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Theoretical-empirical Article

Golf as an Innovation in the Teaching of Finance: Report on a Pioneering Experience

Golfe como Inovação no Ensino de Finanças: Relato de uma Experiência Pioneira

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ABSTRACT

Objective to analyze the possibility of using golf as a metaphor for teaching finance. Study reports on a pilot experience of teaching finance using golf as a metaphor.Golf can be a means of promoting the engagement of finance students.**Theoretical framework:** a normative and positive economic decision theory is used as a framework. Sports can be a means of engaging students in finance education programs. Golf, in particular, can fulfill this role and serve as a powerful tool for building and maintaining social networks relevant to high-level professionals. **Methods:** thirty undergraduate students voluntarily participated in a pilot teaching program over five days. The program included sessions (in the field) on the fundamentals of golf and financial decisions, and students looked for synergies between these two domains. Participants showed a high level of interest in both the sports practice sessions and the finance activities. **Results:** the results suggest that psychological errors common to golf and financial behavior—for example, overoptimism, overconfidence, and emotional judgments—can be diagnosed and addressed through sports practice. In addition, the participants' self-assessment indicates the possibility that the program can induce behaviors in line with the corporate environment. **Conclusions:** Despite golf's contribution to the teaching of business subjects, it is still absent from formal curricula.

Keywords: golf; teaching finance; sustainable finance.

RESUMO

Objetivo: analisar a possibilidade do emprego do golfe como metáfora para o ensino de finanças. Este estudo relata uma experiência piloto de ensino de finanças com o emprego da prática do golfe como metáfora. O golfe pode ser um meio para promover o engajamento de estudantes de finanças. **Marco teórico:** teoria normativa e positiva da decisão econômica. A prática esportiva pode ser um meio de engajar estudantes em programas de ensino de finanças. O golfe, em especial, pode desempenhar esse papel, além de constituir uma poderosa ferramenta de construção e manutenção de redes sociais relevantes ao profissional de alto nível. **Métodos:** trinta estudantes, em nível de graduação, voluntariamente inscritos participaram do programa piloto de ensino ao longo de cinco dias, com sessões (em campo) de fundamentos do golfe e de decisões financeiras, buscando sinergias entre esses dois domínios. Constata-se o interesse elevado dos participantes tanto nas sessões de prática esportiva como nas atividades de finanças. **Resultados:** os resultados sugerem que erros psicológicos comuns ao golfe e ao comportamento financeiro, e.g., excesso de otimismo, excesso de confiança e julgamentos emocionais, podem ser diagnosticados e endereçados por meio da prática esportiva. Em adição, a autoavaliação realizada pelos participantes sugere a possibilidade de que o programa possa induzir comportamentos alinhados com o ambiente corporativo. **Conclusões:** em que pese a contribuição do golfe para o ensino de disciplinas da área de negócios, ele ainda é ausente dos currículos formais.

Palavras-chave: golfe; ensino de finanças; finanças sustentáveis.

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INTRODUCTION

Teachers and managers of educational institutions have gradually demanded the engagement of students in finance teaching programs (Calkins, 1950; Hunt, 1950; Mendes-da-Silva et al., 2011). Sport seems to be an important tool as a metaphor for teaching business subjects, including finance (Ardalan, 1998; Mahar & Paul, 2010). Golf is played predominately in industrialized countries. In the United States, for example, there are more than one thousand universities where students compete in golf. However, even though golf is seen as contributing to business careers (Arthur et al., 2011), it is still virtually absent from business school curricula (Gray et al., 2020).

This research reports on an experience of using golf as a means of teaching finance at an internationally accredited business school in Brazil. In particular, three issues are examined. Firstly, the potential common ground between the practice of golf and finance at the top level of the firm is highlighted. Secondly, the dynamics adopted to conduct the course are described. Thirdly, the opinions and self-assessments of the program's participants are presented and discussed.

Associations between golf and business are nothing new in the literature (Ceron-Anaya, 2010). In addition to providing an alternative means of teaching finance, golf can also stimulate cognitive and motor skills that are relevant to health, as well as being a powerful tool for accessing informal corporate networks (Lee et al., 2020; Mendes-da-Silva, 2011), an aspect that is particularly relevant in situations where the individual is an expatriate (Ben-Ari, 2013).

Through the practice of golf, extensions to the behavioral aspects of decision-making in finance are highlighted at the undergraduate level in business administration (Ardalan, 1998). Based on a real-life experience with thirty individuals, a sixty-hour study program was conducted, integrating concepts of golf and fundamentals of financial decisions, in the individual and corporate contexts. The program took place at a country club with golf instructors. There are at least three lessons to be learned from this experience. Firstly, the experience with golf seems to promote student engagement, prompting them to reflect on their behavior outside the school environment in a real-world corporate atmosphere. Secondly, it was observed that the rules of golf, both explicit and implicit, can play an important role in teaching finance in high-level management. Thirdly, according to the participants' survey, it may be feasible to address aspects of personality and sociability that are relevant to high-level management professionals.

The research provides contributions, of which I would highlight three. Firstly, due to the relevance of behavioral aspects for developing the quality of decisions made and taken in finance, it seems appropriate to look for ways to provide contexts that allow for the improvement of financial decisions based on an understanding of behavioral aspects in the top management of companies (Thaler, 1999). Golf can be an important tool for this and can be part of the curriculum structure of business subjects, especially finance (Gray et al., 2020). Secondly, along with the atmosphere in which golf takes place, the individual is exposed to the influence of the environment, group coexistence, and the need to behave transparently and honestly about their game (even if they are not under supervision). Thirdly, modern sustainable finance topics can be the preferred target of golf finance programs; for example, ESG, compliance and ethics, greenwashing, corporate governance, risk-taking behavior, and other finance topics connected to the practice of golf (Ramos et al., 2019; Walters, 2009; Wurl, 2019).

LITERATURE REVIEW

Sport as a metaphor for teaching finance

It is suspected that the teaching of finance, among the other business disciplines, is one of the most challenging for students and teachers. This can be aggravated in contexts where the teaching dynamic is limited in terms of personal interaction; for example, the COVID-19 pandemic (Prasad, 2022). The search for alternatives to improve the learning experience of finance students is relevant (Carrithers et al., 2008; Ebdon, 1999). The strategies are diverse, including the use of sports as a means of teaching (Lew & Saville, 2021; Montalvo et al., 2018), with room for outdoor activities such as golf.

The use of sport to teach finance is present in the literature (Mahar & Paul, 2010). In one of the main schools for teaching accounting and finance at the undergraduate level in the United States, the School of Accountancy at Brigham Young University (BYU) (Adkins et al., 2016; Gloeckler, 2013), sport has been used as a means of teaching. In the words of Bob Parker, facilitator of the Pit Crew Challenge (Figure 1): "This is not about the racecar, ... this is about working together as a team."

Figure 1. Newsreel view of the Pit Crew Challenge at Brigham Young University.
Source: Osmond, D. (2005). Rubber hits the road for BYU Accounting students. https://marriott.byu.edu/acc/news/article?id=244

Why golf?

The journey to be learned in golf allows the individual to achieve high performance in other areas of life. Learning the etiquette of the sport and subsequently performing with mastery require a set of skills that includes emotional and mental balance and self-knowledge. An official round of golf is played over 18 holes distributed over a course, the parts of which are shown in Figure 2.

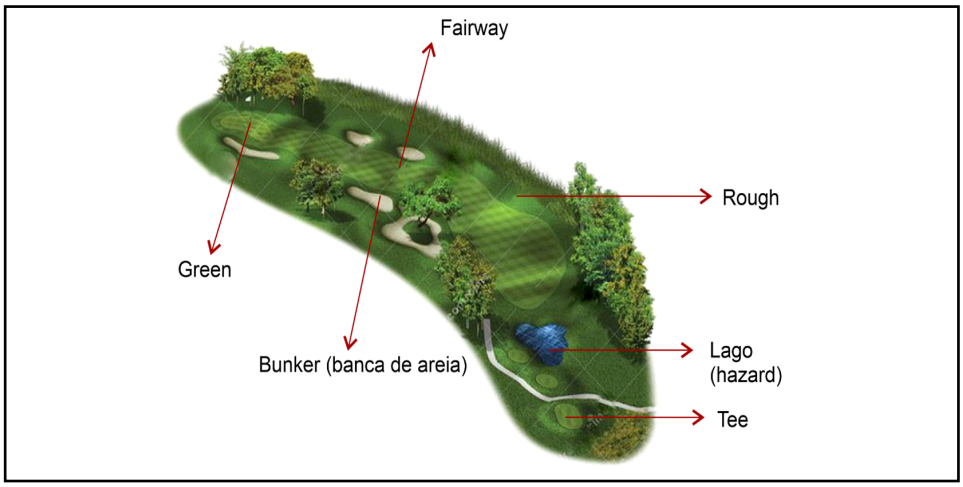

Figure 2. View of the component parts of a typical golf course.
Source: Confederação Brasileira de Golf (2023). O campo. https://www.cbg.com.br/o-golfe/o-campo/. 'Tee — the area from which the initial shot is taken for each hole, also known as the pin/support where the ball is placed for the first shot. Fairway — the main lane of each hole, where the grass has a cut that allows for good shots. Rough — the area surrounding the fairway where the grass is taller, usually with trees and bushes, making it difficult to hit. Bunkers — sand bunkers make the game more challenging. Hazards — 'raps' to hinder the player, such as sandbanks and lakes. Green — prime area of the course where the holes are. The grass is thinner, allowing the ball to glide easily. A golf course has some specific practice and warm-up areas. Putting green — practice putting area (where the ball is rolled into the hole). Driving range — practice and learning area for long and approach shots.

The goal (the hole) of the game is surrounded by various obstacles, including the distance between the place of the first shot (the tee) and natural accidents — for example, bunkers, trees, lakes, and other unexpected conditions such as wind. Thus, golfers need to use their skills to achieve their goals. To do this, they must understand the course (the context), and choose and use their tools (clubs) appropriately, with a view to the final goal (the

hole). However, whatever the course or opponent, ethics and respect for the rules of golf must always be observed voluntarily and spontaneously. Golf is essentially played on a level playing field. Thus, players who differ in terms of ability (handicap), age, or gender can compete against each other (Arthur et al., 2011). Table 1 shows the putting success rate by handicap, according to distance to the hole.

Table 1. Percentage of putting success according to distance to the hole (by handicap).

	Handicap (HCP) and hitting percentage					
Distance to the hole	0 HCP	5 HCP	10 HCP	15 HCP	20 HCP	25 HCP
18-24ft (5.5-7.3 m)	14.5%	13.0%	10.3%	11.2%	11.8%	10.1%
12-18ft (3.6-5.5 m)	25.1%	23.9%	20.2%	20.2%	18.8%	16.0%
6-12ft (1.8-3.6 m)	42.8%	41.4%	38.1%	39.6%	37.8%	35.0%

Note. Handicap is the numerical measure of a golfer's potential to allow players of different abilities to compete against each other. Source: Prepared by the author based on data from Shot Scope Technologies Ltd Shot Scope (2022). Putting make percentages by handicap – how do you compare? https://shotscope.com/blog/stats/putting-make-percentages-by-handicap-how-do-you-compare/

Regarding the promotion of sociability in a professional environment, golf is particularly significant as a gateway to relevant professional networks at international levels, accelerating results at the senior management level. Staying away from golf can mean missing out on important opportunities for the professional and the company they work for (Gray et al., 2020). In terms of personal skills, golf differs from other sports by allowing players to develop autonomous discipline, ethics, planning, meticulousness, respect for others and the environment, choice of tools, team building, a sense of persistence, and iterations in pursuit of the final goal.

This paper focuses on the amateur practice of golf, specifically regarding individuals who do not earn money from teaching or playing golf. According to the Brazilian Golf Confederation (CBGolfe), Brazil currently has 117 courses, a significant increase from 15 years ago, when there were only 80 courses. During this period, the number of golfers practically doubled and is now close to 20 thousand (approximately half of them federated), with potential for more growth. Table 2 shows the 20 countries with the highest number of golf courses (apart from Brazil), together with the income level of each country.

Table 2. List of the twenty countries with the largest number of golf courses (2021).

Order	Country	GDP per capita†	# of fields
1	USA	70,219.4	16,156
2	Japan	39,827.1	3,140
3	United Kingdom	46,585.8	3,101
4	Canada	52,358.6	2,564
5	Australia	60,444.5	1,584
6	Germany	51,203.5	1,054
7	France	43,658.9	811
8	South Korea	34,997.7	810
9	Sweden	61,143.2	650
10	China	12,617.5	617
11	Spain	30,103.5	493
12	South Africa	7,055.0	477
13	New Zealand	49,996.4	416
14	Ireland	100,172.0	365
15	Netherlands	57,708.1	350
16	Argentina	10,636.1	348
17	Denmark	68,007.7	347
18	Thailand	7,060.8	317
19	Italy	35,770.0	312
20	India	2,238.1	298
*	Brazil	7,696.7	126

Note. Source: Prepared by the author based on data from the R&A (2021). Golf Around the World 2021 (4th ed). https://ngforg.wpenginepowered.com/wp-content/uploads/2021/09/2021-Golf-Around-the-World-Report-RA.pdf and World Bank (2023). World Development Indicators. https://data.worldbank.org/indicator/NY.GDP.PCAP.CD. This table lists the twenty countries with the highest number of golf courses. * Brazil is the second country in South America, Argentina being the first. †USD/inhabitant in 2021.

In terms of the relevance of the networks formed from golf, (Gray et al., 2020) point out that 71 percent of 'Fortune 1000' CEOs claim to have done business with someone they know on golf courses, and 80 percent of 'Fortune 500' executives claim that golf has helped their careers. Finally, as it is an educational program for young adults, safety and physical integrity are key. Golf is among the sports that cause the fewest accidents capable of subjecting the athlete to periods of impediment (Soligard et al., 2017). There are other sports, however, that can serve as a metaphor for teaching finance, such as tennis, whereas golf can be used to teach other subjects (Fisher, 2019; Lee et al., 2020).

It is no surprise that golf is classified as an individualistic sport since only one person is responsible for making the shot. However, there are additional aspects to consider. In what way can golf be considered a team game? Firstly, there are disciplines (often little known to most people) in which golf is played as a team. One of these is betterball (or combined), where the individual adds up their scores with a partner, adding an atmosphere of collective play. Secondly, joining a local league provides a team element in which players compete against each other in a collective environment. This is seen in many tournaments around the world.

One such tournament is the Ryder Cup. The United States and Europe play against each other, and players receive support from each side as a team. This support creates a certain atmosphere, uniting players and fans. In the case of professional players, most professionals have a 'team' of support made up of their on-course coaches, nutritionists, mental trainers, caddies, and family members. Even though they are the ones hitting the shots on the course, they would not achieve their results without their team. Therefore, the view that golf is necessarily an individual/individualistic sport depends on the disposition of those who practice it.

What golf and finance have in common

There can be a sense of unity and collaboration in golf when it is played as a team, creating a more relaxed atmosphere between individuals. Regarding the teaching of finance, particularly the training of people at the executive level, there are important similarities between the routines of finance professionals and golfers. For example, some issues of stress are caused by pressure for high performance (McKay et al., 1997), and most unexpected deaths of executives are the result of heart attacks, exacerbated by the high-pressure routine (Nguyen & Nielsen, 2010).

Golf and money go hand in hand (Knutsen et al., 2017). From research on golf and financial behavior, similar causes of unfavorable outcomes are found: loss aversion (Pope & Schweitzer, 2011), overoptimism (Carleton et al., 1998), overconfidence (Gervais & Odean, 2001) and emotional judgments (Knutsen et al., 2017). In this sense, emotional control and a conscious commitment to setting goals, planning, practicing, evaluating, minimizing risks, and seeking quality advice are factors often employed by elite golfers to improve their performance, both on and off the course.

Regarding links between golf and finance, Knutsen et al. (2017) present preliminary results of a focus group survey (Figure 3), bringing together (a) golf professionals, (b) experienced finance academics, (c) respected financial services professionals, and (d) professional investors, all strongly interested in the science of golf and improving their game. Dimensions of good golf, including proven effective strategies, are investigated, and links are suggested between these strategies and effective financial behavior.

Decision-making under risk situations, the need to prepare for situations that pose difficulties to the intended objective, and the need to construct and employ rules of engagement for such situations seem to be common between golf and corporate decision-making. In finance, behavioral approaches (and their respective extensions and applications) seem to have explicit connections with the golf environment (Elmore & Urbaczewski, 2021; Pope & Schweitzer, 2011). According to Knutsen et al. (2017), a golfer's unwanted decisions in the context of the game are mainly rooted in three errors of judgment: overoptimism (Montier, 1983), overconfidence (Montier, 1983) and the illusion of control (Gilovich et al., 1985). Pope and Schweitzer (2011) focus on loss aversion as one of the relevant aspects of golfer behavior.

The literature offers evidence of the use of golf as a means of developing decision-making skills at the individual level. Research in the field of health care points to golf as an important alternative psychophysiological treatment, or alternative therapy for individuals in situations of chemical dependency (Grov & Dahl, 2019; McKay et al., 1997).

Concepts identified from the literature		Themes identified in the focus group by Knutsen et al. (2017)	
Errors of judgment that affect financial decisions	Strategy management mistakes employed by elite golfers	Observations of mismanagement aimed at better golf	Management mistakes: golf versus financial behavior
Panel A. Overoptimism[a]	*Managing overoptimism*[b]	*Excessive optimism*	*Managing overoptimism*
Overestimating or underestimating the frequency of favorable and/or unfavorable results.	Develop a willingness to be trained. Mental control strengthened by commitment to improvement.	Quality training can enable you to overcome the pitfalls of the course and get closer to the hole. Commit to pre- and post-shot training routines rather than staying in your comfort zone.	Just like in golf, in the event of a bad experience, you learn and progress. To get closer to the hole (goal), with golf and financial management, quality advice is essential.
Panel B. Overconfidence[c]	*Managing overconfidence*[d]	*Managing overconfidence*	*Managing overconfidence*
Believing that you are better than you really are exaggerates your ability to control events and your sense of guilt.	Manage someone's thinking by planning to hit the target. Consider the following cue and the impact of splits based on the game so far.	Stay focused on the target instead of trying to avoid an action. Manage thinking via planning to minimize bad shots and analysis of the facts to play effectively.	As successful golfers know, bad golf cannot be fixed with guilt. Instead, performing effectively requires careful analysis of past facts in order to make good financial decisions.
Panel C. Emotional judgment[e]	*Managing emotional judgment*	*Managing emotional judgment*[f]	*Managing emotional judgment*
Creating an illusion of control, believing you have influence over uncontrollable events built on previous successes.	Adopt risk-averse behaviors to manage the impact of negative thinking created from previous undesirable results.	The best golfers concentrate on one shot at a time. To minimize losses, good golfers are more likely to play it safe, leaving the ball close to the hole to avoid more difficult putts.	People tend to disregard probabilities. As in golf, it may be better to play it safe and aim for a PAR putt.

Figure 3. Comparison of concepts and themes emerging from the literature.

Source: Based on Knutsen et al. (2017). [a] Ashton and Roberts (2011), Shefrin (2007); [b] Cohen et al. (2006); [c] Shefrin (2007); [d] Hill et al. (2011); [e] Presson and Benassi (1996); [f] Pope and Schweitzer (2011). Knutsen et al. (2017) also suggest a list of questions for the participant in the golf finance program in order to induce reflection on the interactions between golf and finances.

Corporate governance

One of the most studied topics in corporate governance is the board of directors (Mendes-da-Silva, 2011). This, in turn, is home to a number of topics related to golf; for example, ethics, transparency, situation studies, decision planning, trust, and social networks (Fracassi & Tate, 2012). The drivers of corporate networking are particularly interesting, and one such driver is golf (Agarwal et al., 2016; Hoitash, 2011). Yermack (2006) finds evidence that CEOs who frequent golf courses located long distances from their company headquarters may end up using corporate jet services basically for personal benefit. However, in the game of golf, there are constants: the search for and appreciation of honesty even if it is not under scrutiny, proper control of narcissism (Mendes-da-Silva, 2021), appropriate team decision-making, focus on results at all costs, combating sportwashing (situations in which individuals or organizations may seek to take advantage of sporting events to build an inflated positive self-image (Rook et al., 2023), fairness, compliance, and transparency.

Investment decisions

Investment decisions and the personality of the decision-maker can be closely linked (Shefrin, 2007). Regarding the latter, people become overconfident when they are convinced that they are better than they really are. Psychologists show that overconfidence causes people to overestimate their knowledge, underestimate risks, exaggerate their ability to control events, and take credit for positive financial results, blaming others or bad luck for negative financial results. This behavior can be found among golfers and finance executives alike. There is evidence that market analysts tend to be overly optimistic about the prospects of the companies they monitor (Carleton et al., 1998). Future vision, sustainability, growth, and other situations that depend on investment decisions by the company may be compromised if behavioral aspects of top management get in the way.

Ethics and compliance

Teaching finance students that they should not seek to win at any cost is a common aspect of programs that address the issue of ethics in professional activity (Oates & Dias, 2016). In golf, the rules of the game, as established by the United States Golf Association (USGA) in item 1.2 (Standards of Player Conduct), state that all golfers are expected to play in the spirit of the game by (a) acting with integrity — following the rules, applying all penalties, and being honest in all aspects of the game; (b) showing consideration for others — playing at a fast pace, looking after the safety of others and not distracting another player's game; (c) taking good care of the course — replacing divots (pieces of grass that can come out of a shot), smoothing out bunkers, repairing ball marks, and not causing unnecessary damage to the course.

As a result, there is a growing view that golf has a social obligation to signal inappropriate behavior. In this sense, according to Rook et al. (2023), the practice of sportwashing has been punished with the loss of sponsorships, just as divestment decisions have been taken by institutional investors in the event of greenwashing by managers and/or firms. The links between golf and sustainable practices are not necessarily new in the literature (McCartney, 2003). The use of sustainable energy (Ramos et al., 2019), and the rational use of water (Wurl, 2019), have been the subject of studies. In general, researchers are concerned about the demands that the wider set of stakeholders can place on the golf industry and its chain (Domínguez-Gómez & González-Gómez, 2017). Therefore, it seems reasonable to assume that sustainability is a common theme in both golf and finance decision.

The literature points out that the practice of golf, in view of the premise and the need for (voluntary) compliance with implicit and explicit rules, can be a means of developing the skills needed by business professionals. This includes controlling possibly high levels of narcissism. According to documented evidence, more narcissistic professionals can expose the company to unnecessary lawsuits and disputes or even fraud at the corporate level (Ashforth & Anand, 2003; O'Reilly et al., 2018).

Golf can be frustrating for amateur individuals in a similar way to the frustrating process of learning and exercising new skills. Basically, the discrepancy between what the golfer imagines their body should do and what it actually does causes something known as 'narcissistic injury' to which the golfer responds with anger or despair (Klonoff & Lage, 1991). In moments of failure on the course, golfers construct a narrative to justify this, usually a reaction that includes severe self-judgment. The solution to frustration like this is to find a way to cope, tolerate, and eventually accept reality (Mann, 2004).

Alternative theory to expected utility

In recent decades, an alternative has been proposed for the expected utility theory (EUT), which is normative of human behavior. This alternative, prospect theory (Kahneman & Tversky, 1979) was inspired by a violation of the EUT's axioms. Normative theory states that reasonable people should act in a certain way. In contrast, positive theory presents itself according to how people actually act, basing its models on such observations. Prospect theory is positive (or descriptive), based on how people actually behave (Wakker, 2010). In a nutshell, Kahneman and Tversky (1979) state that, in terms of wealth, positive or negative changes of the same magnitude ($-x$ ou $+x$) imply different variations in value. The absolute value of $v(-x)$ is more than double the value of $v(+x)$. This phenomenon is reflected in the golfer's behavior (Figure 4).

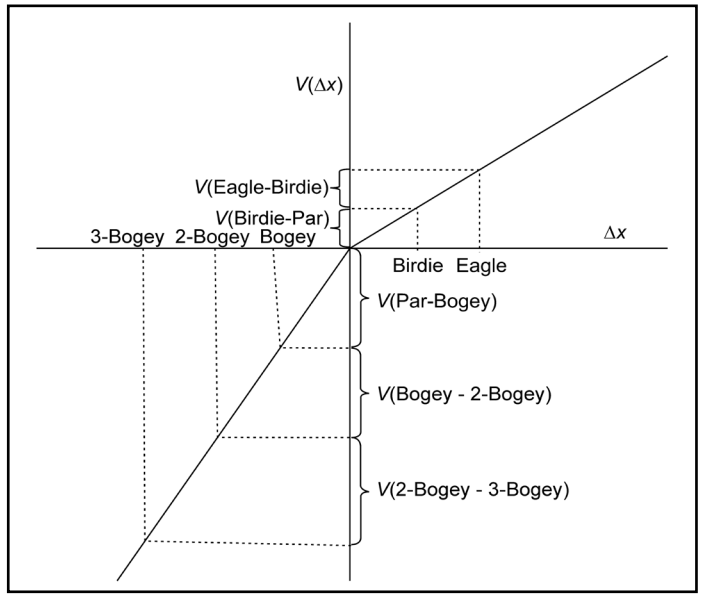

Figure 4. Prospect theory in golf (reference point being PAR).

Source: Adapted from Pope, D. G., & Schweitzer, M. E. (2011). Is tiger woods loss averse? persistent bias in the face of experience, competition, and high stakes. *American Economic Review, 101*(1), 129–157. This figure illustrates the value function within the domain of golf. The difference in value between scoring a birdie and a PAR is smaller than the difference in value between scoring a PAR and a bogey. Pope and Schweitzer, (2011) define the value function in relation to each individual hole.

Risk management

Risk management is present both in the game of golf and in financial decisions. In particular, risk and loss aversion on the part of the individual in charge of

the decision are present in both contexts (Elmore & Urbaczewski, 2021). An illustration of the context in which the golfer may end up deciding their playing strategy is shown in Table 3. If the golfer chooses to aim for a score below PAR (indicative of an excellent game), they may have to take the risk of not achieving the intended result and may end up with a number of strokes above PAR.

Table 3. Terms used in golf for the golfer's performance (in relation to the concept of PAR).

# of strokes made by the golfer in relation to the PAR	Specific term
- 3	*Albatroz* (*double-eagle*)
- 2	*Eagle* (ou *double birdie*)
- 1	*Birdie*
0	*PAR*
+ 1	*Bogey*
+ 2	*Double bogey*
+ 3	*Triple bogey*

Note. Source: Prepared by the author. According to the Brazilian Golf Confederation, PAR is the average number of strokes it takes to hit the ball into a given hole.

Pope and Schweitzer (2011) test the presence of loss aversion in a high-risk context: the performance of professional golfers on the PGA Tour. Golf offers a natural setting for testing loss aversion because golfers are rewarded for the total number of shots taken during a tournament, and each individual hole has a reference point, the PAR. Figure 5 presents the landmarks of holes 1 and 15 of the course on which the program was developed, showing the PAR of each of these holes. Pope and Schweitzer (2011) analyze more than 2.5 million putts using precise laser measurements and find evidence that even the best golfers — including the famous Tiger Woods — show loss aversion.

Figure 5. View of the landmarks of holes #1 and #15 (both PAR 3).

Source: Author's collection. This figure shows the markers located on the tees of holes #1 (left) and #15 (right), both PAR 3; i.e., the average number of strokes to hit the ball on any of these holes is three, players with a handicap of zero should stay close to this number, while less experienced players should do so with a number greater than three strokes.

Pope and Schweitzer (2011) develop a simple conceptual framework to describe the influence that loss aversion can have on the putting occasion. When golfers attempt a putt, they can either make the putt and earn a score of Δx, or miss the putt. If a golfer misses their first putt, they make the next one and earn a score of Δx-1. In this structure, Δx rrepresents the number of strokes (positive or negative) relative to PAR. Pope and Schweitzer (2011) consider the probability of making a putt as a function of effort, which is defined endogenously by the golfer, and other observable characteristics of the putt. Specifically:

$$\Pr(make\ putt) = f(e,z)+\varepsilon \quad (1)$$

Where e represents the amount of effort exerted, z represents a vector of putt characteristics (e.g., putt distance), and ε is random noise. The additional effort weakly increases the probability of making a putt and $f(*)$ is weakly concave in effort. Thus, instead of playing consistently on each hole, golfers' performance would vary according to the incentives they face. On each shot, golfers obtain the following utility (2):

$$U=(f(e,z)+\varepsilon)\,V(\Delta x)+(1-f(e,z)-\varepsilon)\,V(\Delta x-1)-cost(e) \quad (2)$$

The utility of each golfer is equal to the values placed on making and missing the putt, weighted by their probabilities and subtracting the cost of effort, assumed to be strictly increasing $(cost'(e) > 0)$and convex $(cost''(e) < 0)$. By incorporating loss aversion, Pope and Schweitzer (2011) represent the value function $V(\cdot)$ as (3).

$$V(\Delta x) = \begin{cases} \Delta x, & \text{se } \Delta x \geq 0 \\ \lambda \Delta x, & \text{se } \Delta x < 0 \end{cases} \quad (3)$$

where: $\lambda \geq 1$ is the degree of loss aversion. This value function is a simple version (without reducing the sensitivity in gains or losses) of the value function described in prospect theory and incorporates the standard model $\lambda=1$. Figure 4 illustrates this value function within the golf domain. However, this is a simple, linear form from which Kahneman and Tversky (1979) extend the following form (4), representing the value function, with the parameters: λ dis the risk aversion, α and β are the separate risk preferences.

$$V(\Delta x) = \begin{cases} \Delta x^{\alpha}, & \text{se } \Delta x \geq 0 \\ -\lambda(-\Delta x)^{\beta}, & \text{se } \Delta x < 0 \end{cases} \quad (4)$$

In this value function, α and $\beta<1$ sare parameters that make it possible to 'decrease sensitivity.' Incremental gains in Δx above the reference point (i.e., the PAR) result in progressively smaller increases in utility. In contrast, incremental reductions in Δx below the reference point result in progressively smaller declines in utility.

Golf as a tool for inclusion in the professional world

In the United Kingdom, one of the most industrialized regions in the world, golf before 1914 exhibited the formation of social capital between a few, rather than a bridge among many. In general, the course — but especially the clubhouse — was a place for men from similar social backgrounds to meet in a homosocial environment, protected by cost and membership policies. The segmentation of clubs within the same geographical area allowed for greater social differentiation among men from different occupational groups (Vamplew, 2010).

In the current context, the participation of women in the social environment of golf has been cited as a viable means of optimizing the performance of companies, in view of the opportunities lost due to the absence of women in social circles in which high-level professionals participate (Gray et al., 2020; Lee et al., 2020; Ward, 2023). In emerging countries, golf is promoting inclusion in a new power elite, marked by the coexistence of political and economic power (Cock, 2008).

In Asia, Ben-Ari (2013) analyzes the integration of expatriate Japanese executives working in Singapore, a hub for company headquarters and industrial facilities in the region. Once expatriated, these professionals take it as a promotion. However, playing golf in Japan is costly and complex from a logistical point of view, given the need to travel to clubs. However, in Singapore, high-level professionals with whom expatriate executives have to interact have golf as something accessible and frequently practiced.

High-level professional networks originate, and are maintained, from different circumstances, such as studying at the same schools, working for the same companies, being members of the same golf clubs, and sharing seats on boards of directors (Allemand et al., 2022). The trust resulting from a sense of belonging, coupled with the expectation that members will be loyal to the values of golf, can induce the formation of ties, the ballast of the network (Agarwal et al., 2016; Hoitash, 2011). In view of the aspects relating to decision-making, and the professional routine of finance itself, personality and people skills seem to deserve special attention.

Golf, due to its characteristics, presents itself as a somewhat inclusive sport. This is because the handicap system (Table 1) allows children (Kozub, 2010), young adults and the elderly (Tsang & Hui-Chan, 2004), males and females (Brown et al., 2011;

Gray et al., 2020), beginners and experienced golfers, and professionals and amateurs to play together. In addition, although golf is often attributed the reputation of an elitist sport (which is not necessarily true), various initiatives around the world to attract less affluent social strata are a reality. In Brazil, for example, BBC News reported the following in 2016 (https://www.bbc.com/portuguese/brasil-36879263): 'In Japeri There's Talent: How One of RJ's Poorest Regions Forms Young Golf Champions.' Table 2 illustrates that even in emerging countries, and not necessarily by income, the number of golf courses can be high, as is the case in Argentina and India.

About personality and golfing behavior

Golf can be seen as a low-risk sport in terms of the potential for injury to the athlet (Diehm & Armatas, 2004; Soligard et al., 2017), but there is particular interest in studying risk in the game of golf *per se* (Pope & Schweitzer, 2011). This interest involves the golfer's choice process. Hellström (2009) discusses aspects relating to the personality of professional and amateur golfers with greater skill in the sport. According to Hellström (2009), professional golfers believe that attitude, desire, and motivation are important psychological qualities needed to succeed in tournaments. In addition, Hellström (2009) points out that golfers' personality traits have complex associations that have not yet been investigated in golf.

However, focus on the task, confidence, imagination, patience, the ability to focus on one scene at a time, and autonomous performance are considered important during a competition, whether before, during, or after the swing. The interest in identifying a golfer's personality as a means of building high-performance strategies is reflected in the golf industry. Among the most widely used tools for this is the DISC framework (Utami et al., 2022), used professionally by the Mental Golf Workshop (http://test.mentalgolfworkshop.com). The DISC model consists of a method for evaluating individuals and the various factors that affect their decision-making and action processes (Keogh et al., 2019).

The development of the DISC model began in the early 1900s when the US Army asked psychologist William Marston to investigate why different soldiers who had received the same training behaved differently. He concluded that people show their emotions through four main behaviors: dominance, influence, steadiness, and caution (Marston, 1928). The DISC model is used in golf for consulting, coaching, performance improvement, team building, and employee selection all over the world. An illustration of the use of the DISC model can be found at https://www.discprofile.com.

The DISC model is used in golf for consulting, coaching, performance improvement, team building, and employee selection all over the world. An illustration of the use of the DISC model can be found at https://www.discprofile.com (Owen et al., 2017; Utami et al., 2022). The DISC system is used by golf professionals in the United States, according to Cheryl Anderson 2006 *LPGA Teacher of The Year* (https://www.mentalgolfworkshop.com/app/default.aspx/): "The DISC system is used by golf professionals in the United States, according to Cheryl Anderson, 2006 LPGA Teacher of the Year (https://www.mentalgolfworkshop.com/app/default.aspx/): "My students really benefit because their profiles include strategies for maximizing their mental strengths and improving in areas where weaknesses are identified."

METHOD

Participants

At the educational institution where this study was conducted, there is a week in every semester when all students enroll in subjects that take place outside the traditional context. In these situations, students are mostly exposed to real-world situations in a variety of organizations and institutions. Among the 40 courses offered to students in the first semester of 2023 was Golf and Strategic Decisions in Finance.

A total of 30 students from the first four semesters of the business administration course voluntarily enrolled, all with no previous golf training. Among them, 25 (83.3%) were male, with an average age of 19.44 years, a minimum of 18 years, and a maximum of 22 years. In addition to the students, four golf instructors were employed, all with handicap zero. Each day of the program was divided into two parts. In one part of the day, the golf instructors were told to give their testimony about the golfer's profile while teaching the basic principles of golf. In the other part of the day, the fundamentals of finance were presented, using notions of golf as a metaphor.

Participant self-assessment

Three materials were used to identify the participants' perceptions. First, at the start of Day #1, the Narcissistic Personality Inventory (NPI) was administered, with the intention of allowing the participant to reflect on their narcissistic personality (Raskin & Terry, 1988). Second, I used a questionnaire composed of two parts, one dedicated to identifying behavior in relation to golf etiquette rules, and the other regarding the DISC model (Utami et al., 2022).

Recognition of participants' performance in the field

In addition to classroom activities, essentially the finance subject, sessions are held on the golf course, as a result of which the best-performing individuals on the course have been identified in two categories: (a) three longest drivers students; (b) one best putter student. In line with the idea that golf can be played in teams, the tournament with teams of three allows the best-performing team to be identified and to receive an award (Figure 6) made up of three parts (the same number of team members, in order to emphasize the team spirit between the components).

RESULTS: THE TEACHER'S PERSPECTIVE

This section presents and discusses the results of the research, organized into four parts: (a) a description of how the program works; (b) rules for golfer behavior; (c) the participants' self-assessment using the structure of four dimensions illustrating the DISC golfer's personality (Utami et al., 2022); and (d) risk factors identified for taking part in the program.

Figure 6. View of the trophy awarded to each individual member of the winning team (Day #5).

Source: Author's collection. The top picture shows the trophy that was awarded to the winning team in the challenge. The bottom picture shows the participants in the last session of the course, together with the golf teachers and instructors.

How the program worked

The teaching program took place between March 27 and 31, 2023, at the Clube de Campo de São Paulo (Figure 7), and was characterized by facilities suitable for golf as well as all the other necessary activities, such as eating, lessons, and social interaction. The participants were asked to review the literature on the economic aspects of the golfer's decision, exploring elements such as narcissism, loss aversion, and overconfidence. In addition to decision-making per se, the contributions of golf to living in a corporate social environment were also addressed. The syllabus consisted of a textbook focused on behavioral corporate finance and scientific articles that explored behavioral aspects of decision-making in finance and/or golf.

The program consists of five days: Day #1: check in to the program and accreditation, golf concepts and rules, decision-making concepts in finance. Day #2: practice on the golf course and individual aspects of financial decision-making, with fundamentals of club handling and swing (Figure 8). Day #3: practice on the golf course, financial decisions in startups, and practical aspects of credit risk management, with the participation of a high-level professional from a financial institution and professionals from the design area, the same ones who created the trophy offered to the team with the best performance on the course (Figure 9). Day #4: practicing long-distance shots (Figure 10) and decisions under extreme risk in a complex environment, with the participation of a Brazilian Army officer experienced in decision-making under extreme risk (Figure 11).

Figure 7. Location of the program.

Source: Azevedo, M., Mix, P., & Schunck, F. (2021). *A importância dos remanescentes naturais de áreas públicas e particulares para a conservação das aves do município de São Paulo, sudeste do Brasil*. https://www.researchgate.net/figure/FIGURA-1-Mapa-de-localizacao-da-regiao-do-Clube-de-Campo-de-Sao-Paulo-Localidades-1_fig1_357221536. This figure shows the location of Clube de Campo de São Paulo. Locations: 1. São José Municipal Linear Park — PMLSJ, being: (a) public/administrative use area, (b) mouth of the São José stream; and 2. Clube de Campo de São Paulo — CCSP, being: (c) forest fragment and (d) mouth of the Tanquinho stream. Source: Google Earth (Landsat/Copernicus 2020 image). The golf course area is 6,089 yards long with 18 holes, surrounded by Atlantic forest and landscapes, overlooking the reservoir.

Day #5: the tournament was played in teams in scramble mode, with the teams self-assessing (Figures 12 and table 5), which illustrates the connections between the golf environment and the financial decision-making environment. In the tournament, aspects of individual and team behavior and decision-making extensions are addressed. In addition, there is a joint and shared discussion of the teams' performance.

Figure 8. Initial sessions and golf basics (Day #2).

Source: Author's collection. Note. This picture shows participants in the program on their second day of sessions. In the top picture: students receiving instructions about the purpose of each cue; in the bottom two pictures: students receiving instructions about the proper positioning to execute a shot in different game situations and different parts of the field (Figure 2).

Figure 9. Instruction session with design professionals (Day #3).

Source: Author's collection. This figure shows participants in the program on their third day of sessions, receiving instructions on the design of the trophy dedicated to the best team in the tournament. On this occasion, the participants accessed the rationale behind the design of the trophy (Figure 6).

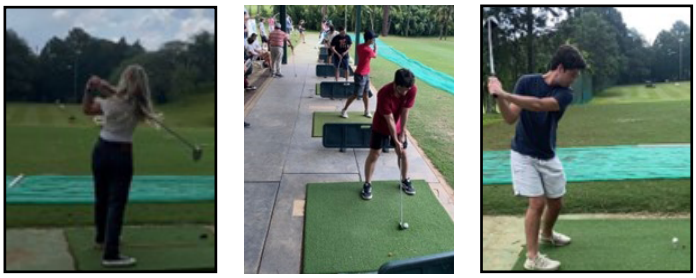

Figure 10. Initial sessions and golf basics (Day #4).

Source: Author's collection. Note. This picture shows program participants on their fourth day of sessions, practicing on the driving range (with long driving shots), under the observation of their classmates.

Figure 11. Session on decisions under extreme risk and in a complex environment (Day #4).

Source: Author's collection. This picture shows participants in the program on their fourth day of sessions, receiving instructions on extreme risk decisions in a complex environment, from a Brazilian Army officer with additional experience in this area.

Rules of behavior for golfers

Golf is played using rules of behavior (Ceron-Anaya, 2010; Kozub, 2010; McGinnis et al., 2008). Table 4 shows the typical answers given by the participants. It can be seen that Q3 ("I was dressed appropriately: polo shirt, twill trousers/shorts, sneakers with socks. I didn't wear T-shirts, short shorts, flip-flops") was the statement with which the participants agreed the least, suggesting that the participants

perceive that one of the codes of behavior in clubs and golf courses could be the target of more attention in the future. The Q11 average of 3.93 suggests that the majority of respondents tend to accept the idea that having taken part in the program could influence their future behavior.

These results may be relevant for the careers of future professionals, when rules of behavior, even if not explicit, may be something worth paying attention to, so as not to constitute a restriction or obstacle that can be avoided by the graduate.

Table 4. Participants' self-assessment of etiquette rules at the club and on the golf course (N = 29).

Questions	Min	Max	Average	DP
Q12. I understand that the existence of rules is important in everyday life, and I always try to know and respect the rules.	4	5	4.90	0.310
Q7. I used the club's materials (clubs, balls...) and facilities (hall, restaurant, toilets, golf course...) in a way that showed 'respect for what doesn't belong to me,' and that was kindly provided for my use during the scheduled activities.	4	5	4.86	0.351
Q8. I didn't leave any traces of my passage in the places I passed through, leaving no plastic cups on the floor, no untidy chairs, no thrown bats and balls, no pieces of grass torn up by the turf, and no other inopportune or unnecessary marks.	4	5	4.86	0.351
Q6. I was always 'with my group,' and I never drifted away, making it difficult to progress with the activities and control the work required in the classroom and the field.	2	5	4.79	0.620
Q10. Throughout the golf finance course, I took an explicit interest in knowing and following the rules of golf and their connections with the typical activities of a career in finance. I carefully read and followed the materials suggested and shared by the instructors with whom we had contact.	3	5	4.69	0.541
Q4. I was 'punctual and assiduous' at all events, always arriving a few minutes early.	2	5	4.59	0.780
Q5. I showed 'respect for the people' around me by 'being discreet' and maintaining an attitude that didn't bother people, speaking in a tone of voice that suited the situation. I didn't use cell phones at inappropriate times. I was always polite and courteous.	3	5	4.59	0.628
Q9. I greeted everyone when I arrived and when I left, I was always cordial and discreet.	1	5	4.55	0.985
Q11. After this immersion course, I will adopt a different behavior in the external environment.	1	5	3.93	1.280
Q3. I was dressed appropriately: polo shirt, twill trousers/shorts, sneakers with socks. I didn't wear T-shirts, short shorts, flip-flops.	1	5	3.69	1.198

Note. Elaborated by the author. According to the Brazilian Golf Confederation, PAR is the predetermined number of strokes that a proficient (scratch, or zero handicap) golfer should require to complete a hole, a round (the sum of the pars of the played holes), or a tournament (the sum of the pars of each round).

ASelf-assessment of personality by students

At the end of the program, participants were invited to complete a self-assessment questionnaire. Of the thirty participants, only one did not respond to the invitation. While Table 4 is dedicated to questions relating to etiquette at the club's facilities and on the golf course, Table 5 shows the participants' self-assessment according to DISC dimensions (Utami et al., 2022) and their attitude according to indicators of dominance, influence, steadiness, and caution. In addition to the self-assessment, the participants graded the program, which was eventually chosen as the 'best performer in the area of finance,' with an average score of 4.88 (on a scale between 1 and 5).

In Table 5, questions Q13 to Q19 present the values reported for the dominance attitude. Some potential aspects of 'High D' golfers (Tiger Woods is one of these) are being (a) competitive — strong desire to succeed — will not be intimidated but may try too hard, creating excessive tension that gets in the way of employing athletic skill, can often be seen as short-tempered; (b) goal-oriented — will pay the price to achieve goals; (c) change-oriented to try something different — always looking for a competitive edge, can be motivated to try so many things that they do not fully develop anything; (d) sense of urgency — wants to improve quickly — does not procrastinate when making changes.

Questions Q20 to Q27 in Figure 13 present the values reported for the influence attitude. Some potential strengths of 'High I' golfers include being (a) enthusiastic — energized and alert — 'can do' and optimistic attitude; on the other hand, can go to the max and may risk 'too high' seas, leading to big falls when the tides change; (b) optimistic — tends to think "today is the day everything will work out"; (c) creative and spontaneous — good imagination — willing to try a variety of different shots but may try many risky shots just for the challenge and creativity of trying them; (d) sociable — enjoys being with other players and is energized by the social aspects of golf; however, can be distracted by being overly involved in the social aspects of the game.

Questions Q28 to Q33 present the values reported by the participants for the steadiness attitude. Some potential strengths of 'High S' golfers include (a) steady emotions — tends not to get emotionally 'too high' or 'too low' but can be indifferent on some days — can be slow to get competitive stimuli flowing; (b) patient and persistent learning style — tends to be patient with instructors — does not expect miracles overnight — consistent focus; however, may lack a sense of urgency to improve and set ambitious improvement targets; (c) relaxed — generally able to maintain a certain effective level of body tension — does not tense up and lose flexibility and rhythm but can become emotionally and/or physically 'lazy.'

Table 5. Autoavaliação dos participantes via dimensões DISC.

Dimension DISC		Mín.	Máx.	Average	DP
Dominance	Q13. For the sake of the end result, I accept being able to apply additional effort, even if it creates high tension in the team.	2	5	4.21	0.82
	Q14. I am motivated to try many new things and tend not to develop anything completely.	1	5	2.82	1.17
	Q15. I'm often told that I'm a bit of a 'short fuse.'	1	5	2.18	1.00
	Q16. I tend to seek improvement quickly — I don't procrastinate when making changes.	1	5	3.81	1.04
	Q17. I am willing to make changes — to try something different — always in search of a competitive advantage.	3	5	4.43	0.68
	Q18. I always agree to pay the price to achieve goals.	2	5	3.96	0.94
	Q19. I have a strong desire to succeed — I don't accept being bullied.	2	5	4.26	0.74
Influence	Q20. I was dressed appropriately: polo shirt, twill trousers/shorts, sneakers with socks. No T-shirts, short shorts, or flip-flops.	1	5	3.64	1.32
	Q21. I always feel energized and alert, I always feel that 'I can do it,' my attitude is always optimistic.	3	5	4.50	0.63
	Q22. I often have the feeling that 'today is the day everything is going to work out.'	1	5	3.89	0.98
	Q23. I tend to have a good imagination, I'm always willing to try a variety of different shots.	2	5	4.30	0.79
	Q24. I enjoy being with other players, I'm energized by the social aspects of golf.	2	5	4.39	0.98
	Q25. Can go further — I accept trying to go as far as I can, I take the risk of big falls when environmental conditions change.	2	5	3.93	1.00
	Q26. I tend to try a lot of risky shots just for the challenge and the creativity of trying them out.	2	5	3.96	0.94
	Q27. I often get distracted by being too involved in the social aspects of the game.	1	5	2.61	1.05
Steadiness	Q28. I tend not to get emotionally 'too excited' or 'too discouraged.'	1	5	2.93	1.19
	Q29. I tend to be patient with trainers — I don't expect miracles overnight — I have a consistent focus on the learning process.	2	5	4.64	0.72
	Q30. I am generally able to maintain an effective level of tension in my body — I don't tense up, nor do I lose flexibility and rhythm in my shot.	1	5	3.43	1.02
	Q31. I tend to be indifferent on some days, I tend to be slow to assume a competitive attitude.	1	5	2.57	1.08
	Q32. I tend not to have a sense of urgency to improve and set ambitious targets for improvement.	1	5	2.33	1.07
	Q33. I often get emotionally and/or physically 'lazy.'	1	4	2.43	1.02
Caution	Q34. I am able to understand the details of the swing/stroke posture and the cause and effect of swing changes.	3	5	4.43	0.62
	Q35. I try to do things correctly — I pay attention to what the instructors say.	4	5	4.89	0.31
	Q36. I tend to realistically weigh up the risks and rewards in terms of selecting batting options.	2	5	4.18	0.93
	Q37. I try to be properly prepared to play.	3	5	4.57	0.62
	Q38. I tend to exaggerate and want to know 'how to build the clock' when all I need to know is 'what time it is.'	2	5	3.11	1.05
	Q39. I tend to be too much of a perfectionist for my own good.	1	5	3.70	0.99
	Q40. I'll try to learn a lot about golf, and I'll even be a bit confused by any information overload.	2	5	3.89	0.90
	Q41. I tend to worry too much about doing something 'wrong,' and sometimes this has already gotten in the way of improving the actual results.	1	5	3.54	1.21

Note. This table shows the participants' typical responses to the self-assessment questionnaire, using the dimensions of the DISC structure. Marston, W. M. (1928). Emotions of Normal People. England (2013) Read Books; Utami, E., Hartanto, A.D., Adi, S., Oyong, I., & Raharjo, S. (2022). Profiling analysis of DISC personality traits based on twitter posts in bahasa indonesia. *Journal of King Saud University-Computer and Information Sciences, 34*(2), 264–269) adaptada à rotina do golfe. N = 29.

Questions Q34 to Q41 relate to the values reported for the caution attitude. Some potential strengths of 'High C' golfers include being (a) analytical — able to understand the 'nuts and bolts' of the swing and their cause/effect of adjustments but may overdo it and want to know 'how to build the clock' when all they need to know is 'what time it is'; (b) demanding — wants to do things right — will pay attention to instructors but may be too perfectionistic for their own good; (c) logical (fact finder) — tends to realistically weigh up the risks and rewards with shot choices but may try to learn too much about golf and get confused by information overload; (d) conscientious — wants to be properly prepared to play but may worry too much about doing something 'wrong' — compromising the improvement of results.

The identification of personality traits via DISC has already been seen as a means of optimizing performance in the area of business (Tornillo et al., 2019). In the area of finance, therefore, the use of golf, supported by personal development initiatives, can be a means of helping to achieve better levels of performance through the practice of this sport. The classification of golfer styles by personality traits according to the DISC dimensions can allow for different combinations of styles, which can be worked on and developed through the practice of golf. Figure 12 illustrates examples of combinations of golfer styles, which can serve as metaphors for the styles of financial managers.

D&I (Dominance and Influence)		D&C (Dominance and Caution)	
. Extrovert	. Confident	. Task-oriented	. Responsible
. Audacious	. Sociable	. Quality-oriented	. Factual
. Competitive	. Optimistic	. Focused	. Resilient
I&S (Influence and Steadiness)		D&S (Dominance and Steadiness)	
. Optimistic	. Stable	. Persistent	. Logical
. Consistent	. Sociable	. Objective	. Factual
. Cooperative	. Adaptable	. Persevering	. Patient
S&C (Steadiness and Caring)		I&C (Influence and Caring)	
. Logical	. Calm	. Sociable	. Confident
. Conservative	. Stable	. Balanced judgment	. Prepared
. Balanced judgment	. Analytical	. Optimistic	. Creative

Figure 12. Example of combinations of golfer styles according to DISC dimensions.

This figure shows examples of style combinations based on the golfer's profile according to DISC dimensions (Owen, J.E., Mahatmya, D., & Carter, R. (2017). Dominance, Influence, Steadiness, and Conscientiousness (DISC) Assessment Tool. In, V Zeigler-Hill, T. Shackelford. (Ed.), *Encyclopedia of personality and individual differences*. Springer. https://doi.org/10.1007/978-3-319-28099-825-1; Utami, E., Hartanto, A.D., Adi, S., Oyong, I., & Raharjo, S. (2022). Profiling analysis of DISC personality traits based on twitter posts in Bahasa Indonesia. *Journal of King Saud University-Computer and Information Sciences, 34*(2), 264–269. https://doi.org/10.1016/j.jksuci.2019.10.008). The typical values for the personality traits presented by the program participants are summarized in Table 5.

Given that the number of participants in this experiment was limited to 29, it is not feasible to identify profiles or combinations of their personalities. Specialized consultancies point to the predominance of the C personality, followed by S and I. The least common type in the world seems to be D, which characterizes the behavior of famous golfer Tiger Woods and former president Donald Trump.

Risk factors identified for the program

Four risk factors merit particular attention following this experiment. Firstly, scarce sources of funding: golf can depend on important costs, from appropriate clothing and equipment to physical facilities and instructors. Secondly, the weather can have an impact on outdoor golf. A plan is suggested for alternative activities in case the sport becomes unfeasible, given the possibility of risks to participants. Thirdly, the behavior of participants outdoors can affect play.

If the participants are young, they may be prone to behavior that is incompatible with the social environment that is often seen in golf. Tone of voice, use of cell phones, dress, and other expressions of inappropriate behavior can occur. It is advisable to prepare program participants by clarifying basic aspects of golf etiquette. Finally, the logistical factor: transport

and/or accommodation for participants to come together, as golf courses are usually far from urban centers.

CONCLUSION

This study contributes to the literature on teaching finance and business. Based on the results identified in the experience reported here, teachers, students, school managers, senior management professionals (executives or board members), and entrepreneurs can learn about the development of personal skills and abilities with a view to maximizing performance in the context of high-level decision-making. In this study, the practice of sport, specifically golf, is used as a metaphor for teaching finance in an intensive five-day program of activities (Mendes-da-Silva, 2023), expanding the vision of golf as a means of connecting to professional networks (Lee et al., 2020). Advancing research into the links between the effective game of golf and financial behavior goes some way toward offering strategies and arguments about the potential to provide a range of analogies for financial decision-making at personal and corporate levels.

The practice of sport offers alternatives to increase the engagement of business students in subjects that may offer additional learning difficulties, such as finance (Mahar & Paul, 2010; Mendes-da-Silva, 2011). In addition, given the specific characteristics of golf as a sport, such as persistence, planning, meticulousness, the ability to read the context, the study of risk situations, choice of tools, team composition, trust, responsibility, respect, commitment, a sense of the need for formal training, among others, golf presents itself as an important means of developing the skills needed by finance professionals (Knutsen et al., 2017).

In the experience reported here, the typical contents of behavioral finance and errors in judgment were prioritized, given that they are common topics in golf and financial decisions (Pope & Schweitzer, 2011; Thaler, 1999). In addition to the typical attributes of decision-making, such as gathering data and facts, employing decision rules, and adjusting behaviors identified as inappropriate, participants in the program were exposed to socialization activities with individuals from different backgrounds in order to understand the significance of golf as a means of developing social networks relevant to professional activity (Ben-Ari, 2013; Mendes-da-Silva, 2011). To this end, invitees included high-level professionals from the financial industry, product design, and the military, all of whom were experienced in the use of rules of engagement in risky decisions in a complex environment.

The study identifies four main results. Firstly, the experience with golf seems to promote student engagement, bringing them to reflect on their behavior in a context outside the school environment, in a real-world atmosphere, as a result of the conviction that their effort determines their performance at a high level. Secondly, after one week of the program, it was clear that the explicit and implicit rules of golf can act as an important tool and means of teaching finance, promoting the skills required at the top level of management. Thirdly, according to the participants' survey, it seems that the immersion of individuals in the experience can induce greater concern and zeal for aspects relevant to professional life. Fourthly, golf may end up being key to programs designed in interinstitutional collaboration, with its consequent effects in terms of forming professional networks.

It is necessary to note the limitations of this study, which may motivate future studies. One of these seems to be particularly important: as this was a pioneering experiment, surrounded by restrictions (from financial to logistical) that led to a conservative attitude on the part of the lecturer, by adopting a design characteristic of a preliminary test, the number of participants was limited to 30. As a result, the conditions necessary to meet the assumptions required for robust econometric tests were essentially restricted.

In view of the results and their limitations, a future research agenda presents itself. In this respect, bringing management professionals, particularly finance professionals, closer to golf can bring benefits not only for the development of the skills of professionals in their field, but to the golf environment itself, which can also benefit from the professionalization of the management of this sport (Shilbury et al., 2020). As observations about the participants' self-assessment accumulate, robust analyses may become feasible; for example, adding personality self-assessment via DISC (Dominance, Influence, Steadiness, and Caring) (Owen et al., 2017). To this end, studies that are published in accordance with the open data approach can speed up the construction of conclusive evidence.

REFERENCES

Adkins, D. A., Geddie, M. F., Moore, P. H., & Griffin, R. B. (2016). Analysis of 2014's thirty best undergraduate accounting programs. *Journal of Academic Administration in Higher Education*, *12*(1), 49-60. https://files.eric.ed.gov/fulltext/EJ1139150.pdf

Agarwal, S., Qian, W., Reeb, D. M., & Sing, T. F. (2016). Playing the boys game: Golf buddies and board diversity. *American Economic Review, 106*(5), 272–276. https://doi.org/10.1257/aer.p20161033

Allemand, I., Bédard, J., Brullebaut, B., & Deschênes, J. (2022). Role of old boys' networks and regulatory approaches in selection processes for female directors. British *Journal of Management*, *33*(2),784–805. https://doi.org/10.1111/1467-8551.12485

Ardalan, K. (1998). On the use of entertaining metaphors in the introductory finance course. *Financial Practice and Education*, *8*,108–119.

Arthur, M. M., Del Campo, R. G., & van Buren, H. J. (2011). The impact of gender- differentiated golf course features on women's networking. *Gender in Management: An International Journal, 26*(1), 37–56. https://doi.org/10.1108/17542411111109309

Ashforth, B. E., & Anand, V. (2003). The normalization of corruption in organizations. *Research in Organizational Behavior*, 25, 1–52. https://doi.org/10.1016/S0191-3085(03)25001-2

Ashton, R.H., & Roberts, M.L. (2011). Effects of dispositional motivation on knowledge and performance in tax issue identification and research. *Journal of the American Taxation Association*, *33*(1), 25–50. https://doi.org/10.2308/jata.2011.33.1.25

Azevedo, M., Mix, P., & Schunck, F. (2021). *A importância dos remanescentes naturais de áreas públicas e particulares para a conservação das aves do município de São Paulo, sudeste do Brasil*. https://www.researchgate.net/figure/FIGURA-1-Mapa-de-localizacao-da-regiao-do-Clube-de-Campo-de-Sao-Paulo-Localidades-1_fig1_357221536

Ben-Ari, E. (2013). "not-precisely-work": golf, entertainment and imbibement among Japanese business executives in Singapore. In Japan in Singapore, 150–174. Routledge.

Brown, S. J., Nevill, A. M., Monk, S. A., Otto, S. R., Selbie, W. S., Wallace, E.S . (2011). Determination of the swing technique characteristics and performance outcome relationship in golf driving for low handicap female golfers. *Journal of Sports Sciences*, *29*(14), 1483–1491. https://doi.org/10.1080/02640414.2011.605161

Calkins, F. J. (1950). Materials and methods of teaching business finance (II). *Journal of Finance*, *5*(3), 275–279. https://doi.org/10.2307/2975526

Carleton, W. T., Chen, C. R., & Steiner, T. L. (1998). Optimism biases among brokerage and non-brokerage firms' equity recommendations: Agency costs in the investment industry. *Financial Management, 27*(1), 17–30. https://doi.org/10.2307/3666148

Carrithers, D., Ling, T., & Bean, J. C. (2008). Messy problems and lay audiences: Teach- ing critical thinking within the finance curriculum. *Business Communication Quarterly, 71*(2), 152–170. http://dx.doi.org/10.1177/1080569908318202

Ceron-Anaya, H. (2010). An approach to the history of golf: Business, symbolic capital, and technologies of the self. *Journal of Sport and Social Issues*, *34*(3), 339–358. https://doi.org/10.1177/0193723510377317

Cock, J. (2008). Caddies and 'cronies': Golf and changing patterns of exclusion and inclusion in post-apartheid South Africa. *South African Review of Sociology*, *39*(2), 183–200. https://doi.org/10.1080/21528586.2008.10425085

Cohen, A.B., Tenenbaum, G., & English, R.W. (2006). Emotions and golf performance: An IZOF-based applied sport psychology case study. *Behavior Modification*, *30*(3), 259–280. https://doi.org/10.1177/0145445503261174

Confederação Brasileira de Golf. (2023). *O campo.* https://www.cbg.com.br/o-golfe/o-campo/

Diehm, R., & Armatas, C. (2004). Surfing: An avenue for socially acceptable risk-taking, satisfying needs for sensation seeking and experience seeking. *Personality and Individual Differences, 36*(3), 663-677. https://doi.org/10.1016/S0191-8869(03)00124-7

Domínguez-Gómez, J.A., González-Gómez, T. (2017). Analyzing stakeholders' perceptions of golf-course-based tourism: A proposal for developing sustainable tourism projects. *Tourism Management*, *63*, 135-143. https://doi.org/10.1016/j.tourman.2017.05.015

Ebdon, C. (1999). Teaching public finance administration online: A case study. *Journal of Public Affairs Education*, *5*(3), 237–246. https://www.jstor.org/stable/40215443

Elmore, R., Urbaczewski, A. (2021). Loss aversion in professional golf. *Journal of Sports Economics*, *22*(2), 202–217. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3311649

Fisher, K. M. (2019). An assessment of student learning and instructional methods in a golf skills Physical Education course at a public university. *The Physical Educator, 76*(2), 410-426. https://www.proquest.com/openview/18e190e130df398c6c0f2b06eb3c5883/1?pq-origsite=gscholar&cbl=35035

Fracassi, C., & Tate, G. (2012). External networking and internal firm governance. *Journal of Finance, 67*(1), 153-194. https://doi.org/10.1111/j.1540-6261.2011.01706.x

Gervais, S., & Odean, T. (2001). Learning to be overconfident. *The Review of Financial Studies*, *14*(1),1–27. https://www.jstor.org/stable/2696755

Gilovich, T., Vallone, R., & Tversky, A. (1985). The hot hand in basketball: On the misperception of random sequences. *Cognitive Psychology*, *17*(3), 295–314. https://psycnet.apa.org/doi/10.1016/0010-0285(85)90010-6

Gloeckler, G. (2013). *Bloomberg business.* http://www.bloomberg.com/bw/articles/2013-04-22/the-best-undergraduate-b-schools-for-accounting

Gray, D. M., Hicks, N., & Rundels, J. J. (2020). Getting in the game: Putting golf at the forefront of your networking toolbox. *Business Horizons, 63*(5):627–636. https://doi.org/10.1016/j.bushor.2020.05.005

Grov, E. K., & Dahl, A. A. (2019). *Journal of Psychosocial Nursing and Mental Health Services, 57*(10), 44-51. https://doi.org/10.3928/02793695-20190528-02

Hellström, J. (2009). Psychological hallmarks of skilled golfers. *Sports Medicine, 39*, 845–855. https://doi.org/10.2165/11317760-000000000-00000

Hill, D.M., Hanton, S., & Matthews, N., Fleming, S. (2011). Alleviation of choking under pressure in elite golf: An action research study. *The Sport Psychologist, 25*(4), 465–488. https://psycnet.apa.org/record/2012-00749-003

Hoitash, U. (2011). Should independent board members with social ties to management disqualify themselves from serving on the board? *Journal of Business Ethics, 99*,399–423. https://jstor.org/stable/41476206

Hunt, P. (1950). Materials and methods of teaching business finance (III). *The Journal of Finance, 5*(3), 280-284. https://www.jstor.org/stable/2975527

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263–291. https://web.mit.edu/curhan/www/docs/Articles/15341_Readings/Behavioral_Decision_Theory/Kahneman_Tversky_1979_Prospect_theory.pdf

Keogh, T. J., Robinson, J. C., & Parnell, J. M. (2019). Assessing behavioral styles among nurse managers: Implications for leading effective teams. *Hospital Topics, 97*(1), 32-38. https://doi.org/10.1080%2F00185868.2018.1563460

Klonoff, P., & Lage, G. (1991). Narcissistic injury in patients with traumatic brain injury. The Journal of Head *Trauma Rehabilitation, 6*(4), 11–21. https://doi.org/10.1097/00001199-199112000-00005

Knutsen, J. T., Malin, M., West, T., & Brimble, M. (2017). True links: Precursory lessons from golf for effective financial behaviour. *Financial Planning Research Journal, 3*(1), 12– 25.

Kozub, F. M. (2010). Shufflegolf: Teaching golf strategies and etiquette to young children and learners with intellectual disabilities. *Strategies, 24*(2), 19–21. https://oa.mg/work/10.1080/08924562.2010.10590918

Lee, L., Evans, A., & Downen. (2020). Golf, networking, and accounting education: A gendered approach. *Journal of Accounting Education, 52*. https://doi.org/10.1016/j.jaccedu.2020.100681

Lew, C., & Saville, A. (2021). Game-based learning: Teaching principles of economics and investment finance through monopoly. *The International Journal of Management Education, 19*(3),100567. https://doi.org/10.1016/j.ijme.2021.100567

Mahar, J., & Paul, R. (2010). Using sports to teach finance and economics. *Journal of Economics and Finance Education, 9*(2):43–53. https://www.economics-finance.org/jefe/fin/Paul.Finance.Vol.9(2).pdf

Mann, M.P. (2004). The adverse influence of narcissistic injury and perfectionism on college students' institutional attachment. *Personality and Individual Differences, 36*(8), 1797– 1806. https://psycnet.apa.org/doi/10.1016/j.paid.2003.07.001

Marston, W. M. (1928). *Emotions of normal people*. Harcourt, Brace.

McGinnis, L. P., Gentry, J. W., & McQuillan, J. (2008). Ritual-based behavior that reinforces hegemonic masculinity in golf: Variations in women golfers' responses. *Leisure Sciences, 31*(1), 19–36. https://psycnet.apa.org/doi/10.1080/01490400802557915

McKay, J., Selig, S. E., Carlson, J. S., & Morris, T. (1997). Psychophysiological stress in elite golfers during practice and competition. *Australian Journal of Science and Medicine in Sport, 29*(2), 55-61. https://pubmed.ncbi.nlm.nih.gov/9242979/

McCartney, D. M. (2003). Auditing non-hazardous wastes from golf course operations: Moving from a waste to a sustainability framework. *Resources, Conservation and Recycling, 37*(4),283-300. https://doi.org/10.1016/S0921-3449(02)00077-0

Mendes-da-Silva, W. (2023). *Associações entre golfe e finanças estratégicas*. Ed. Wesley Mendes Da Silva.

Mendes-da-Silva, W. (2011). Small worlds and board interlocking in Brazil: A longitudinal study of corporate networks, 1997-2007. *Brazilian Finance Review, 4*(4), 521–548. https://doi.org/10.12660/rbfin.v9n4.2011.3176

Mendes-da-Silva, W. (2021). *Personalidade narcisista e decisões corporativas.* Working Paper, Escola de Administração de Empresas de São Paulo, Instituto de Finanças.

Mendes-da-Silva, W., Bido, D. S., & Forte, D. (2011). Atributos determinantes do desempenho do professor de finanças: Estudo empírico. *Revista de Economia e Administração, 10*(3), 393–414. http://dx.doi.org/10.11132/rea.2011.509

Montalvo, S., Palomo, J., & de la Orden, C. (2018). Building an educational platform using NLP: A case study in teaching finance. *Journal of Universal Computer Science, 24*(10), 1403–1423. https://www.jucs.org/jucs_24_10/building_an_educational_platform/jucs_24_10_1403_1423_montalvo.pdf

Montier, J. (1983). *Behavioural finance: Insights into irrational minds and markets.* Wiley.

Nguyen, B., & Nielsen, K. (2010). The value of independent directors: Evidence from sudden deaths. *Journal of Financial Economics, 98*(3), 550-567. https://doi.org/10.1016/j.jfineco.2010.07.004

O'Reilly, C. A. III, Doerr, B., & Chatman, J. A. (2018). "see you in court": How CEO narcissism increases firms' vulnerability to lawsuits. *The Leadership Quarterly, 29*(3), 365– 378. https://doi.org/10.1016/j.leaqua.2017.08.001

Oates, G., & Dias, R. (2016). Including ethics in banking and finance programs: Teaching "we shouldn't win at any cost". *Education + Training, 58*(1), 94–111. https://doi.org/10.1108/ET-12-2014-0148

Osmond, D. (2005). *Rubber hits the road for BYU Accounting students*. https://marriott.byu.edu/acc/news/article?id=244

Owen, J. E., Mahatmya, D., & Carter, R. (2017). Dominance, Influence, Steadiness, and Conscientiousness (DISC) Assessment Tool. In, V. Zeigler-Hill, T. Shackelford. (Ed.) *Encyclopedia of personality and individual differences*. Springer. https://doi.org/10.1007/978-3-319-28099-8_25-1

Pope, D. G., & Schweitzer, M. E. (2011). Is tiger woods loss averse? persistent bias in the face of experience, competition, and high stakes. *American Economic Review, 101*(1), 129– 157. https://www.aeaweb.org/articles?id=10.1257/aer.101.1.129

Prasad, P. (2022). Teaching finance in a virtual set-up during covid-19. *Management and Labour Studies, 48*(2). https://doi.org/10.1177/0258042X211069500

Presson, P. K., & Benassi, V. A. (1996). Illusion of control: A meta-analytic review. *Journal of Social Behavior and Personality, 11*(3), 493. https://www.proquest.com/openview/cdfdecc2694f5c8d8fbf174f077055de/1?pq-origsite=gscholar&cbl=1819046

Ramos, H. M., Zilhao, M., López-Jiménez, P. A., & Pérez-Sánchez, M. (2019). Sustainable water-energy nexus in the optimization of the BBC golf-course using renewable energies. *Urban Water Journal, 16*(3). https://doi.org/10.1080/1573062X.2019.1648529

Raskin, R., Terry, H. (1988). A principal-components analysis of the narcissistic person- ality inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology, 54*(5), 890. https://doi.org/10.1037//0022-3514.54.5.890

Rook, W., Prado, T., & Heerdt, D. (2023). Responsible sport: No going back. *The International Sports Law Journal, 23*(1), 85-98. https://doi.org/10.1007/s40318-022-00231-4

R&A. (2021). *Golf Around the World 2021* (4th ed). https://ngforg.wpenginepowered.com/wp-content/uploads/2021/09/2021-Golf-Around-the-World-Report-RA.pdf

Shefrin, H. (2007). *Behavioral corporate finance: Decisions that create value*. Mcgrwall- Hill.

Shilbury, D., O'Boyle, I., & Ferkins, L. (2020). Examining collective board leadership and collaborative sport governance. *Managing Sport and Leisure, 25*(4), 275–289. https://doi.org/10.1080/23750472.2020.1713198

Shot Scope. (2022). *Putting make percentages by handicap – how do you compare?* https://shotscope.com/blog/stats/putting-make-percentages-by-handicap-how-do-you-compare/

Soligard, T., Steffen, K., Palmer, D., Alonso, J. M., Bahr, R., Lopes, A.D., ... & Engebretsen, L. (2017). Sports injury and illness incidence in the Rio de Janeiro 2016 Olympic Summer Games: A prospective study of 11274 athletes from 207 countries. *British Journal of Sports Medicine, 51*(17), 1265-1271. https://doi.org/10.1136/bjsports-2017-097956

Thaler, R. H. (1999) The End of Behavioral *Finance. Financial Analysts Journal, 55*(6), 12-17. https://doi.org/10.2469/faj.v55.n6.2310

Tornillo, J. E., Pascal, G., Moguerza, J. M., & Redchuk, A. (2019). Personality traits and business intelligence: A model to improve direct selling systems. In *5th International Conference on Information Management*.

Tsang, W., & Hui-Chan, C. (2004). Effects of exercise on joint sense and balance in elderly Men: Tai Chi versus Golf. *Medicine and Science in Sports and Exercise, 36*(4), 658–667. https://doi.org/10.1249/01.mss.0000122077.87090.2e

Utami, E., Hartanto, A. D., Adi, S., Oyong, I., & Raharjo, S. (2022). Profiling analysis of DISC personality traits based on twitter posts in Bahasa Indonesia. *Journal of King Saud University-Computer and Information Sciences, 34*(2), 264–269. https://doi.org/10.1016/j.jksuci.2019.10.008

Vamplew, W. (2010). Sharing space: Inclusion, exclusion, and accommodation at the british golf club before 1914. *Journal of Sport and Social Issues, 34*(3), 359–375. https://doi.org/10.1177/0193723510377327

Wakker, P. P. (2010). *Prospect theory: For risk and ambiguity*. Cambridge university Press.

Ward, L. (2023). Why more female executives don't play golf—and why that's a problem. *The Wall Street Journal*. https://www.wsj.com/articles/female-executives-dont-play-golf-be27532a

Walters, G. (2009). Corporate social responsibility through sport: The community sports trust model as a CSR delivery agency. *Journal of Corporate Citizenship,* (35), 81-94. https://www.jstor.org/stable/jcorpciti.35.81

World Bank (2023). *World Development Indicators.* https://data.worldbank.org/indicator/NY.GDP.PCAP.CD

Wurl, J. (2019). Competition for water: consumption of golf courses in the tourist corridor of Los Cabos, BCS, Mexico. *Environmental Earth Sciences, 78*, 674. https://doi.org/10.1007/s12665-019-8689-y

Yermack, D. (2006). Flights of fancy: Corporate jets, CEO perquisites, and inferior shareholder returns. *Journal of Financial Economics, 80*(1), 211–242. https://doi.org/10.1016/j.jfineco.2005.05.002

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Authors' Contributions

1st author: conceptualization (lead); data curation (lead); formal analysis (lead), funding acquisition (lead), investigation (lead), methodology (lead), project administration (lead), resources (lead), software (lead), supervision (lead), validation (lead), visualization (lead), writing – original draft (lead), Writing – review & editing (lead).

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The authors have stated that there is no conflict of interest.

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