale (CRS) model, and Malmquist DEA index. Malmquist DEA represents the total factor productivity growth over time by comparing the productivity change of decision making units. It provides insights into the degree of efficiency and productivity growth (Lee et al., 2011). Productivity change can be decomposed into two components, efficiency change and technical change. This model can be used in facilitating the decisions taken by managers and investors.

There are advantages of using DEA in financial statement analysis. DEA can include multiple inputs and outputs to determine an overall score or ranking of DMUs. It enables data sets to be

analyzed and the results to be computed precisely. Moreover, it does not categorically require specifying the mathematical structure of production functions.

The most important issue in DEA is to be able to use the right input and output variables for determining a firm's efficiency in that industry (Yeh, 1996). The selected input variables are total expenses, available-for-sale investments, held-to-maturity investments, and other general investments (net). The selected output variable is total comprehensive income. Expenses are incurred to generate total comprehensive income, and therefore expenses have been chosen as one of the inputs. Available-for-sale investments, held-to-maturity investments, and general investments (net) form a substantial portion of the total assets of an insurance firm, and help to increase its total income. The choice of input variables and output variable is influenced by the literature on DEA applications for financial statement analysis. Beyond the researcher's selection, these variables are also informed by the literature reviews of scholars such as Rodríguez-Pérez et al. (2011), Kaffash and Marra (2017), Novickytė and Droždz (2018), Sharma (2018), and Zhu et al. (2020).

Research Hypotheses

Based on the research objectives and literature review, in this paper changes, if any, will be assessed in financial statement items of Thai insurance companies when they are restated from an HC to a FV basis. Evaluation of the efficiency of changes made by a firm on restatement will be assessed, and whether this leads users to position a firm differently from its competitors.

H_1: There are significant changes in the value of financial items when the financial statements of Thai insurance companies are restated on a fair value basis.

H_2: There are different conclusions drawn from financial statements analysis using DEA when fair value accounting is used instead of the historical basis.

$H_{2.1}$: There are changes in efficiency scores of Thai insurance companies when the valuation basis is changed from historical cost to fair value.

$H_{2.2}$: There are changes in ranking based on the efficiency scores obtained for Thai insurance companies when the valuation basis is changed from historical cost to fair value.

Research Methodology
Sample and Data Collection

Financial information was taken from the financial statements and annual reports of 15 Thai insurance companies. Financial information for five financial years from 2015 to 2019 was obtained. This sector was chosen since it has a high proportion of financial investments. Better evaluation of the two valuation methods, fair value and historical cost, will aid in financial statement analysis. Another reason for selecting this sector was that it contributes substantially to the Thai economy. In 2019, the financial sector contributed approximately THB 1.27 trillion to the GDP of Thailand. Furthermore, adoption of IFRS in Thailand has had a pronounced effect on the Thai insurance sector because of its significant financial investments. However, there has been a notable gap in academic literature exploring the interplay of FVA and HCA within this context.

The efficiency and performance of financial sector organizations has been studied by a number of researchers (Zhu et al., 2020, Sharif et al., 2019, Novickytė & Droždz, 2018, Kao & Liu, 2014, Sturm & Williams, 2004). Their motivation was that this sector was important to the economic development of a nation, and few studies have been done to investigate whether efficiency gains followed from using the DEA method. The present study contributes to research in this field by evaluating the Thai insurance sector.

Research instruments used included the LSEG Refinitive Eikon financial platform, official websites of insurers, settrade.com, and websites of the Securities Exchange of Thailand (SEC) and the Stock Exchange of Thailand (SET). Financial information and access to the annual reports of firms were gained from these sources. Financial statements and notes to the financial statements were accessed to get the fair values or historical cost of financial items.

The acronyms in capital letters of these firms mentioned below refer to their stock symbol or ticker, and these symbols will be frequently used in this study. The list of these companies is as follows: AYUD—Allianz Ayudhya Capital, BKI—Bangkok Insurance, BLA—Bangkok Life Assurance, BUI—Bangkok Union Insurance, CHARAN—Charan Insurance, TIPH—Dhipaya insurance, INSURE—Indara Insurance, Krung-AXA*—Krungthai-AXA*, KWI—KWI, MTI—Muang Thai Insurance, NSI—Nam Seng Insurance, SMK—Syn Mun Kong Insurance, TSI—Thai Setakij Insurance, TVI—Thaivivat Insurance, and NKI—The Navakij Insurance.

Statistical Methods Employed

The statistical methods and analyses used in the study were as follows:

1. Descriptive statistics were used. Skewness and kurtosis were computed, and the Kolmogorov–Smirnov test was performed to determine whether the data sets were normally distributed or not. To study hypothesis H_1, fair values of financial items were determined and compared with the historical cost of these financial items. To test whether there was a significant change on restatement, the Wilcoxon signed-rank test was performed after determining whether the data met the assumptions for parametric tests or not.

2. Efficiency and profitability were focused upon in determining the financial items to be used as input and output variables for the purpose of DEA analysis. Variables such as total comprehensive income, total expenses, and the historical cost and fair value of available-for-sale, and held-to-maturity and other general investments were used. Separate DEA scores were calculated for each valuation basis of these financial items.

To evaluate hypothesis $H_{2.1}$, the two-sets of DEA scores (historical cost and fair value valuation) were compared to measure any changes in the efficiency scores. To examine hypothesis $H_{2.2}$, the insurance companies were ranked separately based on DEA scores obtained for the two valuation bases, to evaluate whether there were any changes in their ranking. The Wilcoxon signed-rank test, a simple ranking method, and Malmquist DEA were employed to test hypothesis H_2.

Data Analysis

The input variables used in this study were total expenses, available-for-sale investments, held-to-maturity investments, and other general investments (net). The output variable was total comprehensive income. The variable "total expenses (EXP)" included gross claim less claim recovered from reinsurers, commissions and brokerage, other underwriting expenses, and operating expenses. Other general investments (net) indicate investments in non-listed equity securities net of allowance for impairment (if any).

Several reasons for the choice of these variables will be mentioned. Total expenses, available-for-sale investments (AFS), held-to-maturity investments (HTM) and other general investments (net) (OT) (as inputs) help to generate income (total comprehensive income as output) for an organization. Another reason is that investments like AFS, HTM, and OT not only form a major portion of an insurance company, but they also have their historical cost and fair values available. The variables also were chosen based on expert opinion mentioned in the literature review (e.g., Zhu et al., 2020, Novickytė & Droždz, 2018, Kaffash & Marra, 2017, Rodríguez-Pérez et al., 2011).

The DEA software (DEAP version 2.1) and IBM SPSS Version 29 were used in data analysis and hypothesis testing. To determine technical efficiency, DEAP version 2.1 was used. Statistical measures were analyzed using the Kolmogorov–Smirnov (KS) test and IBM SPSS Version 29.

An output-oriented approach and constant returns-to-scale (CRS) DEA model has been assumed in this research. The reason for choosing the DEA CRS model was that it can be applied to an industry that is competitive. The financial sector in Thailand is competitive. The CRS approach assumes that efficiency of a DMU is not affected by the scale of operations. An output-oriented, as well as an input-oriented model, of CRS provides the same results, and so an output-oriented model was randomly chosen. The DEA CRS is a simple model for assessing the relative efficiency of firms. It assumes that there is a constant returns-to-scale over multiple stages in a production process.

As discussed below, the data were not normally distributed. Therefore, non-parametric methods such as data envelopment analysis (DEA) and non-parametric tests such as the Wilcoxon signed-rank test were employed. The primary function of DEA in this study was to measure efficiency scores and rankings to provide a comparative framework for assessing Thai insurance firms' performance under different valuation bases. The Wilcoxon signed-rank test, suitable for paired data sets, addressed hypothesis H_1 by identifying significant changes in values of financial items. For hypotheses $H_{2.1}$ and $H_{2.2}$, a simple ranking method and Malmquist DEA were utilized. Since the sample involved Thai insurance firms dealing in all aspects of Thai life and general insurance firms (excluding insurance brokers and reinsurance firms), these statistical methods were appropriate for the study. Consequently, traditional confidence intervals, which express uncertainty due to sampling variability, may not be applicable in this context.

Results and Discussion
Financial information and Descriptive Statistics

Krungthai-AXA Life Insurance and its symbol has been marked with the * symbol in this study. This is so because although it is a Public Company Limited (PCL), it is not a publicly traded company yet. Due to this reason, it does not have a firm ticker yet, and so this firm has been arbitrarily represented with the symbol Krung-AXA* in this study. This firm has been included for financial statement analysis to provide holistic assessment by incorporating more firms.

In the discussion and tables below, total comprehensive income is represented by TCI, total expenses are represented by EXP, available-for-sale investments–historical cost is represented by AFS–HC, available-for-sale investments–fair value as AFS–FV, held-to-maturity investments–historical cost as HTM–HC, held-to-maturity investments–fair value as HTM–FV, other investments–cost as OT–HC, and other investments–fair value as OT–FV. HC refers to historical cost, and FV refers to the fair value of financial items.

Financial information was obtained for all insurance companies from 2015 to 2019. Most of them earned profits (TCI) for financial years 2015 to 2017. However, a few firms in 2018 and 2019 suffered losses. TSI suffered losses in each financial year from 2016 to 2019. It can be seen that most firms like BLA and Krung-AXA* had high investments in AFS and HTM in all years. Some firms like BKI had large differences in the values of AFS–HC and AFS–FV, while a few firms like AYUD showed relatively less differences in the values of AFS–HC and AFS–FV. Similarly, some firms had large differences in HTM–HC and HTM–FV, as well as in OT–HC and OT–FV, while some had less. For example, BLA's HC and FV difference in HTM value was large, while for BUI, this difference was small in all years. OT investments made by most of the firms were comparatively small.

Descriptive statistics pertaining to financial information is given for 2019 in Table 1. Descriptive statistics for all financial years from 2015 to 2019 had the same variables and the analysis produced almost similar results (results not shown), especially with regard to determining the normality or non-normality of data sets.

Table 1 *Descriptive Statistics of Thai Insurer Variables for Financial Year 2019 (Figures in '000 THB)*

Desc. Statistics	TCI	EXP	AFS–HC	AFS–FV	HTM–HC	HTM–FV	OT–HC	OT–FV
Mean	2782839	11101647	25808210	30680659	17485168	20277490	119996	347354
Median	90034	3751398	5524344	5908722	716363.00	1956697.00	3721	31338
Std. Deviation	7180840	18859848	66778654	76627309	56175150	66528990	268380	873322
Skewness	3.294	2.435	3.483	3.451	3.836	3.847	2.344	3.622
Kurtosis	11.640	5.570	12.535	12.385	14.794	14.855	4.235	13.546
Minimum	-2361688	46227	102258	101797	1284	1284	341	562
Maximum	27468358	66703979	258725389	297329292	219980163	260293865	820038	3440555
Kolmogorov-Smirnov (Sig.)	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001

The descriptive statistics for all financial years from 2015 to 2019 were calculated including financial items based on fair value and historical cost. The standard deviation of all the variables was high, which means that there was high variability in all data sets. Maximum and minimum values encompassed a large range for all variables. Skewness and kurtosis for the different variables indicated non-normality of data sets. The Kolmogorov-Smirnov p-values (asymptotic significance) < .001 were obtained for all the variables in all the years. Since all the values were close to zero, this suggested that the data was not normally distributed. Thus, non-parametric methods were used for undertaking the financial statement analysis.

DEA Analysis

Firm efficiency refers to how best an organization uses its inputs or resources to produce output(s). The DEA (multi-stage) constant returns-to-scale (CRS) analysis, as used by Charnes et al. (1978), was performed for all financial years to determine the efficiency and performance of firms.

Fair value based DEA scores were compared and evaluated with historical cost DEA scores. In Table 2 below, technical efficiency (TE) scores obtained for all financial years based on historical cost (HC) and fair value (FV) of financial items are shown.

Table 2 *Technical Efficiency Scores Based on Fair Value vs Historical Cost Data Envelopment Analysis*

Ticker	2015			2016			2017			2018			2019		
	HC	FV	Δ	HC	FV	Δ	HC	FV	Δ	HC	FV	Δ	HC	FV	Δ
AYUD	1	1	0	1	.686	.314	1	1	0	0	0	0	1	1	0
BKI	1	1	0	0	0	0	.230	.156	.074	.661	.661	0	0	0	0
BLA	.345	.717	-.372	1	.397	.603	.529	.412	.117	.169	.169	0	.223	.545	-.322
BUI	.282	.204	.078	.431	.163	.268	.580	.484	.096	.260	.226	.034	0	0	0
CHARAN	.689	.306	.383	1	.441	.559	.619	.269	.35	0	0	0	0	0	0
TIPH	.209	.404	-.195	1	.566	.434	.501	.495	.006	.765	.765	0	.208	.212	-.004
INSURE	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0
Krung-AXA*	1	1	0	.955	.081	.874	.253	.246	.007	0	0	0	1	1	0
KWI	0	0	0	1	1	0	1	1	0	1	1	0	0	0	0
MTI	.452	.727	-.275	.786	.387	.399	.280	.265	.015	.113	.113	0	.064	.089	-.025
NSI	.522	1	-.478	.691	.664	.027	.778	.752	.026	.565	.596	-.031	.103	.111	-.008
SMK	.542	.352	.190	1	.819	.181	1	.529	.471	.744	.743	.001	.155	.175	-.02
TSI	.294	.673	-.379	0	0	0	0	0	0	0	0	0	0	0	0
TVI	.046	.027	.019	.174	.043	.131	.154	.123	.031	.228	.216	.012	1	1	0
NKI	0	0	0	.297	.101	.196	.099	.089	.01	0	0	0	.005	.006	-.001
Mean	.492	.561	-.069	.689	.423	.266	.535	.455	.08	.300	.299	.001	.251	.276	-.025

The symbol Δ represents the difference between HC and FV for each respective year. In the context of DEA, a TE score of one indicates the highest relative efficiency, while a score of zero signifies the lowest relative efficiency. The presence of zero values in the dataset reflects instances where certain firms consistently performed as least efficient in comparison to the reference firm (firm(s) with a TE score of one).

It is clear from Table 2 that for some companies, their HC and FV based DEA scores were the same for a particular year, but for many companies, they were different. For example, Allianz Ayudhya Capital's HC and FV based scores were the same for financial years 2015, 2017, 2018, and 2019. Bangkok Life Assurance's HC and FV based scores were different for all years except 2017.

In accordance with the research objectives, the DEA analysis presented in Table 2 reveals the changes in efficiency scores on restatement and the potential impact of FVA on firm efficiency. The firms with a score of one had the highest relative efficiency and served as a benchmark, while the firms with scores of below one may need to improve their future efficiency.

Research hypothesis H_1 stated that: There are significant changes in the value of financial items when the financial statements of Thai insurance companies are restated at fair value basis. From the financial information obtained, it can be seen that the fair values of financial items (variables) are not the same as that of the historical cost. These changes are for many of the financial items under study (if not all), for most of the insurance companies, and in most of the years. In other words, the numbers changed, but the extent of this change varied significantly between the insurance companies, the years, and the type of assets.

For instance in 2015, AYUD's values of financial items based on historical cost were different from that of their fair value. Its AFS–HC was THB 2,889,471 while its AFS–FV was THB 2,745,336. In a similar way, BLA's historical cost values were different from its fair values in 2015. However, its OT–C and OT–FV were the same at THB 46,662. In 2019, there was a significant change in BKI's AFS–HC and AFS–FV values. The former was THB 11,523,505, and the latter was THB 33,010,708. However, its HTM–HC and HTM-FV were the same in that financial year at THB 11,220,681. Furthermore, an analysis of the financial information for 2019 reflected that FV of financial items were generally higher than their respective HC. For instance, the mean and median of all variables, such as AFS, HTM, and OT were higher than their HC. This was also the case with the variables from years 2015 to 2018.

The results indicate that hypothesis H_1 can be accepted for many of the financial items, but not for all of them. From 2015 to 2019, changes were observed in AFS values on restating from HC to FV for most insurance firms: 13 firms in 2015, 14 firms in 2016, 13 firms in 2017, 14 firms in 2018, and 14 firms in 2019. The restatement also affected HTM and OT values, with changes observed in 11 and 10 firms respectively in 2015, 9 and 8 firms in 2016, 10 and 8 firms in 2017, 11 and 9 firms in 2018, and 11 and 10 firms in 2019. Given these observations, hypothesis H_1 can be partially accepted.

Furthermore, in order to test whether there were significant changes on restatement or not, the Wilcoxon signed-rank test was performed. The results for year 2015 are shown in Table 3.

Table 3 *Wilcoxon Signed Ranks Test*

Test Statistics[a]			
	Available-for-sale Investments (Fair Value) and Available-for-sale Investments (Historical Cost)	Held-to-maturity–Investments (Fair Value) and Held-to-maturity Investments (Historical Cost)	Other Investments (Fair Value) and Other Investments (Historical Cost)
Z-value	-1.293[b]	-2.756[b]	-2.803[b]
Asymp. Sig. (2-tailed)	.196	.006	.005
a. Wilcoxon Signed Ranks Test			
b. Based on negative ranks.			

In the above Table, the available-for-sale investments (fair value) to available-for-sale investments (historical cost) Z-value was -1.293, and the *p*-value > .05. This suggests that the difference between fair value and historical cost of these investments cannot be regarded as statistically significant.

The held-to-maturity investments (fair value) to held-to-maturity investments (historical cost) Z-value was -2.756, and the *p*-value was .006. Hence, the difference between fair value and historical cost of held-to-maturity investments was statistically significant. Other Investments (fair value) to other investments (historical cost) Z-value was -2.803, and the *p*-value was .005. The difference between fair value and historical cost of other investments was statistically significant.

Similarly, the Wilcoxon signed-rank test was performed on variables for the 2016 to 2019 financial years. Other investments (fair value) to other investments (historical cost) *p*-values were < .05 in all financial years indicating that there was a statistically significant difference between their

fair value and cost. In all the years, held-to-maturity investments (fair value) to held-to-maturity investments (historical cost) p-values were also < .05, suggesting a statistically significant difference between their fair value and historical cost, except in the 2018 financial year. However, in all the years for available-for-sale securities, the p-value was > .05, which indicated that the difference was not statistically significant, except in the year 2017. Therefore, hypothesis H_1 was reinforced and can be partially accepted, that is: There are significant changes in the value of financial items when the financial statements of Thai insurance companies are restated at fair value basis.

Rodríguez-Pérez et al. (2011) mentioned that the values of financial items changed on restatement from historical cost to fair values. This represents the results obtained in the present findings. The extent of this change varied among classes of assets and from company to company. The results are also supported by the findings of Ghafeer and Abdul-Rahman (2014), who suggested that financial numbers on the face of income statements change on restatement, but the degree of change may vary between the two valuations. Sharma (2018) also concluded that there are changes in numbers when financial items are restated on the FV basis.

It can be surmised from Table 2 that the efficiency scores of several Thai insurance companies changed when the valuation basis changed from historical cost to fair value. However, not all the insurers' efficiency scores changed on restatement in all the years under study.
For instance, SMK's TE scores changed in all financial years when the valuation basis changed from historical cost to fair value. TIPH scores also changed in all years except 2018, when the TE score was the same (.765) for FV as for HC. Charan's scores were different, except in the 2018 and 2019 financial years, when FV and HC based TE scores were the same at zero.

The results partially supported hypothesis $H_{2.1}$: There are changes in efficiency scores of Thai insurance companies when they change the valuation basis from historical cost to fair value. Also for most insurers, if relative efficiency is the same (and does not change) for both valuation bases in a particular financial year, such insurers will most likely have a TE score of one or zero.

The findings of this study partially validate the prior research done by Rodríguez-Pérez et al. (2011) for Spanish insurance companies, and Sharma (2018) for Thai insurance companies. The authors suggested that when the firms change from the fair value to historical cost basis, the efficiency may change for few companies, but not all.

For testing hypothesis $H_{2.2}$ (i.e., There are changes in ranking based on the efficiency scores obtained for the Thai insurance companies when they change valuation basis from historical cost to fair value), the rankings of firms based on their overall TE scores for all financial years from 2015 to 2019 (mean of TEs HC and TEs FV basis) were considered.

Table 4 *Firm Rankings Based on Historical Cost (HC) TE Versus Fair Value (FV) TE*

Overall ranking	Ticker	Mean of TEs (HC)		Overall ranking	Ticker	Mean of TEs (FV)
1	AYUD	.800		1	AYUD	.737
2	SMK	.688		2	NSI	.625
3	Krung-AXA*	.642		3	INSURE	.600
4	INSURE	.600		3	KWI	.600
4	KWI	.600		5	SMK	.524
6	TIPH	.537		6	TIPH	.488
7	NSI	.532		7	Krung-AXA*	.465
8	CHARAN	.462		8	BLA	.448
9	BLA	.453		9	BKI	.363
10	BKI	.379		10	MTI	.316
11	MTI	.339		11	TVI	.282
12	TVI	.320		12	BUI	.215
13	BUI	.311		13	CHARAN	.203
14	NKI	.080		14	TSI	.135
15	TSI	.059		15	NKI	.039

Based on mean (average) efficiency scores, the overall ranking of the insurance companies changed on restatement from an historical cost to a fair value basis. For example, NSI ranked 7th on the HC basis, but it was ranked 2nd on the FV basis. CHARAN was ranked 8th on the HC basis, but was ranked 13th on the FV basis. However, for both valuation bases, AYUD retained the top slot.

Based on overall ranking, the results support $H_{2.2}$, as the overall ranking changes on restatement from historical cost to fair value basis. Overall, they validated H_2: There are different conclusions drawn from financial statement analysis using DEA when fair value accounting is used instead of the historical basis.

The study partially validated the findings of Rodríguez-Pérez et al. (2011). These authors suggested that the overall ranking of profitability and efficiency for the majority of firms did not change on restatement, except for a few. The reason for this partial validation could be attributed to factors like differences in sample sizes of insurance companies and number of years included in the panel data, variables selected, and the economic situation of Spanish financial markets, which may differ from Thai financial markets.

In addition, to provide support for the second hypothesis ($H_{2.2}$ and $H_{2.1}$), the Malmquist DEA (M DEA) was conducted. The M DEA analysis provides overall ranking of the changes in efficiency among firms. There were minor changes in the ranking based on GM (geometric mean) efficiency change (EC). For example, TIPH was ranked 4th based on HC, but it was ranked 5th based on FV. MTI was ranked 8th on the EC HC list, while it had a ranking of 7th on the EC FV list. It is understood here that mean efficiency change is the geometric mean of efficiency change from one year to another. This means that EC is computed by comparing the TE of one year with that of the previous year (like 2016 TE with 2015 TE, 2017 TE with 2016 TE, and so on), and then the geometric mean is calculated for all the 4 ECs obtained. On the basis of this analysis, the idea is reinforced that since efficiency changes obtained from M DEA are distinct when the firms are restated on a FV basis, there would have been a change in efficiency scores in at least some of the firms, and changes in overall rankings based on efficiency scores. Therefore, there is validation of hypothesis H_2: There are different conclusions drawn from financial statements analysis using DEA when fair value accounting is used instead of the historical basis.

The results showed differences between FV and HC of financial items, highlighting the potential implications of valuation methods on the financial statement analysis of Thai insurance firms. While some studies done globally have explored the valuation bases in different sectors, very few studies have delved into the Thai insurance sector. These findings provide empirical evidence demonstrating how the choice of valuation basis can impact the efficiency and financial performance of Thai insurance firms. The differences in FV and HC values of variables of firms and their efficiency scores on restatement reinforce the significance of the valuation basis chosen. This is particularly important in sectors like insurance, where the firms have a significant proportion of financial instruments. It is therefore pertinent for theorists to carefully consider the choice of valuation methods when modelling the efficiency and financial performance of firms. As countries continue to adopt IFRS, this study underscores the theoretical implications of the use of fair value in financial statement analysis.

Conclusions and Recommendations

Allianz Ayudhya Capital, Nam Seng Insurance, Indara Insurance, and KWI stood out as more efficient than their peers according to DEA fair value scores. The Navakij Insurance, Thai Setakij Insurance, and Charan Insurance under-performed. From the results obtained from DEA historical cost, Allianz Ayudhya Capital, Syn Mun Kong Insurance, and Krungthai-AXA had higher efficiency scores, while Bangkok Union Insurance, The Navakij Insurance, and Thai Setakij Insurance did not perform well. Several insurance companies have the potential to enhance their efficiency. Notably, in financial years 2018 and 2019, several firms did not perform well when compared to the financial years of 2015, 2016, and 2017.

Evidence obtained from this study indicates that the value of several financial items does change for many insurance companies on restatement. The efficiency scores of several firms changed on

restatement, but not for all the firms. The overall ranking of firms also changed on restatement from historical cost basis to the fair value. When evaluated on a yearly basis, there were changes in rankings in 2015 to 2017, but on restatement, the rankings did not change in 2018 and 2019.

It may be construed that fair values lead to positioning firms differently compared with their standing when efficiency is measured on the historical cost basis. Stakeholders may therefore be better off if they also evaluate the fair values and their effects on financial items and efficiency of firms. Based on the results of this study, it is possible to determine how much additional efficiency underperforming firms need in order to reach the efficiency frontier. It may therefore help corporate managers to evaluate how they may increase output or reduce input variables to move towards the efficiency frontier. For instance, if the efficiency score (TE) of a firm is say .60 in a particular financial year, it needs to enhance its efficiency by .40 (or 1.0 minus .6) to reach the frontier. With this information, managers may be in a better position to enhance efficiency in the following year.

The strength of this study lies in that it used two models of DEA, namely DEA constant-returns-to-scale and Malmquist DEA, for the panel data of five years to analyze the efficiency, efficiency change, and rankings of the firms. It took into consideration five financial years, which thus lends more credence and scope to this research. The study provides practical insights to stakeholders like accounting standard setters, managers, investors, and financial analysts about the relevance of fair value and financial statement analysis. Investors are interested in higher returns on investments. They should also analyze the fair values of firms, as fair value based financial statement analysis may provide different results. This study does not suggest whether fair value accounting is superior to historical cost basis or not. However, in the present environment where IFRS standards issued by IASB prefer fair valuation for certain assets and liabilities, this study makes an academic contribution by indicating that the change in valuation basis not only affects the financial numbers, but also the efficiency and rankings of firms to a certain extent. This study also provides insights for accounting standard setters as to the relevance of fair value accounting vis-à-vis the historical cost basis in financial statement analysis. The analysis of financial statements based on fair values can be used to complement historical cost-based analysis, and thereby may contribute to investment and managerial decision making.

Limitations of the Study

In DEA, it is not possible to capture all the variables that affect a firm's efficiency. In future research, other input variable(s) may be considered in DEA analysis. For example, reinsurance assets can be considered as one of the input variables for insurance companies. Such assets may be considerable in terms of their value or amount for a firm. A related study may also be undertaken for other industries in the future such as banks, oil and gas, and real estate.

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1.1. Manuscripts should be no less than 8 and no more than 12 pages in length.
1.2. Manuscripts should be written in correct and standard academic English.
1.3. Manuscripts should be single-spaced.
1.4. Manuscripts should use Calibri font size 11.
1.5. Manuscripts should contain minimal formatting (bold and italics commands are acceptable).
1.6. Manuscripts should not contain editorial controls of any kind.
1.7. Manuscripts should also contain a 150-200 word abstract of the article. Provide at least three keywords, but do not exceed seven.

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2.2. *HBDS* follows the APA guidelines for endnotes (preferred), in-text citations and references.
2.3. Referencing Samples: Please refer to http://www.apastyle.org/ for questions about referencing, and serialization in the APA format.

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4.1. Manuscripts will be checked for originality and prescreened by the editorial staff to see if their structure, content, and formatting complies with journal standards.
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4.3. Authors will be informed of reviewers' comments as soon as they are available.
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5. Numbers in APA Style
5.1 In general, round decimals to two places with the exception of *p*-values (three decimal places is the limit—$p < .01$ or $.001$). Percentages are expressed as whole numbers or to one decimal place.
5.2 Rounding rules: If the final number is 5 or more, add one to the last decimal place to be kept (1.565 becomes 1.57). If the number is less than 5, write the number with the required decimal places (2.344 becomes 2.34).
5.3 When a statistical expression cannot exceed the value of 1, then the number reported is NOT preceded by a zero (e.g., with p-values—$p < .01$, also applies to correlations, Cronbach's alpha).
5.4 Large numbers—use commas between groups of three digits in most figures of 1,000 or more.

5.5 Further information can be gained by consulting. James Cook University, Singapore. (n.d.). Numbers in APA. See https://www.jcu.edu.sg/__data/assets/pdf_file/0009/680085/Numbers-in-APA.pdf; Guadagno, R. (2010). Writing up your results – Guidelines based on APA style. Retrieved from https://ich.vscht.cz/~svozil/lectures/vscht/2015_2016/sad/APA_style2.pdf

6. Recommended Verb Tenses for APA Style Articles (p. 118)

Paper Section	Recommended Tense	Example
Literature review (or whenever discussing other researchers' work)	Past Present perfect	Quinn (2020) presented Since then, many investigators have used
Method Description of procedure	Past Present perfect	Participants completed a survey Others have used similar methods
Reporting results	Past	Results were nonsignificant Scores increased Hypotheses were supported
Discuss implications of results	Present	The results indicate
Presentation of conclusions, limitations, future directions, etc.	Present	We conclude Limitations of the study are