MARTIAL ARTS STUDIES

RANDY BROWN AND DAVID B. GLOVER

# LEARNING TO FAIL SAFELY: A PRACTITIONER REFLECTION ON REDUCING NOVICE ATTRITION THROUGH INTENTIONAL PEDAGOGICAL DESIGN IN BRAZILIAN JIU-JITSU AND MANTIS BOXING

## ABSTRACT

Without intentional pedagogical design, beginners in sparring martial arts such as MMA and Brazilian Jiu-Jitsu may interpret failure as humiliation and face a higher risk of injury, both of which can discourage learning and participation. This paper examines pedagogical strategies to reframe failure and mitigate injury risk, aiming to reduce novice attrition without detracting from skill development. Drawing on the first author's analytically informed pedagogical reflection as practitioner and coach, in collaboration with the second author as scholar, the paper examines three pedagogical challenges and corresponding interventions through the theoretical lenses of learning theory, psychological safety, and edgework. Findings suggest attrition is more of a cultural and pedagogical issue than individual shortcoming; fostering psychological safety promotes student learning and retention; and recalibrating risk individually enhances development. This paper illustrates how pedagogical strategies can promote more collaborative, sustainable practice communities and demonstrates how scholars can give practitioners voice within scholarly communities.

## CONTRIBUTORS

*David B. Glover is an independent scholar and ninpo taijutsu practitioner with a PhD in East-West Psychology (California Institute of Integral Studies). His research uses ecological and embodied approaches to study perception and learning in martial arts and movement practice, bringing scholarly inquiry into dialogue with practitioners' lived expertise.*

*david@davidbglover.com*

*Randy is an owner and coach at Randy Brown Mantis Boxing, Brazilian Jiu-Jitsu in Massachusetts, USA. Randy holds a Black Belt in Mantis Boxing & Brazilian jiu-jitsu. Randy has published a number of articles in martial arts journals, and has competed and placed in both the U.S. National Wu Shu Championships and the International Brazilian Jiu-Jitsu Federation. Randy holds a Bachelor of Science in computer science from Franklin Pierce University.*

*randy@randybrownmantisboxing.com*

## KEYWORDS

Brazilian jiu-jitsu; collaborative scholarship; edgework; failure learning; pedagogy; practitioner reflection

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## INTRODUCTION

Martial arts, such as Mixed Martial Arts (MMA), Brazilian Jiu-Jitsu (BJJ), and Mantis Boxing, immerse participants in sparring sessions marked by uncertainty, speed, and intensity that approximate the stress and unpredictability of competition or conflict. While these conditions offer opportunities for skill development, they also expose practitioners, especially novices, to frequent, recurring failure (Williams & Smith, 2026) and a heightened risk of physical injury (Hinz et al., 2021; Petrisor et al., 2019), both of which are associated with student disengagement. High attrition rates are widely acknowledged in BJJ practitioner circles (Huni, 2019)—well-known BJJ coach Rener Gracie (GracieBreakdown, 2016) estimated that only about 10% of BJJ practitioners make it to blue belt, the first rank belt after white belt—yet attrition is rarely examined as a pedagogical issue. Instead, quitting is often accepted as inevitable and attributed to a perceived lack of individual toughness or commitment (Williams & Smith, 2026).

As a longtime BJJ (2011–) and Mantis Boxing (1999–) practitioner and coach, the first author (Randy) observed these issues directly while working with practitioners at gyms across New England, New York, and Texas. In reviewing his historical coaching records, he found that only 22% of BJJ students who started training earned the first rank of blue belt, while fewer than 12% of students reached the second rank of purple belt. In comparison, Randy noted that the pass rate (40%) in the initial selection phase for U.S. Army Special Forces' Green Berets, which is designed to prepare soldiers for life-and-death combat (Pavelko, 2017), was substantially higher than the percentage of BJJ students who reach blue belt, a milestone in a voluntary, recreational activity that lacks the existential stakes of combat training.

To become a better coach for his students, Randy began experimenting with his pedagogical approach to reduce injuries and increase retention. Drawing on his longitudinal experience as a coach, his school's historical data, and his notes, this paper offers an analytically informed practitioner reflection on how pedagogical design and interventions can shape novice practitioners' experiences of failure and injury risk in sparring martial arts.

Notably, this paper did not start as academic research. Instead, it emerged indirectly after Randy shared his insights on training interventions with researchers at the Martial Arts Studies Association (MASA) conference in 2024. With the conference's stated intent to "bring together a wide range of scholars and practitioners," the MASA (2025) offered Randy a chance to present at the conference and encouraged him to write an article based on his research. While Randy is a long-term martial arts practitioner and instructor, he has not trained in scholarly writing. Randy and the soon-to-be PhD second author (David), who met at the conference, decided to collaborate to rewrite Randy's insights into a scholarly format.

Practitioner-inquiry approaches, as in this paper, merge scholarly interpretation with embodied practitioner knowledge (Cochran-Smith & Lytle, 2009). For the scholarly interpretation, the paper engages with three interpretative frameworks: failure and learning theory, psychological safety, and edgework. Research on failure and learning shows that failure promotes learning when it is perceived as actionable information, rather than as humiliation or a threat to identity (Eskreis-Winkler & Fishbach, 2022). *Psychological safety* (Edmondson, 1999) explains how social settings influence whether students feel comfortable taking interpersonal risks, such as tapping out early, asking questions, or making mistakes. Lastly, *edgework theory* (Lyng, 1990) provides a pedagogical framework for understanding how training at the edge of control and chaos, such as during sparring, can be developmentally productive when intentionally and appropriately structured.

In this paper, we argue that attrition and injury are not simply individual failures or inevitable outcomes, but cultural and pedagogical outcomes of the training environment. Without sufficient skills and training experience, novices are more prone to failure, potentially putting them at greater risk of psychological harm (Eskreis-Winkler & Fishbach, 2022); they may also not recognize when they are at risk of injury (Scoggin et al., 2014), increasing their likelihood of disengagement compared with more experienced practitioners. However, the same elements that discourage novices—namely risk, uncertainty, and repeated failure—are also those that, when properly structured, can make martial arts transformative (Channon, 2020). Viewing attrition as a structural rather than an individual problem, this paper illustrates one coach's pedagogical approach to *learning to fail safely* by maintaining sufficient challenge to enable learning while minimizing avoidable psychological and physical harm.

The paper proceeds as follows. First, we examine why students start and why they quit sparring martial arts, then review how failure and injury risk appear to contribute strongly to novice attrition. Next, we introduce the three aspects of the interpretive framework (learning theory, psychological safety, and edgework), followed by the analytically informed practitioner reflection approach we took. We then present and analyze three of Randy's findings related to injury and attrition, along with the corresponding pedagogical interventions he developed. Finally, we discuss this paper's contributions and the inherent challenges with practitioner-informed research, and collaboration between scholars and practitioners, before ending with limitations and future research directions.

## WHY STUDENTS START AND WHY THEY QUIT

To contextualize this paper's investigation of student attrition, it helps to first understand why students begin training in martial arts such as BJJ and MMA. From 2011 to 2024, Randy conducted informal interviews with his new students and found that developing self-defense skills was their most frequently cited

motivation. Other reasons included: improving fitness; building confidence and community; and being influenced by friends, family members, and popular media, such as *The Joe Rogan Experience* podcast. These observations are consistent with BJJ research that identified competence, enjoyment, and fitness as strong motivators for participation (Tarver & Levy, 2023), as well as findings that students often perceive training benefits, such as physical health, discipline, resilience, self-confidence, and well-being, as transferable to everyday life (Chinkov & Holt, 2016).[1] Notably, Ruelas et al. (2025) found that all survey participants reported a strong sense of community in their BJJ programs. Collectively, these findings indicate that BJJ attracts students seeking both extrinsic benefits (e.g., self-defense skills, physical fitness) and intrinsic rewards (e.g., enjoyment, community, well-being).[2]

In Randy's observations, BJJ students typically develop adaptable self-defense capabilities at the purple belt level, when they can link techniques in sequences, dynamically adapt to a training partner's resistance, and manage competitive pressure. By contrast, many blue belt students demonstrate proficiency in isolated techniques—for example, executing a submission, performing an escape, or attempting a single guard pass—but may struggle to integrate and apply techniques reliably against larger, stronger, or more experienced opponents. Although new students enthusiastically began training when they started practicing with Randy, few persisted long enough to reach the purple belt level of integrated competence.

While there does not appear to be any peer-reviewed literature that directly investigates attrition rates and reasons in BJJ, indirect academic literature, such as research on practitioner motivations (Williams & Smith, 2026) and the incidence of injuries (Petrisor et al., 2019), points to demotivation and injuries as potential attrition factors. Cultural artifacts, such as marketing materials (GracieBreakdown, 2016), blog posts (Huni, 2019; Nicholas, 2025), internet memes (Bunshin, 2025), and YouTube videos (Jeffries, 2025), suggest attrition, especially among novice students, is perceived by BJJ instructors and practitioners as a widespread and common phenomenon.

Why do so many students quit? While students may offer general reasons such as other long-term commitments, the structural features of practice itself appear to be key contributors—particularly the ways novices experience failure and the risk of injury. Failure is ever-present in training, especially for newer students, who are taken down (forced from a standing position to being on the ground), submitted (controlled with a joint lock or choke), and forced to tap out (signal surrender by tapping on an opponent, indicating the opponent should release their hold) more often than experienced students (Williams & Smith, 2026). For some, failure may be perceived constructively as feedback; however, for others, repeated public losses may be experienced as humiliation, ego threat, or a feeling of not belonging, any of which can lead to disengagement and leaving.

Injury represents a related but distinct driver of attrition, especially with sparring (Hinz et al., 2021; Petrisor et al., 2019). Epidemiological studies consistently identify sparring, including competition, as the primary source of injury in BJJ (Hinz et al., 2021; Scoggin et al., 2014). Hinz et al. (2021) reported that two-thirds of 1,140 surveyed BJJ athletes sustained an injury that caused them to miss training for at least two weeks. Most injuries (77.6%) occurred during sparring, with common injury sites in the lower extremities (45.7%) and upper extremities (30.2%), particularly the knee (27.1%) and the shoulder (14.6%). Scoggin et al. (2014) similarly emphasized that joint injuries are the most common and that athletes must develop the perceptual sensitivity to recognize danger and tap out early as a first line of defense. Petrisor et al. (2019) reported that 9 out of 10 practitioners in a smaller cohort sustained at least one injury; injured participants were 6.5 times more likely to consider quitting after surgery and 5.5 times more likely to consider quitting if recovery exceeded four months. While injury is not necessarily directly linked to failure—for example, a practitioner might strain their shoulder in a sparring round but still win the round—it increases the likelihood of leaving because it disrupts training continuity or erodes confidence (Petrisor et al., 2019). Together, these studies demonstrate that injury disrupts training continuity, undermines confidence, and contributes to athlete attrition.

Taken together, these dynamics point to a paradox at the core of training: failure and injury risk are both essential and unavoidable. Similar to athletes in other competitive sports, MMA, BJJ, and Mantis Boxing practitioners must learn to navigate failure and injury risk, especially while sparring and, if they compete, in competition. Yet when failure is poorly interpreted and injury risk is unmitigated, either can lead to a practitioner's disengagement and leaving their practice. For these reasons, cultivating the right learning environment is important. To cultivate such a learning environment, we next consider how failure, psychological safety, and risk interact in the learning process.

## INTERPRETIVE FRAMEWORK

This paper draws on three interconnected theories (learning theory, psychological safety, and edgework) to analyze how training environments shape student experiences of failure, injury risk, and ultimately persistence or attrition.

### Failure in Learning Theory

Failure plays a central role in martial arts training, such as in BJJ sparring, where students often face failure, such as being submitted or being unable to pass the guard (getting past an opponent's defenses to a more advantageous position while on the

[1] Due to the scarcity of research on Mantis Boxing, this article will draw primarily on BJJ research and support with research from other martial arts systems, such as MMA, as needed.
[2] See Meyer & Bittmann (2018, 2019) for more comprehensive reviews of research on student motivations for practicing martial arts more broadly.

ground), to test techniques and develop adaptive strategies under pressure. Within Kolb's (1984) experiential learning framework, failure provides critical feedback by helping learners identify errors, refine their methods, and adapt their behavior. Research in education and psychology affirms that failure, when interpreted constructively, is a key component of effective learning (Eskreis-Winkler & Fishbach, 2022; Zhou et al., 2020).

However, learning from failure is not automatic. While society often preaches failure as a "teachable moment," failure frequently fails to teach because learners do not notice its informational value (Eskreis-Winkler & Fishbach, 2022, p. 1511). As Eskreis-Winkler and Fishbach reported, emotional and cognitive barriers to learning from failure can be significant. Emotionally, failure can threaten an individual's ego, leading them to avoid it or withdraw. Cognitively, failure is more challenging than success when trying to discern and interpret events because the feedback may seem ambiguous. When these barriers dominate, failure ceases to be instructive and instead becomes demotivating or counterproductive, particularly in environments that lack social and cultural support for reinterpreting failure as feedback (Edmondson, 1999). The way failure is interpreted, then, depends not only on individual mindset but also on the surrounding social environment. Consequently, psychological safety becomes an important condition for transforming a failure into a learning opportunity.

### Psychological safety in high-risk social environments

Psychological safety, as Edmondson (1999) described it, is a shared belief that one can take interpersonal risks in a group without fear of embarrassment, rejection, or punishment. In psychologically unsafe environments, individuals avoid making mistakes to protect their social standing and to prevent feelings of humiliation and incompetence. In psychologically safe environments, on the other hand, learners are more likely to experiment with new approaches, admit mistakes, ask clarifying questions, learn from failures, and persist through challenges (Edmondson & Bransby, 2023). Factors that foster psychological safety include framing task challenges as opportunities to explore new approaches, reframing mistakes as learning opportunities rather than personal failures, and flattening organizational hierarchies to encourage communication and collaboration (Edmondson, 1999). When present, psychological safety can transform failure from a source of humiliation or a threat to identity into an opportunity for learning and growth.

Although Edmondson's (1999) psychological safety model emerged from organizational management, researchers have applied it across diverse domains, including healthcare, corporate innovation, education, and sport (Edmondson & Bransby, 2023; Vella et al., 2024). However, its relevance to martial arts training has been largely unexplored. This gap matters, as sparring martial arts routinely place students in situations of high personal risk and repeated failure where the presence or absence of psychological safety directly affects persistence. In contexts such as sparring, failure is rarely neutral; it is public, embodied, and often tied to hierarchy and community status (Vaccaro et al., 2011). Poorly supported failure experiences can trigger shame and withdrawal (Eskreis-Winkler & Fishbach, 2022), particularly for novices who experience failure more often during sparring. Psychologically safe environments provide the social and cultural support that presents failure as developmental progress rather than personal inadequacy (Edmondson, 1999).

In martial arts pedagogy, learning happens within a paradox: students need enough risk and challenge to build skills, while also feeling psychologically safe enough to take those risks (Channon, 2020). Psychologically safe environments support practitioners in staying engaged amid risk and uncertainty, but they cannot eliminate risk and uncertainty entirely. Training that is too safe becomes unproductive; training that is too dangerous becomes damaging. The ongoing tension between safety and risk epitomizes edgework, which the following section describes.

### Edgework as voluntary risk

Lyng (1990) described *edgework* as voluntary engagement in high-risk, high-stakes experiences. High-risk, high-stakes activities such as climbing, hang gliding, and martial arts sparring require both technical skills and psychological control to negotiate the edge, the "boundary between chaos and order" (p. 855). Participants in edgework must learn to manage risk at the edge by pushing themselves (or being pushed by a coach) enough to improve their skills, but not so far as to cause discouragement, injury, attrition, or worse. Practicing at the edges in a controlled way helps practitioners develop self-regulation, embodied awareness, and ultimately, greater skill.

As Channon (2020) observed, sparring in martial arts is an edgework activity because progress requires constant negotiation between danger and cooperation. Importantly, Channon noted, the edge is subjective, meaning that what constitutes an edge for one practitioner may not be an edge for another. When a novice athlete spars with an experienced athlete, the novice's perceived edge is likely much greater. The goal of edgework, therefore, is not simply to learn how to endure risk but to navigate it successfully through skill acquisition, attunement, and control (Lyng, 1990). For instructors like Randy, the pedagogical challenge is balancing training realism with sustainable practice (Bowman, 2014).

Failure research supports this perspective. Lee and Park (2024) argued that the relationship between accumulated failures and learning follows an inverted-U shape. Moderate failure aids adaptation and learning, but repeated or excessive failures decrease motivation and impair learning. Within an edgework framework and as Lee and Park's model suggests, carefully managing an individual's risk exposure—in other words, keeping them near, but not beyond, their subjective edge—maximizes their learning potential.

Taken together, the frameworks of edgework, psychological safety, and learning from failure converge to explain how pedagogical intervention in martial arts training, especially

sparring, can potentially transform failure and injury risk into learning and development. Lyng's (1990) edgework highlights how practitioners voluntarily approach the boundaries between control and chaos, seeking mastery through engagement with risk. Yet, without a sense of psychological safety (Edmondson, 1999), edgework may collapse into fear, injury, or attrition. While psychological safety emphasizes minimizing interpersonal risk, edgework (Lyng, 1990) focuses on mastering physical and psychological risk in uncertain situations, such as during sparring. When safety and risk are appropriately balanced, failure can act as helpful feedback, and setbacks become embodied skills and knowledge (Zhou et al., 2020). Within this integrated framework, failure is not a deterrent, but a helpful data point for cultivating skill, resilience, and retention.

## METHOD: ANALYTICALLY INFORMED PRACTITIONER REFLECTION

Drawing on Contreras Islas and Jennings' (2023) typology of martial arts scholar–practitioners, Randy identifies as an *Inquisitive Teacher*, an experienced martial arts coach, and a lifelong martial arts practitioner deeply immersed in the culture and pedagogy of Chinese martial arts, including Mantis Boxing and Taijiquan, as well as BJJ and other martial arts disciplines. Over twenty-seven years of teaching and practice, Randy has critically reflected on teaching norms, especially regarding failure, injury, and attrition, while experimenting with different pedagogical interventions. While Randy is interested in contributing to scholarly knowledge production, such as participating in the MASA conference, he is not trained as a scholarly writer (and does not want to be).

As the second author, David contributed to the paper as a *Budding Scholar–Practitioner* (Contreras Islas & Jennings, 2023). He is a recent PhD and committed martial artist with a training background in the Japanese martial art of *ninpo taijutsu*. As a collaborative dialogue partner and co-theorist, he helped interpret and situate Randy's experiential insights within existing scholarship and the paper's interpretive framework to produce a scholarly work for journal publication.

Drawing on Spatz's (2015) framework, which treats technique as knowledge and practice as research, Randy's school served as a research site for producing embodied knowledge. Randy was the sole data contributor to this paper; all data were drawn from Randy's coaching experience, archival materials, and school records, with no new data collection or direct student contact.

The primary data sources included:

1. coaching journals documenting curriculum design, class structure, notable events, and student outcomes;
2. informal field conversation notes reflecting on student motivations, challenges, and experiences of failure or injury; and
3. school records, such as rosters and promotion logs, tracking cohort-level engagement and attrition.

These data, accumulated over 27 years of Randy's practice, provided a longitudinal view of how training culture, student behavior, and pedagogical decisions interacted over time.

Through a reflective process of *reflection-on-action* (Schön, 1983), which can be described as "thinking about doing after doing" (Reymen, 2003, p. 5), Randy's data analysis involved reviewing his memory, notes, coaching records, and observational data of human behavior from a plethora of classes and gyms over the years to identify issues and the interventions he experimented with to address them. While not as analytically rigorous as an empirical study might be, Randy's analysis drew on his coaching data and records and was grounded in his long-term martial arts practice, coaching, and observations.

After meeting with Randy to discuss the work, David restructured Randy's original paper, organizing the broader set of interventions Randy initially generated into a more digestible, theory-informed format for journal submission. David added the interpretive lenses of psychological safety and edgework to learning theory to help connect Randy's experiential observations to established literature and to refine the meaning of emerging learning patterns. Rewriting involved reorganizing the narrative, grouping three challenges with their corresponding interventions, and interpreting them through the theories. Randy's original article submission had identified other pedagogical observations and adjustments, but they were not included because of journal word-count constraints and a desire to narrow the focus for readability.

The collaboration between Randy and David fostered a dynamic, iterative interplay between emic (insider) and etic (outsider) perspectives. Consistent with qualitative research traditions (Levitt et al., 2018), this approach prioritized deep engagement, specificity, and contextual insight over broad generalizability. To enhance validity and ensure revisions still captured Randy's original intent, David and Randy discussed proposed changes, and Randy member-checked the paper before any submission. This dialogic process and collaboration enhanced reflexivity, challenged assumptions, and increased methodological rigor, thereby strengthening the paper's validity.

Ethical considerations prioritized privacy, researcher transparency, and reflexivity. All data were presented only in aggregate form (such as cohort-level student attrition trends). All student examples were composite and de-identified. David did not have access to individual student data, and no students were contacted or identified at any stage while writing this paper. Randy's original records remain securely stored within his private coaching business.

## FINDINGS AND PEDAGOGICAL INTERVENTIONS

Randy's observations and analysis of the data identified three key findings related to student attrition summarized as:

1. Speed and intensity amplify risk.
2. Institutionalized culture normalizes attrition.
3. Early unstructured sparring leads to excessive failure and risk.

Each finding is paired with a pedagogical intervention that Randy developed and introduced to his students in response. The three findings, along with their corresponding intervention, are each detailed and discussed below. While this paper presents the three findings and interventions succinctly, Randy noted that these interventions evolved through a nonlinear, iterative process of trial and error.

### Finding 1: Speed and intensity amplify risk

Randy's Mantis Boxing experience revealed a common pedagogical issue: as training speed and intensity increased, so did the risk of injury and emotional volatility. Although one of his early instructors emphasized slow, controlled movement to promote technical development, sparring and drilling sessions quickly escalated in speed and intensity. Randy noticed that when students wore protective gear, especially helmets and gloves, they struck harder and trained more aggressively. Around the same time, high-profile cases of traumatic brain injury and suicide among NFL players (e.g., Associated Press, 2006) drew public attention to the hidden dangers of repetitive head trauma. These observations prompted Randy to examine how the perceived safety of protective gear might paradoxically increase injury risk in martial arts sparring.

*Risk compensation theory* explains this phenomenon: when individuals feel protected, they take greater risks and hit harder, thereby offsetting the potential benefits of safety equipment (Hagel & Meeuwisse, 2004). Similar findings have been reported in other contact sports. For example, research has shown that children take greater physical risks when wearing protective equipment (Morrongiello et al., 2007), and that youth tackle football players sustain 15 times as many head impacts as those playing flag football (Waltzman et al., 2021). In this paradigm, protective gear may lead to overconfidence, excessive speed and power, and careless technique, all factors that increase both physical and psychological risk.

### Intervention 1: Removing protective gear reduces speed and intensity

In 2010, Randy attempted to address this issue in his gym by having his Mantis Boxing students remove protective gear (head, foot, shin, elbow, and chest) during training, leaving only lightweight gloves.[3] When students still trained too aggressively, he had them remove the gloves, too. He saw an immediate, profound change. Without safety gear, students relied less on brute strength and more on control, timing, and technical precision. Rather than increasing injuries, the shift reflected the paradox of risk compensation theory: less gear led to slower, less reckless, and more mindful training. Of course, when choosing whether to remove protective gear during training, instructors should also consider factors such as liability, insurance, student demographics, and context (e.g., youth versus adult sparring, full speed striking).

Importantly, Randy observed that as the physical intensity of training decreased, so did the emotional intensity. Students became less competitive and more curious as they experimented with techniques and reflected on their experiences. By slowing down, students became more attuned to tactile feedback, cultivating sensitivity to subtle shifts in timing and pressure rather than blunt aggression. Removing protective gear during training fostered an environment in which students felt comfortable experimenting and making mistakes. Mistakes became more likely to be treated as helpful feedback, rather than something to avoid.

From an edgework perspective, the intervention did not remove risk and uncertainty in sparring but recalibrated them to a more manageable level. Students continued to spar, but at a more deliberate and less intense pace, allowing them to better attune to their training partner and train at their edge without being pushed past it. This heightened attunement supported learning and skill development rather than intensity and aggression, reflecting Channon's (2020) insight that martial arts can structure encounters with risk in ways that promote growth rather than exalting winning. By intentionally lowering speed and intensity, Randy preserved the educational value of edgework training while reducing physical and psychological harm.

### Finding 2: Institutionalized culture normalizes attrition

Martial arts are not merely technical systems, but social worlds organized around hierarchies, conformity, and legitimacy constructed through perseverance (Spencer, 2009). Students often enter gym cultures that emphasize early sparring, competition, toughness, and visible performance (Vaccaro et al., 2011). In these types of environments, athletes often earn legitimacy through pain and suffering (Stenius & Dziwenka, 2015), and these training spaces serve as rites of passage (Channon, 2020). Attrition becomes both commonplace and stigmatized. In this paradigm, attrition is viewed as a lack of individual toughness or commitment rather than a pedagogical issue, reflecting Williams and Smith's (2026) comment that quitting is often framed as "the ultimate BJJ failure" (p. 201).

[3] This first intervention of removing protective gear applies only to Mantis Boxing as practitioners often wear protective gear; BJJ participants often do not normally wear safety gear, including men not wearing protective cups during competition.

In the BJJ gyms where Randy trained, he encountered this perspective firsthand. Instructors justified these norms by repeating phrases like "This is how I was trained" and "It worked for me." Visible injury markers, such as taped fingers, knee braces, and the scent of sports medicine sprays, indicated a training culture where injury is normalized. From Randy's perspective, larger, financially successful gyms that benefited from a steady influx of new students had little apparent incentive to reform, even amid high attrition and injury rates.

Randy observed that BJJ novices were often introduced to advanced sequences and thrown into sparring early in their training. Consequently, they often experienced repeated public failure because they could not execute moves, were choked out, or were forced to tap as an admission of defeat. Student disengagement often appeared subtly, as students sat out sparring rounds, requested gentler partners, or mentioned minor injuries to avoid sparring. Because the same students remained engaged during warm-ups, conditioning, technique instruction, question-and-answer sessions, and social interaction, the withdrawal seemed specific to how sparring was organized rather than a general lack of commitment.

One novice, an accomplished individual in their working life, told Randy after a sparring session, "This is humiliating." Humiliation, Randy came to realize, was a decisive, though often unspoken, reason for disengagement, a pattern Williams and Smith (2026) also identified among novice practitioners. Repeated humiliation created an environment without psychological safety, in which tapping out became less about learning and more about not losing.

Randy concluded that the students who left did not leave because they lacked resilience, but because the training environment lacked psychological structures to support failure as a normal and necessary part of the learning process. Failure felt random and overwhelming rather than meaningful and instructive. Read through edgework (Lyng, 1990), novices were repeatedly pushed to the edge without the embodied skills to navigate it successfully. Without psychological safety (Edmondson, 1999), the interpersonal cost became too high. Withdrawal, rather than persistence, became the rational response. Attrition, then, was a problem of culture and pedagogical design rather than evidence of a selection effect working as intended.

### Intervention 2: Curriculum redesign embeds failure within the learning process

The insight on humiliation from a student's failure prompted Randy to redesign his curriculum in 2022 to embed failure as an expected, encouraged, and valuable part of the training process. This meant failures, such as being submitted, swept, or repeatedly hit, had to be reframed as necessary for learning and as steps toward gaining competence.

Randy's redesigned curriculum employed a phased, incremental approach. BJJ students began with a single submission and progressively built skills each week. Positional sparring was presented as a problem-solving exercise organized around four core ground positions—mount, side control, back mount, and guard—taught progressively, with an emphasis on positional control, submissions, and escapes. Mantis Boxing students followed a parallel structure, beginning with single strikes and kicks, then incrementally adding combinations, such as strike-to-kick, kick-to-strike, and gear changes, along with blocking, footwork, and takedown defense. A phase focused on throws, trips, and takedowns mirrored the BJJ curriculum and was also built around four core positions. To reduce physical fatigue and cognitive overload, Randy also shortened the beginner classes to one hour.

Students spent months on each position, drilling fundamentals until the movements became second nature, and they could maintain composure even under pressure. Tapping out was reframed as a data point and a learning opportunity, rather than a sign of failure. Encouraging students to tap early also reduced injury risk, consistent with recommendations by Hinz et al. (2021). During each class, students were encouraged to ask questions. At the end of each class, Randy had each student share a takeaway. He found that questions and shared takeaways created a more communal atmosphere and encouraged humility among students at all skill levels.

Before advancing to the next phase of training, students engaged in positional stress tests, where they attempted techniques against fully resisting partners in short, bounded rounds. In these sessions, failure signaled that a student had reached their edge. These rounds simulated the uncertainty and pressure of live sparring, while maintaining physical and psychological safety, allowing reflection and technical correction.

With his redesigned curriculum, Randy deliberately integrated failure as an intentional and encouraged feature of training. Through experimentation and trial and error, students learned to remain calmer in high-pressure situations. As Eskreis-Winkler and Fishbach (2022) noted, this approach succeeds only when failure is presented constructively, a condition Randy deliberately embedded. In Edmondson's (1999) terms, the intervention created a more psychologically safe environment that encouraged experimentation and reduced the interpersonal risks associated with making mistakes.

### Finding 3: Early, unstructured sparring leads to excessive failure and risk

Live sparring is central to MMA, BJJ, and Mantis Boxing training, providing a context where practitioners test their skills under pressure. Sparring also exposes students to psychological and physical risks, as they are hit, choked, locked, and pinned. From an edgework perspective (Channon, 2020; Lyng, 1990), sparring positions practitioners on the edge between chaos and control. Novices, however, may lack the embodied skills to navigate that boundary.

Randy observed that this problem is not unique to BJJ but applies to any combat martial arts style that introduces students to sparring early. When novices are overwhelmed, they tend to rely

on speed and strength rather than technique, increasing the risk of injuring themselves or others. Their reactions align with the barriers to learning described by Eskreis-Winkler and Fishbach (2022), who noted that under stress, people shift from learning to protecting their ego. Rather than viewing failure as useful feedback, beginners in sparring often experience a loss of control, disorientation, and panic, which can lead to greater disengagement and withdrawal.

Randy also noted that novices are especially vulnerable to injuries because they lack the embodied awareness and the technical skills to recognize unsafe positions, regulate emotional responses, and interpret failure constructively. Accumulated failures compound the problem by eroding confidence, creating shame, and leading to avoidance behaviors (Williams & Smith, 2026). Randy observed these subtle avoidance behaviors in his novice students as they sat out sparring rounds, requested gentler partners, expressed anxiety through indirect signals, or quit altogether. In these cases, sparring stopped being a pedagogical tool and instead became a psychological threat and physical risk. Without intentional structuring, Randy observed, sparring accelerates attrition.

### Intervention 3: Mentor sparring creates a collaborative developmental space

To address these issues, Randy restructured early sparring into a collaborative developmental space. Rather than throwing novices directly into unstructured live rounds, he delayed sparring until students had completed the core curriculum. He then introduced mentor sparring, a structured format in which experienced practitioners served as mentors, guiding novices through controlled, collaborative encounters. The intended goal was to manage the student's risk exposure while preserving the developmental aspect of sparring by reducing the stress of facing more experienced, potentially larger, stronger, or faster partners.

Randy's mentor sparring integrated three key features:

1. Preassigned roles reduced confusion and prevented accidental clashing when both sides competed for position rather than learning together.
2. Intentional setups let mentors create opportunities for novices to apply the skills they had been learning in real time. These setups emerged responsively within the flow of sparring. For instance, the mentor might leave an arm exposed in mount to invite an armbar or drop a hand to leave their head open for a strike. These scenarios provided manageable challenges for the novices to experience success under pressure.
3. Reflective pauses initiated by the mentor created opportunities to recognize and problem-solve what to do next. If a student was uncertain, the mentor might nudge or hint and introduce the scenario later in the round to reinforce learning.

Together, these features shifted the focus of sparring from competition to cooperation. Instead of seeing their partner as an adversary, the novice student experienced them as a supportive guide. By presenting students with problems to solve rather than prefabricated solutions, Randy guided students to confront their subjective limits, an appropriate edge. Randy's intervention was consistent with Channon's (2020) argument that effective instruction involves designing learning environments of "mutually constructed risk" (p. 15) where training partners cooperate to bring each other to their respective edges, far enough to encourage growth, but not so far as to cause harm. This shift from competition to cooperation is consistent with Hinz et al.'s (2021) recommendation to refocus sparring from competition to learning to reduce injury risk. Mentor sparring also encouraged more advanced practitioners to adopt a coaching or teaching mindset. No longer seen as a proving ground, sparring became a collaborative space for development.

After implementing mentor sparring, Randy observed that it reduced fear, performance anxiety, and overexertion, allowing novices to focus on learning. Students learned technical skills more quickly, experienced fewer injuries, and reported a stronger sense of belonging. By reframing mistakes as expected, accepted, and encouraged, mentor sparring reduced interpersonal risk and created a psychologically safe learning environment. Novices still encountered uncertainty and failure, but in a context that reframed mistakes as feedback rather than as humiliation or incompetence. Including reflection and experimentation in sparring also embedded learning at the site of risk. From an edgework perspective, mentor sparring did not eliminate risk for novices but recalibrated it into a more manageable edge.

Together, the three interventions—removing protective gear, redesigning the curriculum, and implementing mentor sparring—helped shift the cultural dynamics of Randy's gym. He observed that students slowed down during training and became more collaborative. Failure and tapping out during sparring became accepted as integral to learning rather than a source of humiliation. The results from Randy's school suggest that effective pedagogy need not eliminate risk but rather recalibrate it to support learning, safety, and long-term engagement. Unintentionally, Randy's gym evolved into a laboratory for learning through experimentation.

## PAPER CONTRIBUTIONS AND CHALLENGES

This paper makes several notable contributions to martial arts studies. First, interpreting the paper's findings and their corresponding interventions through learning theory, psychological safety, and edgework provided a novel theoretical framework for examining pedagogical intervention in a martial arts training environment. While incorporating multiple theories, such as this paper did, is more complex and challenging, it decenters the analysis from a single theoretical perspective and can yield a richer understanding of the phenomenon under examination (Montuori, 2013).

Second, this paper demonstrated how collaboration between a practitioner (Randy) and a scholar (David) can help bring more practitioner knowledge into the scholarly community. Bringing more expert knowledge into academic discourse (Spatz, 2015) has value, especially from long-term practitioners and coaches. Randy's experiential insights from long-term training and coaching cannot be replicated by a researcher through observation or limited practice.

While organizations such as the Martial Arts Studies Association may advocate for practitioners' active contributions, practitioners like Randy often face significant challenges publishing and presenting in scholarly formats (Contreras Islas & Jennings, 2023). Granting a practitioner entry to an academic conference or the chance to submit to an academic journal may not lead to publication without formal training in scholarly writing, such as that developed through a doctoral program. Rather than expecting practitioners to write like scholars (or similarly expecting scholars to be "experts" in the martial art they research), this paper shows how a scholar can support a practitioner by helping translate their insights into an academic voice and format. As Contreras Islas and Jennings (2023) suggested: "Forming supportive networks between different types of scholar–practitioners is a valuable strategy for navigating the challenges of individual positions and adding to their strengths and advantages" (p. 17). This paper exemplifies this approach.

For David, co-authoring this paper was an opportunity to practice scholarly skills and begin to develop a body of scholarly work. As an early-career researcher, David also faced challenges in helping Randy. David tried to identify a methodology that, in hindsight, aligned with Randy's informal data collection. This led David to initially introduce what he saw as a good methodological fit: an *instrumental case study* approach, which Stake (1995) presented as well suited to investigating a specific pedagogical concern (novice student attrition) bounded by a location (Randy's gym), an activity (his coaching practice), and a time frame (1999–). Subsequent peer review feedback led David to reposition the paper's methodology more informally as an analytically informed practitioner reflection.

Finally, while prior martial arts research has explored embodied expertise, pedagogy, and training cultures (e.g., Hogeveen, 2013; Jennings & Delamont, 2025; Stenius & Dziwenka, 2015), these studies often emphasize descriptive or sociological interpretations. This paper expands on that literature by demonstrating a coach's iterative process of observation, experimentation, and reflection—an example of Kolb's (1984) experiential learning—and by offering specific examples of interventions that other coaches and instructors can potentially test and emulate in their training environments.

## LIMITATIONS AND FUTURE DIRECTIONS

First, because this paper draws on the experiences of a single coach at one training location, it offers only one practitioner's perspective and did not directly engage with students' voices or independent observational data. As such, the data and corresponding findings are context-specific, and the interventions described may have limited application across other martial arts settings. In addition, the pedagogical environment of Randy's school itself changed over the twenty-seven years covered by the data; earlier groups trained in a larger, more open-access gym, whereas Randy's current members-only group is intentionally smaller and more selectively cultivated. Moreover, the interventions shared were culminations of a lengthy, iterative process of experimentation and pedagogical tweaking rather than single-step actions. Finally, this paper highlighted three successful interventions rather than focusing on unsuccessful ones. Even so, the insights from this case may offer useful examples of how instructors can reflect on and modify their pedagogical cultures through ongoing observation and experimentation.

Second, the findings were exploratory and lacked systematic prospective data collection. Randy did not initially identify the findings through a formal scholarly research method but through observation, experimentation, and reflexive analysis. This approach is common to sports coaching research. As Cushion (2026) noted: "As a field of study, coaching has a relatively weak quality profile and while generating significant scholarly interest, it has not been an area given to rigorous empirical investigation and knowledge accumulation" (p. 230). While theory and practical application examples are potentially useful, scholarly empirical research is still needed.

Third, the pedagogical examples examined reflect specific martial arts lineages and pedagogical emphasis, shaped by their cultural contexts and Randy's interpretation of the practices. Consequently, this paper should be understood primarily as an analytically informed pedagogical reflection within a specific context. While illustrative, it cannot make broader claims about attrition, learning, or transformation in different training contexts. Still, while not statistically generalizable, it offers conceptual generalizability—such as pedagogical experimentation as an ongoing process—that may transfer to other martial arts training contexts (Smith, 2018).

Future research could analyze other martial traditions and practitioner communities to yield additional, potentially more generalizable insights on the relationships among failure, injury prevention, and retention. It could include more participants (both practitioners and coaches) and test these interventions qualitatively and empirically across diverse training environments. Comparative studies across martial arts traditions, cultural settings (e.g., *judo* in Japan versus judo in the United States), and other movement practices, such as dance, American football, and military training, which face similar challenges in managing physical risk, psychological safety, and student retention, would deepen understanding of how pedagogical design shapes injury rates and retention. Finally, further work could investigate the lived experiences of different types of scholar-practitioners (e.g., Dobrich & Contreras Islas, 2026) and how

scholar-practitioner collaborations might be structured more effectively to give expert practitioners more voice.

## CONCLUSION

Taking an analytically informed, practitioner-reflexive approach, this paper examined how failure and injury risk influence novice attrition in sparring martial arts and showed how targeted pedagogical interventions can potentially mitigate these effects. Analyzing and interpreting the paper's findings and corresponding interventions through the lenses of learning theory, psychological safety, and edgework provided a novel framework—what we call *learning to fail safely*—for examining how pedagogical design can help turn failure into a developmental tool and recalibrate risk to support learning, promote skill development, and improve student retention. Randy's key insight was that retaining more novice students does not require eliminating failure or risk, but rather managing them through intentional, structural interventions that balance challenge with safety. When he did, his training site transformed from a competitive proving ground into a space of collaborative, adaptive learning. Reframing attrition as a cultural problem rather than an individual failing shifts responsibility from students to schools and instructors and challenges the long-standing association between suffering and legitimacy in martial arts.

This paper also shows that martial arts pedagogy is not only an object of study but also an experiential laboratory for exploring adaptive risk management and the social dynamics of failure within martial arts and beyond. This approach, even when only illustrative, as in this paper, helps move the martial arts studies field toward applied, intervention-oriented research that can both shape and interpret practice.

### Declaration of competing interests

The authors affirm that they had no competing interests relevant to the work underpinning this manuscript.

### Declaration of artificial intelligence use

The second author (David Glover) used ChatGPT to assist with literature searching while preparing this article. He directly sourced and read any suggested literature before including it. All writing (including any errors and inconsistencies) is entirely the authors' own.

### Authors' contributions

As the first author, Randy's observations and critical reflections on teaching norms, along with his experimentation with various pedagogical interventions, formed the basis of this paper, with training journals and coaching records serving as the data. He first presented these findings at the Martial Arts Studies Association conference in 2024. As a co-theorist and scholar, David helped Randy bring theory into this version of the work and rework Randy's insights into a scholarly format.

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